The added density proposed in the DCP Neighborhood Framework will result in a substantial increase in wastewater generation and sewage overflow into the Canal. Neither the Gowanus Framework nor planned neighborhood infrastructure investments offer solutions to this problem. We are developing an integrated water management plan, with techniques, design details, capital projects and funding mechanisms to address increased sewage from new development, with the goals of a net zero gain in combined sewage overflow events.

1. **EVALUATE ISSUES & OPPORTUNITIES W/ INTEGRATED WATER MANAGEMENT**
   - Considers the urban water cycle as a single integrated system
   - Evaluate and plan for projects at the watershed/sewershed scale

2. **PRIORITIZE MULTIFUNCTIONALITY**
   - Water infrastructure that provides environmental co-benefits
   - Water infrastructure that provides social co-benefits

3. **ADAPT TO LOCAL CONDITIONS & A CHANGING ENVIRONMENT**
   - Design for the unique natural constraints and opportunities of the Gowanus tidal estuary
   - Design for the unique community and land use in Gowanus
   - Plan and monitor for a changing environment

4. **EMBRACE INNOVATION**
   - Encourage experimentation through pilot projects
   - Provide alternatives to blanket solutions for addressing infrastructure needs

**GUIDING PRINCIPLES**

**A CRITICAL NEED: GOWANUS SEWERSHED & REZONING IMPACT**

**MORE TALL BUILDINGS**

**MORE PEOPLE**

**MORE TOILETS**

**INCREASED DENSITY WILL CAUSE MORE CSO**

**MEDIUM & MODERATE DENSITY UPZONE AREAS**

NYC Department of City Planning (DCP) Framework calls for medium/moderate density at the north, mid, and lower sections of the canal and adjacent to the waterfront which will likely result in mixed use/residential buildings with height allowances from 6-10+ floors.

**HIGHEST DENSITY UPZONE AREAS**

The Framework calls for high density development along 4th Ave., near existing parks, and at the mid-canal which will likely result in mixed use/residential buildings with height allowances from 12-17+ floors.

**STORMWATER & WASTEWATER IMPACT**

Projected increase in density will impact 10 CSO Sheds that regularly discharge raw sewage into the canal during existing conditions.
GOWANUS LOWLANDS
STORMWATER & SEWAGE

BLOCK SCALE IMPACT OF DEVELOPMENT:
The diagrams below show potential added density based on framework on one block of 4th Avenue.

MANAGEMENT TECHNIQUES:
A set of integrated water management strategies that include right-of-way infrastructure, optimized in-building water storage, and on-site conservation offer solutions for CSO mitigation.

TO ACHIEVE ZERO CSO & REDUCE DEVELOPMENT IMPACT

MANAGEMENT STRATEGY:
A cohesive strategy at the watershed/district scale is necessary to ensure that new development does not further contribute to the CSO problem. This will require:
- A management entity that oversees project siting and development
- Technical support and assistance
- Diverse funding mechanisms beyond city capacity to build new infrastructure
### STRATEGIES

**Point source treatment:**
- Treat contamination at discharge points

**Flow control:**
- Minimize flow rate of stormwater entering at discharge points

**Bio-infiltration:**
- Vegetated green infrastructure

**Storage:**
- Underground detention and retention

**Resilient & Responsive:**
- Landscape design and materials that permit and absorb flooding.

### WATERFRONT

**Flow control:**
- Minimize flow rate of stormwater entering at discharge points

**Bio-infiltration:**
- Vegetated green infrastructure

**Storage:**
- Underground detention and retention

**Resilient & Responsive:**
- Landscape design and materials that permit and absorb flooding.

### IN-BUILDING

**Flow control + Storage:**
- Smart responsive stormwater systems to store and control release

**Conservation:**
- Store and reuse water

**Bio-infiltration:**
- Vegetated green infrastructure

### STREETSCAPE

**Grading & Drainage:**
- Optimize drainage patterns to redirect stormwater

**Flow control:**
- Minimize flow rate of stormwater entering at discharge points

**Bio-infiltration:**
- Vegetated green infrastructure

**Storage:**
- Underground detention and retention

### OPEN SPACE

**Multi-functionality:**
- Landscape design and materials that permit and absorb flooding

**Storage:**
- Above and below grade detention and retention

**Bio-infiltration:**
- Vegetated green infrastructure

### TECHNIQUES

**IN-WATER**
- Check-Dams
- Wet Swales
- Stormwater Parks
- Sponge Parks
- Creek Daylighting
- Permeable Paving
- Suspended Paving
- Smart infrastructure
- Tank and roof storage
- Grey and black water reuse
- Rooftop + facade biofiltration
- Low + no-flow fixtures and appliances

**WATERFRONT**
- Stormwater streets
- Enhanced tree pits
- Suspended paving
- Right-of-way green infrastructure

**IN-BUILDING**
- Stormwater streets
- Enhanced green infrastructure
- Subsurface storage
- Green infrastructure in parks & municipal land

**STREETSCAPE**
- Stormwater streets
- Enhanced green infrastructure
- Subsurface storage
- Right-of-way green infrastructure

**OPEN SPACE**
- Stormwater streets
- Enhanced green infrastructure
- Subsurface storage
- Right-of-way green infrastructure