Environmental Protection

Gowanus Canal Combined Sewer Overflow (CSO) Facility

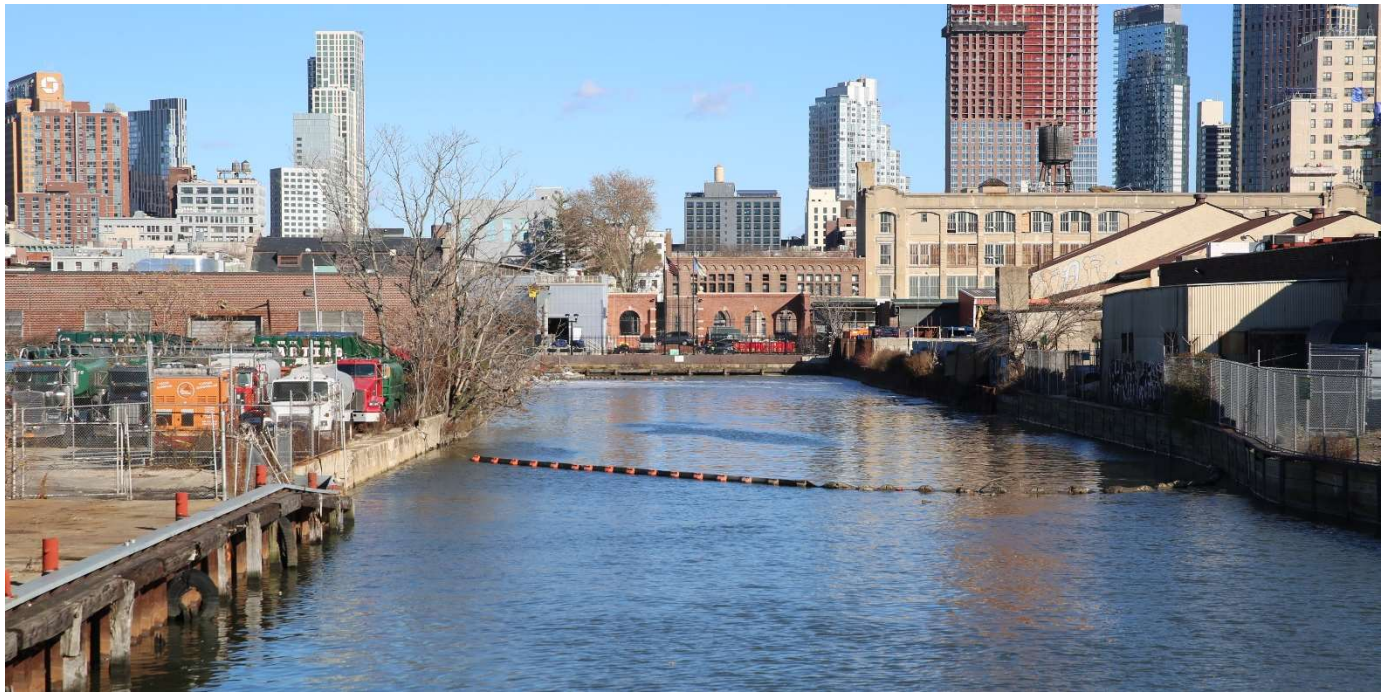
ULURP Site Selection and Acquisition 180065 PCK

Brooklyn Community Board 6

October 26, 2017

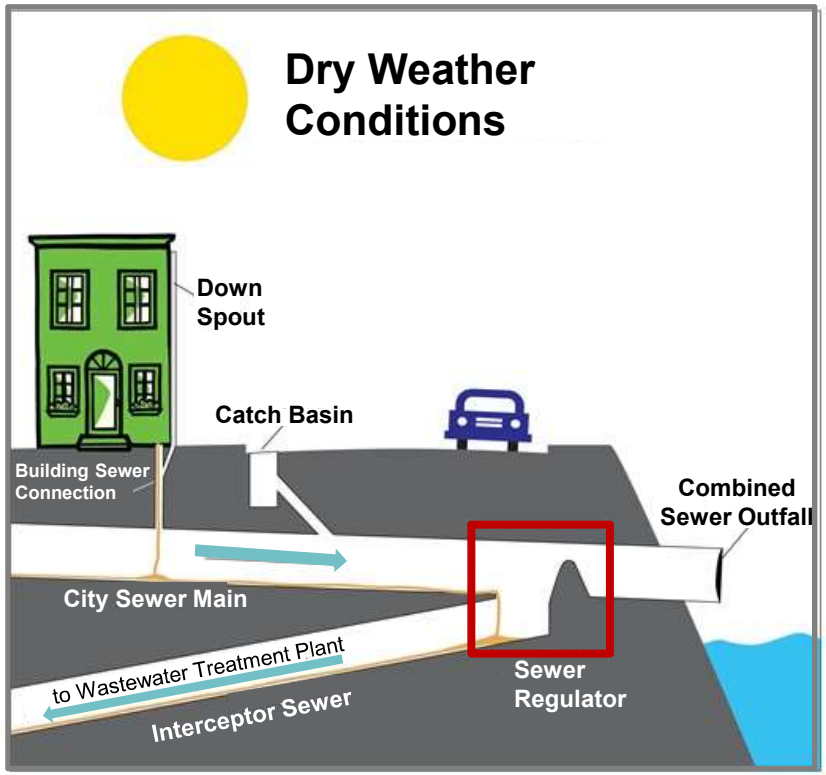
Overview

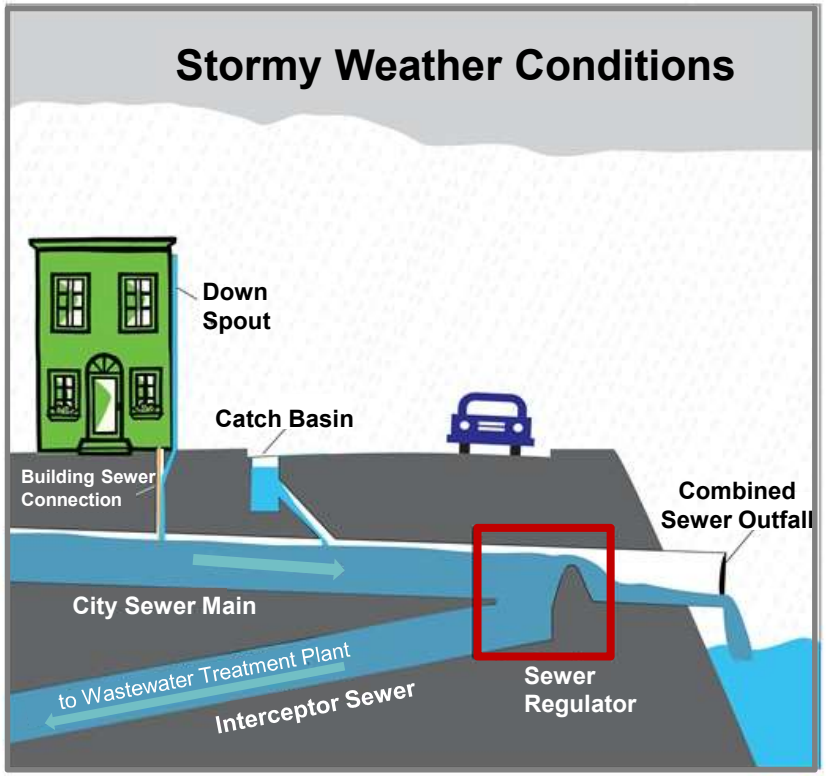
- The Gowanus Canal was designated a Superfund site in 2010.
- The EPA has identified a number of potential responsible parties, including New York City and National Grid.
- The EPA has required the City to remediate chemical contaminants at the canal and reduce combined sewer overflows (CSOs) into the canal.



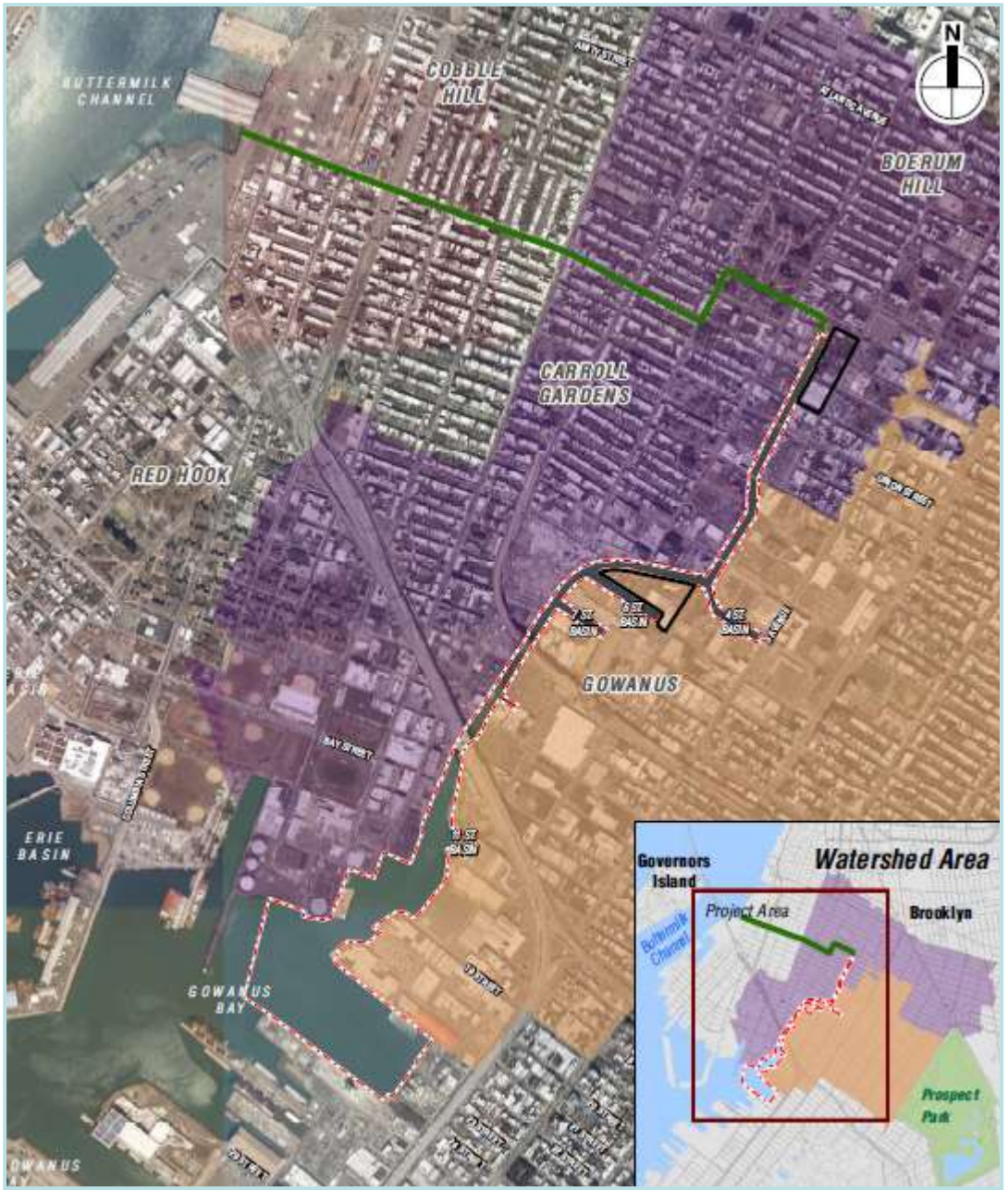
Combined Sewer Overflow

- NYC's sewer system is approximately 60% combined, which means it is used to convey both sanitary and storm flows.
- When the sewer system is at full capacity, a diluted mixture of rain water and sewage can be released into local waterways. This is called a combined sewer overflow (CSO).





Gowanus Canal Sewershed Areas



Ongoing Investment in Reducing CSO

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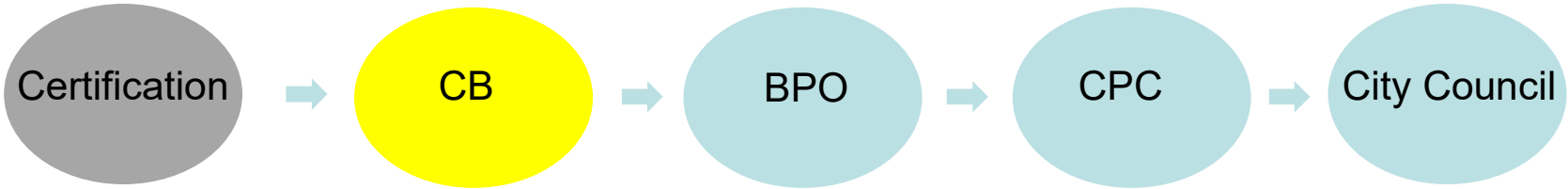
Project Description and Location

Construct two underground CSO tanks and associated headhouses to intercept and store CSOs during wet weather events.

ULURP Action

- DEP is currently pursuing Site Selection & Acquisition of the Head End Site.
- The application was certified into review September 18th, 2017.
- A ULURP for demapping Douglass Street between Nevins Street and the Canal will follow. This action is not necessary to construct the facility, but it will clean up the City Map and the record.
- ULURP for the Owls Head Facility will be done later, as that project is on a later schedule.
- ULURP Anticipated Completion May 2018



Project Location – Related Parcels

Project Location – Surrounding Area

PLACES Neighborhood Planning Study

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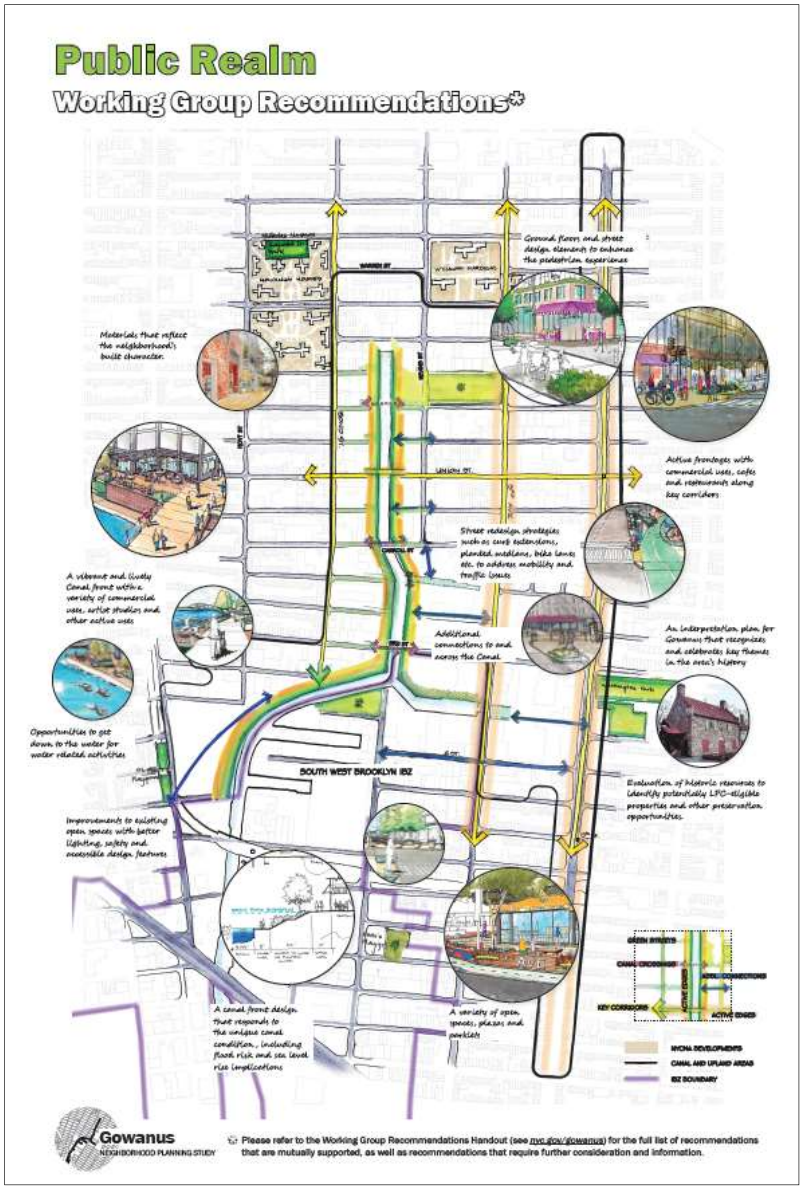
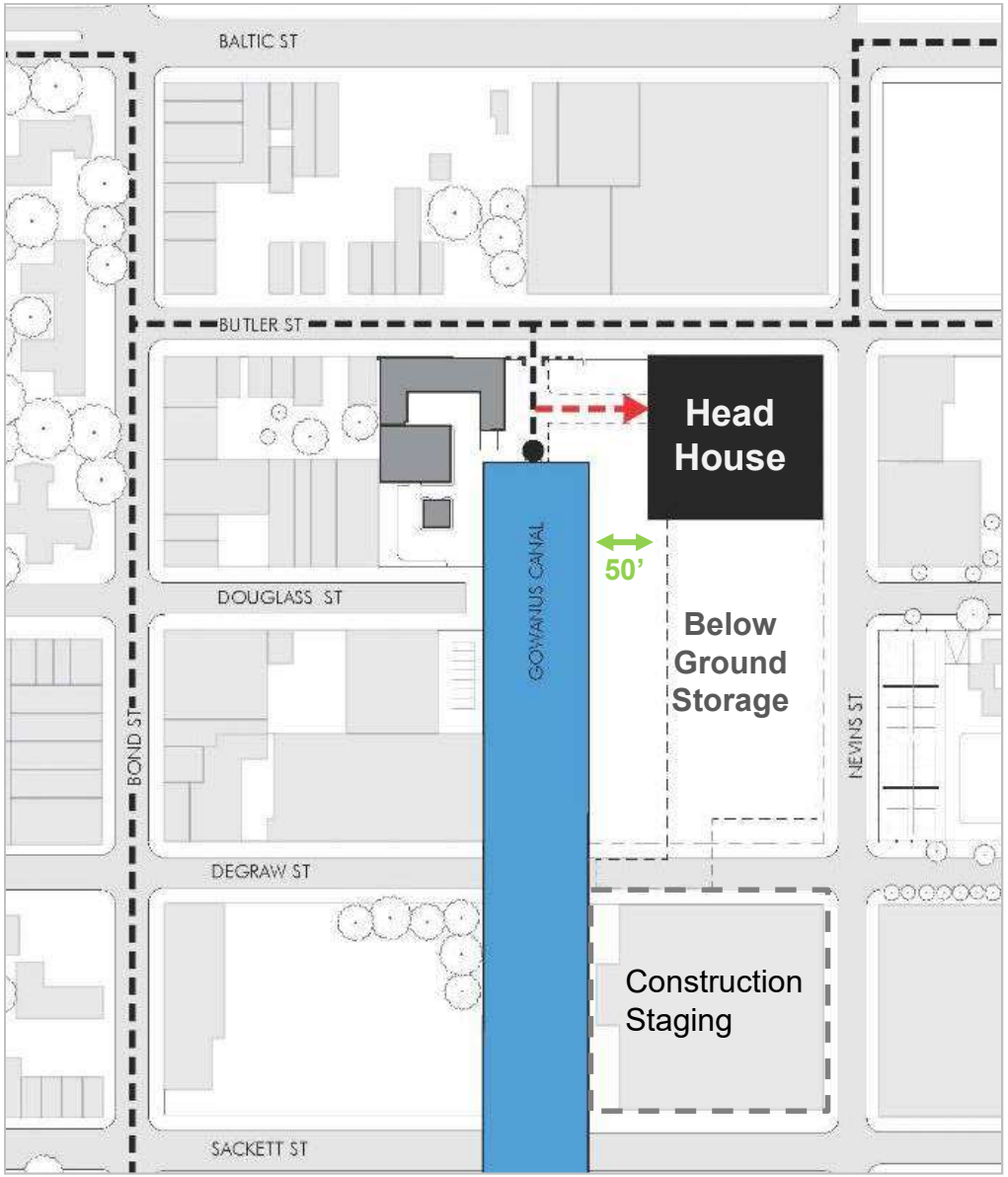
- Use of materials that reflect the neighborhood's built character
- Active frontages and open space that encourage informal gatherings that are welcoming and publicly accessible
- Ground floors and street design elements to enhance the pedestrian experience
- Environmental sustainability, clean energy, energy efficiency, and stormwater management
- Opportunities to incorporate historic interpretation
- Open space that promotes an active, publicly accessible, and lively Canal front
- Opportunities to incorporate green infrastructure



Conceptual Layout

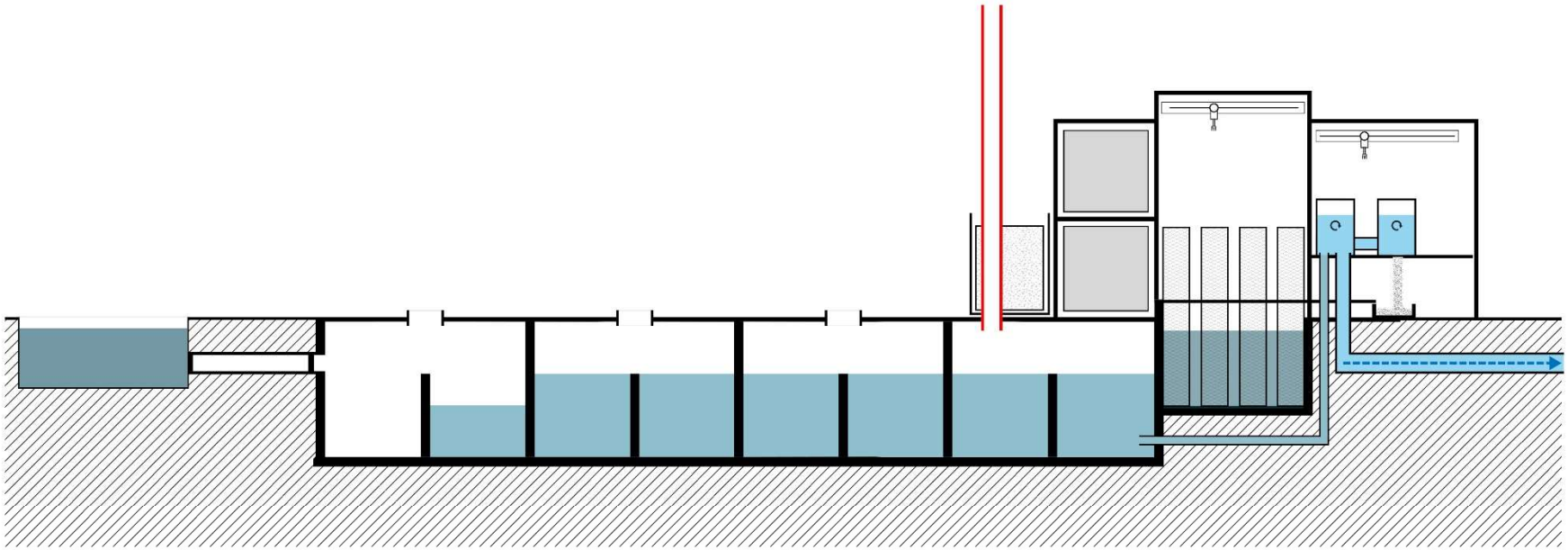


EXISTING SEWER LINES

CURRENT CSO OUTFALL POINT

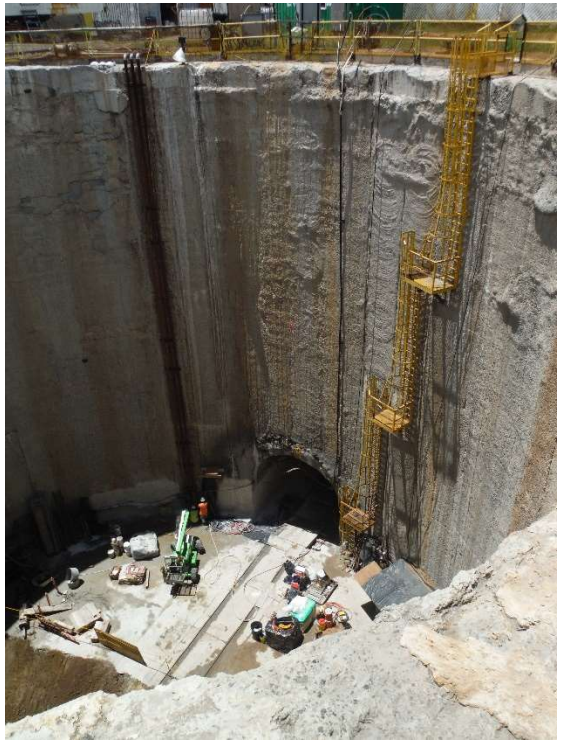
NEW INFLUENT CHANNEL INTO FACILITY

CSO Facility Operations



Project Team: Engineers

Newtown Creek WWTP, Greenpoint, Brooklyn



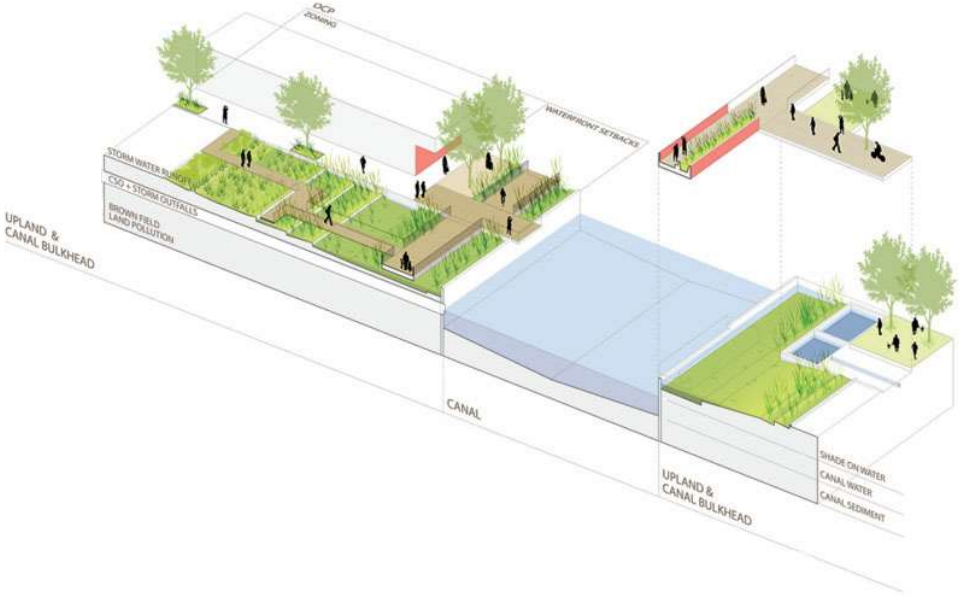
Kailua Tunnel Shaft, Honolulu, Hawaii, image courtesy of Brown & Caldwell

Hazen

Brown AND Caldwell

Project Team: Landscape Architects

Sponge Park, Gowanus, Brooklyn



Gowanus Canal, Brooklyn, image courtesy of dlandstudio

dlandstudio
architecture + landscape architecture pllc

Project Team: Architecture

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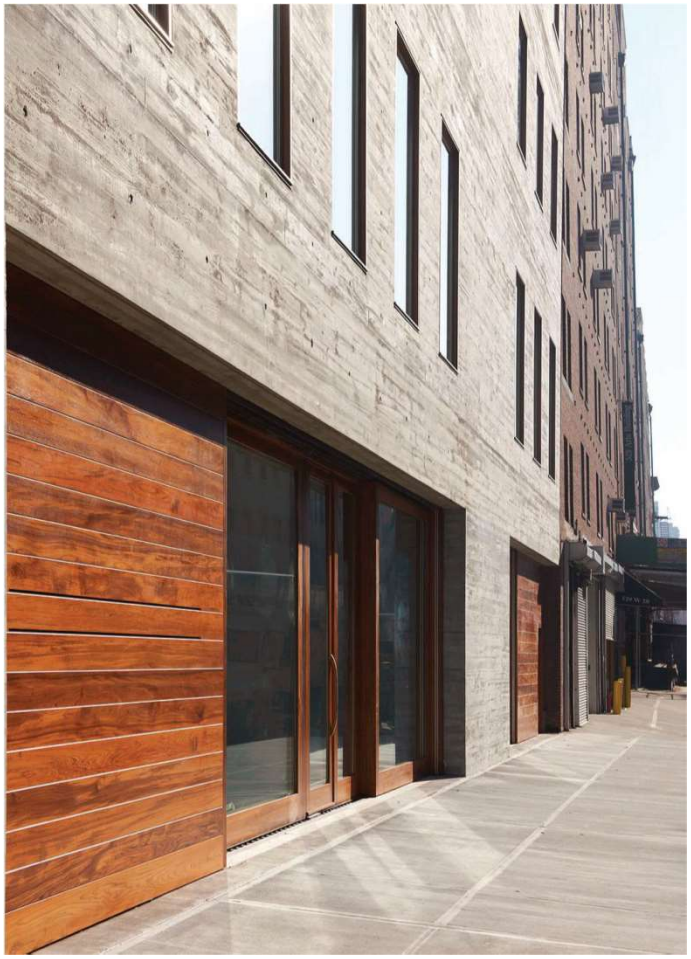
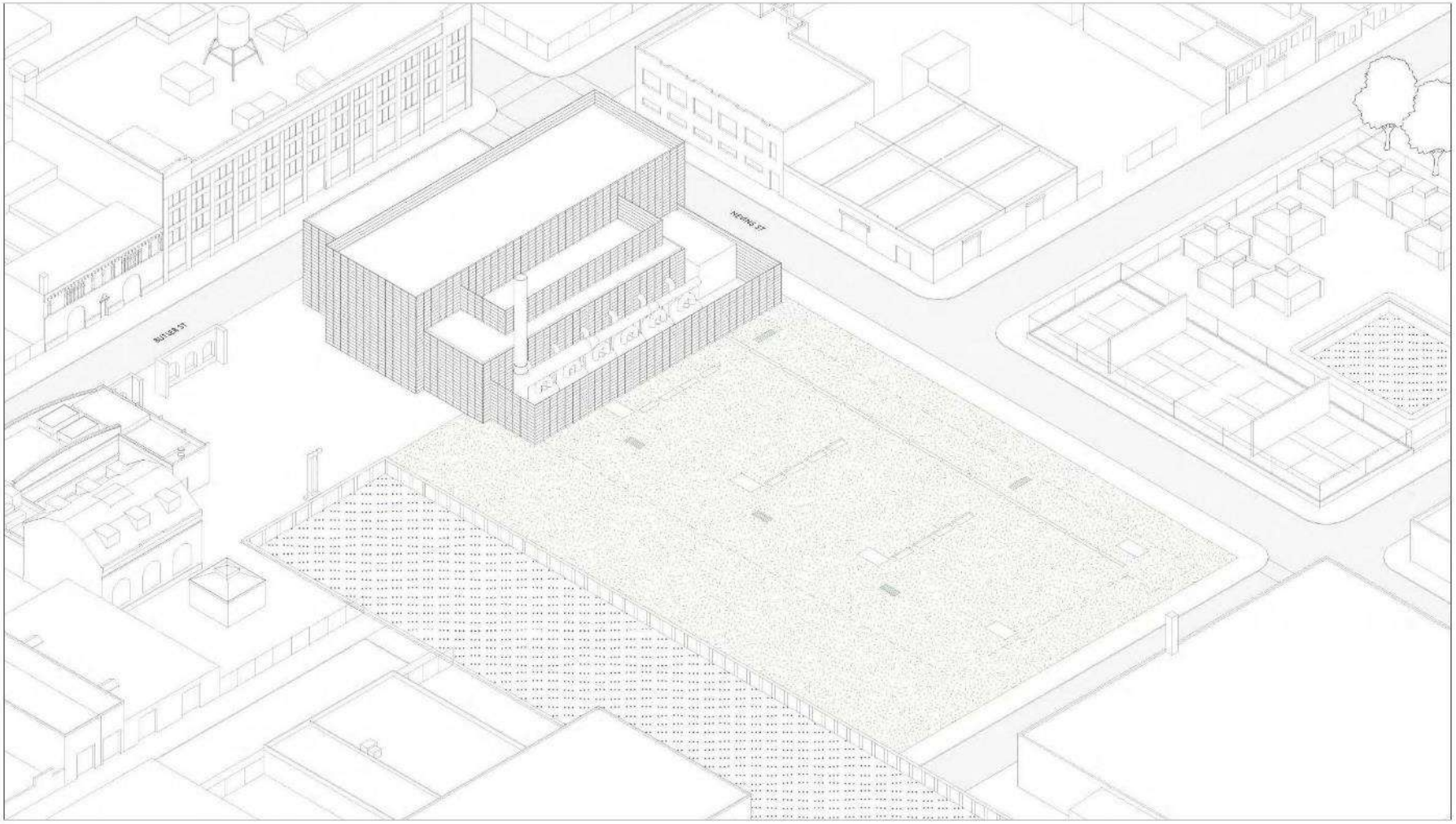
SIMS Municipal Recycling Plant, Sunset Park, Brooklyn, image courtesy of Selldorf Architects



David Zwirner Gallery, Chelsea, Manhattan, image courtesy of Selldorf Architects

SELLDORF ARCHITECTS

Conceptual Design

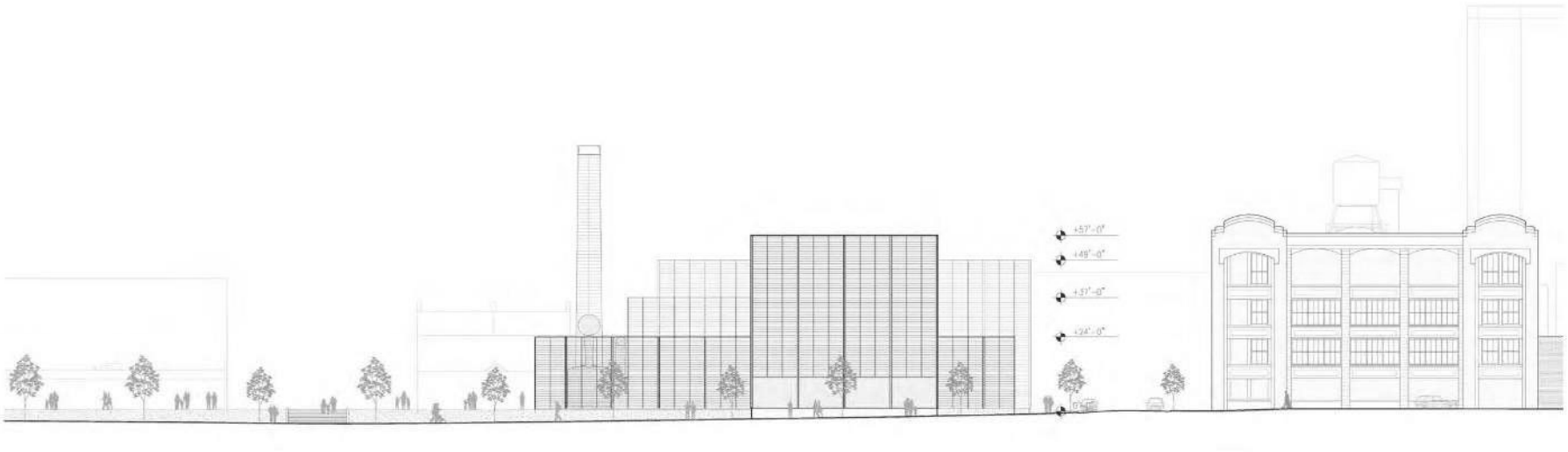


CSO FACILITY GOWANUS
SELLDORF ARCHITECTS dlandstudio Hazen
CONCEPTUAL SUBMISSION - JULY 21 2017

MASSING STUDIES: S.W. AXONOMETRIC
PROPOSED RH-03 FACILITY

NOT TO SCALE

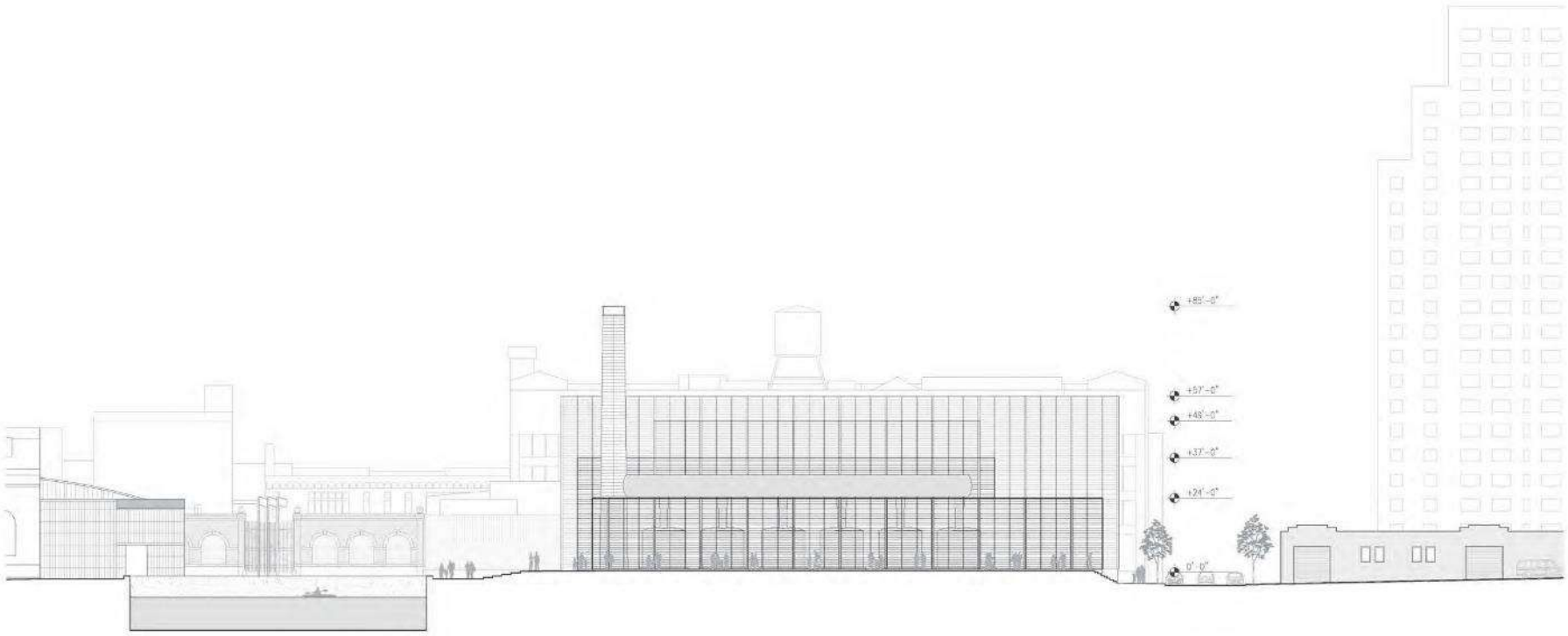
Conceptual Design



CSO FACILITY GOWANUS
SELLDORF ARCHITECTS dlandstudio Hazen
CONCEPTUAL SUBMISSION - JULY 21, 2017

NEVINS ST ELEVATION
PROPOSED RH-03 FACILITY

Conceptual Design



CSO FACILITY GOWANUS
SELLDORF ARCHITECTS dlandstudio Hazen
CONCEPTUAL SUBMISSION - JULY 21, 2017

PARK SIDE (SOUTH) ELEVATION
PROPOSED RH-03 FACILITY

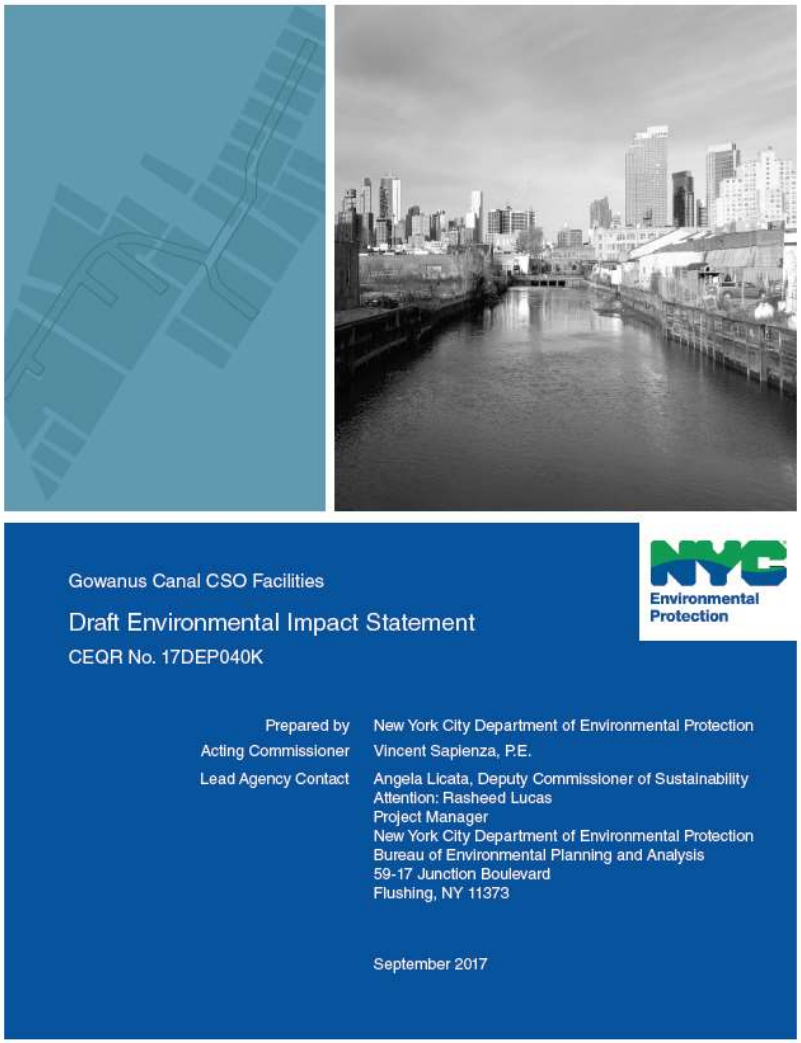
Conceptual Design

CSO FACILITY GOWANUS
SELLDORF ARCHITECTS dlandstudio Hazen Brown and Caldwell
CONCEPTUAL SUBMISSION - JULY 21 2017

CONCEPTUAL OPEN SPACE CHARACTER ZONES
PROPOSED RH-03 FACILITY

Draft Environmental Impact Statement

An assessment and disclosure of the potential adverse significant environmental impacts from the construction and operation of both CSO tank facilities



EIS Categories Assessed

- **Land Use, Zoning & Public Policy**
- **Socioeconomic Conditions**
- Community Facilities & Services
- **Open Space & Recreation**
- **Shadows**
- **Historic & Cultural Resources***
- **Urban Design & Visual Resources**
- **Natural Resources**
- **Hazardous Materials**
- **Water & Sewer Infrastructure**
- Solid Waste & Sanitation Services
- Energy
- Transportation
- **Air Quality**
- **Greenhouse Gas Emissions & Climate Change**
- **Noise**
- Public Health
- Neighborhood Character
- **Construction***
- **Environmental Justice**
- **Alternatives**

*Potential Impacts Identified

Milestone Schedule

Issue draft EIS: Complete

Certify ULURP: Complete

ULURP Anticipated Completion: May 2018

Design Completion: Fall 2019

Construction: 7 years; anticipated completion 2028

Facility Site Prep/Demolition: No later than April 2020; 9-month duration

National Grid Work: 12-month duration

Facility Excavation/Tank Construction: 48-month duration

Construction of Above-grade Structure: 24-month duration

Questions?

Addendum

Draft EIS Assessments and Findings

Land Use, Zoning and Public Policy

- **What we studied:** Compatibility with existing and future land use, consistency with zoning and consistency with applicable public policies
- **What we found:**
  - Project would be compatible with similar uses and existing infrastructure in the Study Area.
  - Facilities (Use Group 18) would be designed to meet all applicable zoning requirements.
  - Public policies:
    - Project would be consistent with the policies of the Waterfront Revitalization Program (WRP).
    - Head End Facility is consistent with City's Fair Share policy.
    - Project would not conflict with goals of City's Industrial Business Zone (IBZ).
- **Conclusion:**
  - No significant adverse impacts on land use or zoning
  - Consistency with policies of WRP
- **More information:** Chapter 2 of the DEIS

Socioeconomic Conditions

- **What we studied:** Potential effects of the Project on the surrounding area; three areas of conditions: (1) direct business displacement; (2) indirect business displacement; and (3) potential adverse effects on specific industries.
- **What we found:**
  - Individually and collectively, the 19 businesses affected by the Project that could be directly displaced do not provide products or services essential to the local economy that would no longer be available to local residents or businesses in their "trade areas."
  - Businesses could be expected to relocate or establish new, comparable businesses elsewhere.
  - Businesses do not constitute a category of businesses or institutions that may be the subject of other regulations or publicly adopted plans to preserve, enhance, or otherwise protect it.
- **Conclusion:**
  - No significant adverse impact on Socioeconomic conditions
- **More information:** Chapter 3 of the DEIS

Open Space and Recreation

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- **What we studied:**
  - Potential direct effects and indirect effects from air, noise, shadows
- **What we found:**
  - No physical changes to current open space
  - Addition of publicly accessible areas on the surface of the facility
  - Would not result in any permanent effects from noise, air pollutants, odors, or shadows which would adversely affect the usefulness of the adjacent open spaces or recreational resources
- **Conclusion:**
  - No significant adverse impact on open space
- **More information:** Chapter 5 of the DEIS

Shadows

- **What we studied:**
  - Potential effects on Canal (affecting recreational use and habitat) and open space
- **What we found:**
  - Thomas Greene Playground would not experience any shadows from project; no potential historic structures within shadow radius have sunlight-dependent features
  - Canal: In spring, summer, and fall the incremental shadows would be limited and not adversely affect recreational use of the Canal; in the winter the shadows would be longer but recreational use would be less and areas adjacent to the sites would continue to receive direct sunlight. Shadows would not be expected to affect primary productivity of aquatic resources (plankton, fish, and benthic invertebrates); any potential for a minor hindrance on fish passage within the small band of project-generated shadows cast across the Canal would not be significant.
  - Project-Created Open Space: Shadows cast by the above-grade structure would generally not fall far enough to the south to substantially affect the Projects' open space at most times of the day throughout the year.
- **Conclusion:**
  - No significant adverse impact of project-generated Shadows on the surrounding environment
- **More information:** Chapter 6 of the DEIS

Historic Resources: Architecture

- **What we studied:**
  - Direct impacts (demolition, alterations) and indirect impacts (contextual)
- **What we found:**
  - Head End Site contains former Gowanus Station building, a one-story brick structure located at Nevins and Butler Streets (234 Butler); also contains a factory complex of four buildings (242-244 Nevins) and a one-story warehouse building (270 Nevins). All the buildings have been deemed to contribute to the significance of the S/NR-eligible Gowanus Canal Historic District, and demolition, which is necessary at least in part for the construction of the Project, would constitute a significant adverse impact to architectural resources.
  - DEP is performing an engineering analysis to identify challenges and opportunities associated with preserving all or portions of the existing Gowanus Station building at the Head End Site. If feasible, DEP would preserve the buildings or portions of one or more buildings; if not feasible, DEP would document the buildings as per recordation standards in consultation with SHPO. Section 106 consultation ongoing.
  - No impacts at Owls Head Site

Historic Resources: Archaeological

- **What we studied:** Numerous previous archaeological assessments informing further analysis
- **What we found:**

Potential Archaeological Resources and Recommendations for Future Analysis

Location within Project Sites	Potential Resource Type	Archaeological Research Value (if present)	Likely Integrity	Recommendation
Head End Site; Nevins Street	Prehistoric Site	High	Low	Archaeological Monitoring
Nevins Street	Tide Mill Complex	High	Low	Archaeological Monitoring
Owls Head Site; 2nd Ave; 7th Street	Battle of Brooklyn (Battle Action Corridor)	Low	Low	No further action[1]
7th Street	Battle of Brooklyn (Soldier Burials)	High	Low	Archaeological Monitoring
Head End Site; Owls Head Site	Gowanus Canal (bulkhead and cribbing)	Moderate	High	Archaeological Monitoring if affected
Head End Site; Owls Head Site	Industrial Sites	Low	High	No further action

Note:
[1] Although the likelihood of encountering Battle Action Corridor-related resources is low, an Unanticipated Discoveries Plan will be in effect during construction.
Sources:
Lee, et al. 2011 and Loorya and Dietrich 2012.

- **Conclusion:**
  - Potential significant adverse impact of Historic & Cultural resources in the surrounding environment; consultation is being undertaken with SHPO and LPC to identify measures to avoid, minimize, or mitigate adverse impacts.
- **More information:** Chapter 7 of the DEIS

Urban Design and Visual Resources

- **What we studied:**
  - Existing conditions within 600 feet, Project's effect on urban design characteristics and visual resources
- **What we found:**
  - Although the Project complies with zoning regulations and does not require an Urban Design and Visual Resources analysis under CEQR, the analysis was prepared because the Project would result in physical changes that would be observable by pedestrians.
  - CSO facilities would comply with height, bulk and setback requirements of zoning
  - Head End Facility would provide some form of waterfront public access along the Canal; both facilities may include public access where it doesn't interfere with operations
- **Conclusion:**
  - No significant adverse impact on Urban Design and Visual Resources
- **More information:** Chapter 8 of the DEIS

Natural Resources

- **What we studied:**
  - Potential effects on groundwater, floodplains, wetlands, aquatic and terrestrial resources, wildlife and protected species
- **What we found:**
  - Minor temporary disturbance to wetlands during construction and minimal disturbance from bulkhead work at Owls Head Site.
  - Water quality and sediment quality will be protected by coffer dams and turbidity curtains during construction.
  - Minimal nature of in-water construction, with protective measures, would avoid impacts on aquatic life.
  - No impacts on terrestrial resources, wildlife or protected species due to previously disturbed, urban area and lack of existing habitat.
- **Conclusion:**
  - No significant adverse impact to Natural Resources
- **More information:** Chapter 6, 9, and 20 of the DEIS

Hazardous Materials

- **What we studied:**
  - Historic use of sites, subsurface conditions of sites
- **What we found:**
  - Contamination is known to be present and has been extensively documented.
  - To properly manage materials at the site and prevent exposure to workers, the public, or the environment, remedial designs will be developed including soil screening for treatment, dewatering treatment systems, odor and vapor monitoring and control, demarcation and placement of clean cover materials, and health and safety measures.
- **Conclusion:**
  - No significant adverse impact on Hazardous Materials
- **More information:** Chapter 10, 20 of the DEIS

Water and Sewer Infrastructure

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- **What we studied:**
  - Capacity at the treatment plants and of conveyance piping, hydraulic analysis
- **What we found:**
  - Red Hook and Owls Head Wastewater Treatment Plants have capacity to receive and treat the pumped-back flows.
  - Design ensures a hydraulic profile for gravity flow without causing backups or upstream flooding.
- **Conclusion:**
  - No significant adverse impact on Water and Sewer Infrastructure.
- **More information:** Chapter 11 of the DEIS

Air Quality

- **What we studied:**
  - Comprehensive analysis of various pollutants, compared to National Ambient Air Quality Standards (NAAQS) and CEQR thresholds:
    - Carbon monoxide (CO), fine particulate matter (PM2.5), nitrogen dioxide (NO2), Odors caused by Hydrogen Sulfide (H2S)
- **What we found:**
  - Maximum combined concentrations from the Project's HVAC system and emergency generators would be below the applicable NAAQS and PM2.5 de minimis thresholds
  - The Project would not have significant effect on overall volume of vehicular travel in the area; therefore, no measurable impact on regional NOx emissions, ozone levels, or NO2 emissions is predicted from mobile sources.
  - The odor control will be designed in order that the Project would not result in exceedance of the 1 parts per billion (ppb) significant odor threshold for sensitive receptors or the 10 ppb NYSAAQS in ambient air.
- **Conclusion:**
  - No significant adverse impact on Air Quality
- **More information:** Chapter 15 of the DEIS

Greenhouse Gases and Climate Change

NYC Environmental Protection

- **What we studied:**
  - Potential GHG emissions that would be generated by the project
  - Future climate conditions and potential effect on the Project
- **What we found:**
  - The electricity use, on-site fuel consumption, emission factors, and resulting GHG emissions from each site would generate a total of approximately 2415 metric tons of CO2e per year. 60% from the Head End, 40% from Owls Head.
  - Project would use energy efficient design, clean power, attempt to reduce construction operation emissions, and use materials with low carbon intensity
  - Would incorporate resilient measures to protect critical infrastructure from flooding.
- **Conclusion:**
  - No significant adverse impact on Greenhouse Gases and Climate Change
- **More information:** Chapter 16 & 2 of the DEIS

Noise

- **What we studied:**
  - Potential effects of Mobile and Operational Sources noise on residences and open spaces.
- **What we found:**
  - Would not generate sufficient traffic to cause a 3 dBA increase in noise levels at any surrounding receptors
  - Facilities' mechanical systems and for facility operation (i.e., emergency generators, odor control systems, pumps, etc.) would meet all applicable noise regulations and would avoid producing noise levels that would result in any significant increases in ambient noise levels.
  - Would include some type of publicly accessible open space at the Head End Site between Nevins Street and the Gowanus Canal. Potential noise levels at open space would exceed the 55 dBA L10(1) CEQR threshold, but would be comparable to measured noise levels at other parks around the Gowanus Canal area and in New York City
- **Conclusion:**
  - No significant adverse impact from Noise on the surrounding environment.
- **More information**: Chapters 17 of the DEIS

Potential Impacts: Construction

- **What we studied:**
  - Potential effects from construction on traffic, air quality, noise and other factors on the surrounding community
- **What we found:**
  - Transportation: a detailed analysis was conducted for AM and PM peak hours which showed no adverse impacts from construction traffic.
  - Air Quality: a dispersion model of construction related road and off-road emissions showed no adverse impacts. Also, DEP would implement a Community Air Monitoring Program (CAMP) to prevent on- and off-site odor nuisances.
  - Noise: Given the duration and intensity of construction, noise levels at residences at 282 and 285 Nevins Street is predicted to result in a temporary significant adverse noise impact.
    - No feasible mitigation is available for the residences at 282 and 285 Nevins Street. Because the buildings use window air conditioning units, provision of storm windows or other façade treatments would not lower interior noise levels.

Potential Impacts: Construction

Noise (continued)

- At open space receptors near the construction sites, noise levels would be noticeable and potentially intrusive during the most intensive construction activities, but would be limited to daytime hours and would be lower in parts of Thomas Greene Playground where passive recreation requires lower noise levels.
- At other receptors near work areas, noise levels would be noticeable and potentially intrusive at times; however they would be temporary and would generally not exceed typical noise levels in the area. Besides the impacted residences, other receptors are constructed with insulated glass and appear to have alternate means of ventilation, which would allow for maintenance of reduced interior noise levels.

- **Conclusion:**
  - Potential significant adverse temporary noise impact on residences at 282 & 285 Nevins Street; mitigation is not feasible
- **More information:** Chapter 20 of the DEIS

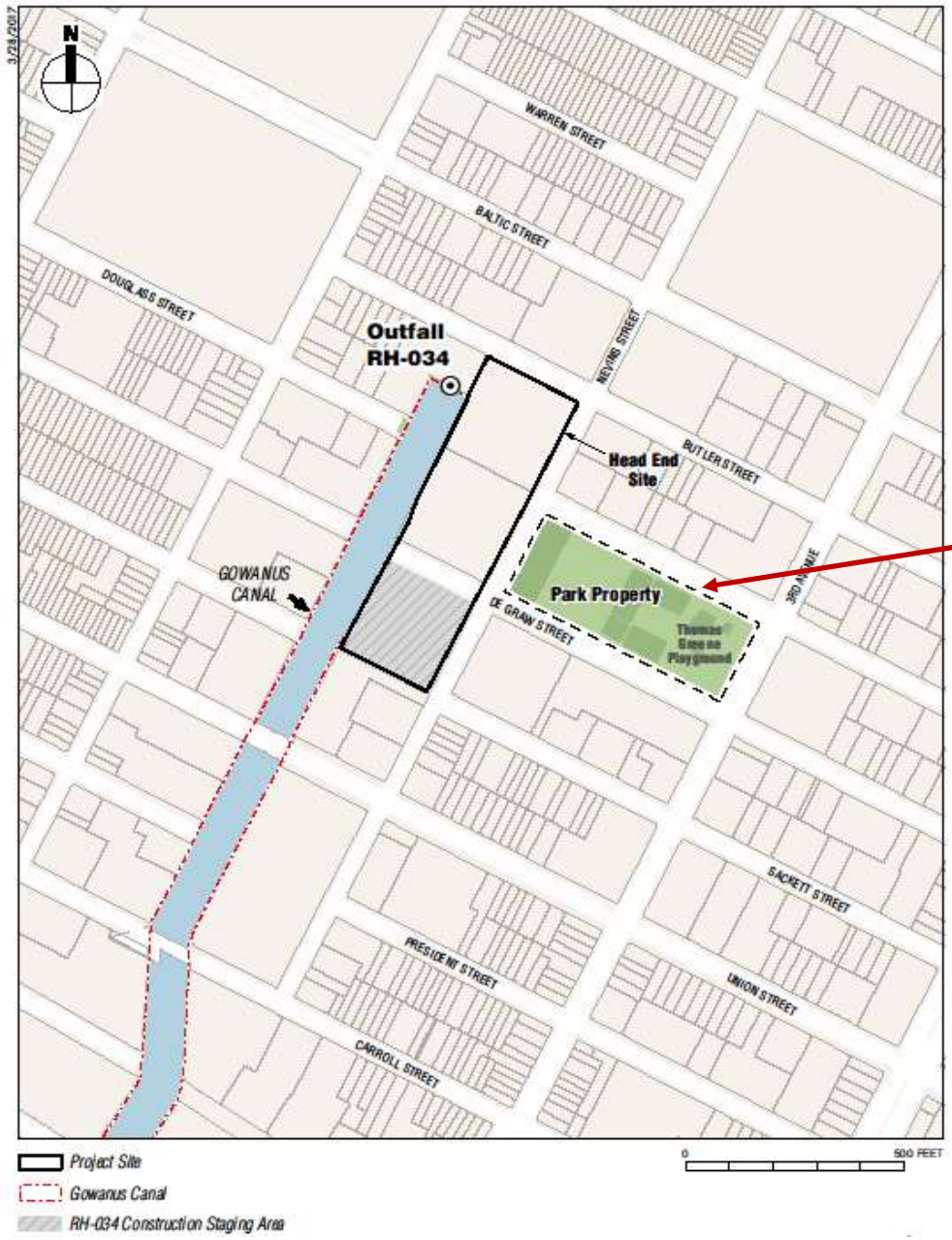
Environmental Justice

- **What we studied:**
  - Potential effects on potential environmental justice populations in area, consistent with NYSDEC's Commissioner's Policy (CP)-29 Environmental Justice and Permitting & the intent of the New York City Council's recent environmental justice legislation (INT. 359 and INT. 886), passed on April 5, 2017
- **What we found:**
  - Five of the study area's 21 block groups have been determined to be a potential environmental justice area, based on the presence of low-income and minority populations higher than the thresholds provided in NYSDEC's *(CP)-29 Policy*
  - Construction-related noise impacts would temporarily affect one non-minority and non-low-income area.
  - Demolition of the industrial buildings on the Head End Site and potential archeological impacts would not be expected to result in disproportionate impacts on minority and low-income communities since these impacts would affect all populations.
- **Conclusion:**
  - No significant adverse impact on Environmental Justice populations
- **More information:** Chapter 21 of the DEIS

Alternatives

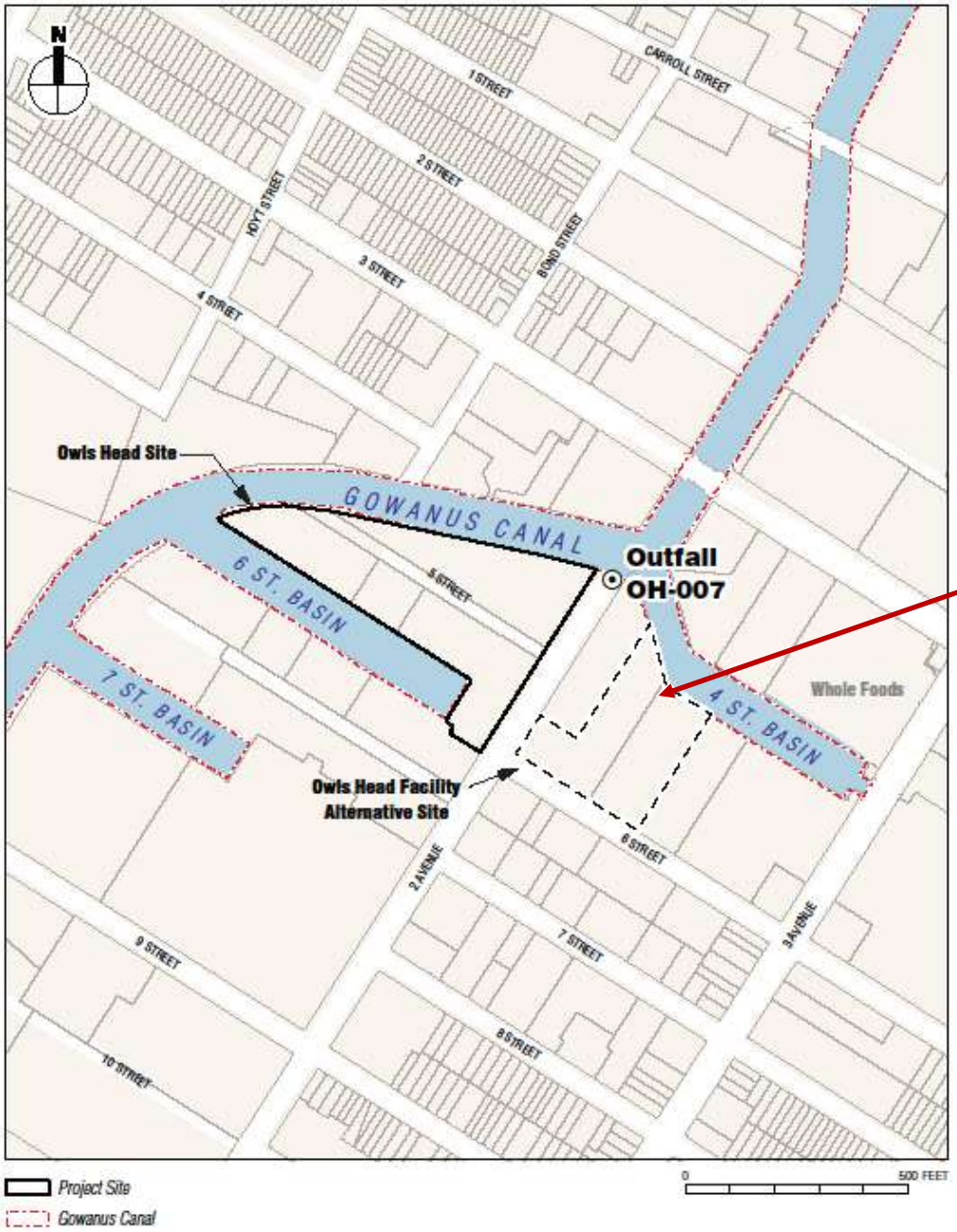
- **What we studied:**
  - Comparative evaluation of:
    - Thomas Greene Playground Site as location for Head End Facility Alternative
    - Owls Head Facility Alternative Site located on 6th Street

Head End Alternative Site



Alternative Site for CSO Facility

Owls Head Alternative Site



Alternative Site for CSO Facility

Alternatives – RH Site

What we found:

- RH Alternative at Park Property:
  - Potential to result in significant adverse impacts to open space as a result of the displacement of a portion of Thomas Greene Playground; this loss may require alienation legislation
  - Inconsistent with WRP policies to increase public open space
  - Shadows from above-grade structure and loss of natural features could result in impacts
  - Increase noise levels within eastern portion of park (up to 12 dBA higher than Head End Site) during construction would constitute a significant adverse noise impact
  - Would still result in an architectural impact at 270 Nevins (staging site); however there would be reduced architectural impacts because the alternative would not result in demolition of the other buildings at the Head End Site. Park Property would have similar potential for archaeological impacts.
- Construction at Park Property would require longer overall duration, with tank and conveyance conduits needing to be at a greater depth, and more extensive road closures due to more utility relocation.
- **More information:** Chapter 22 of the DEIS

Alternatives – OH Site

What we found:

- OH Alternative at 6th Street:
  - Would result in noise levels at Whole Foods Market open space up to approximately 8 dBA higher than noise from Owls Head Site, which would constitute a significant adverse impact
  - Potential for more extensive contamination due to historical uses; however similar remediation techniques would be available to avoid impacts to human health and the environment
  - Would require displacement of different businesses; however, given the adequate availability of self-storage options in the study area the displacement would not result in socioeconomic impacts
- **More information:** Chapter 22 of the DEIS