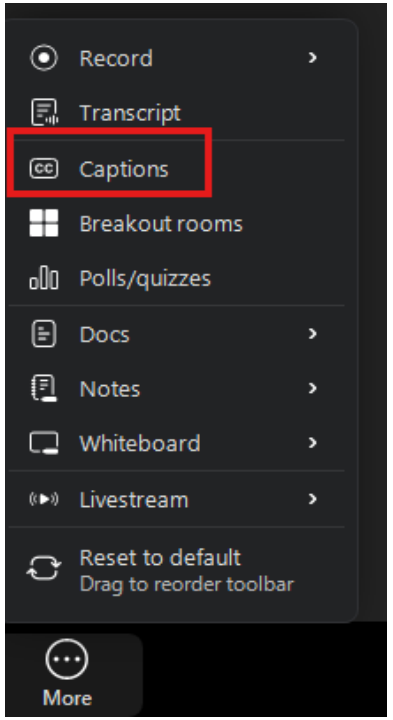
Welcome!

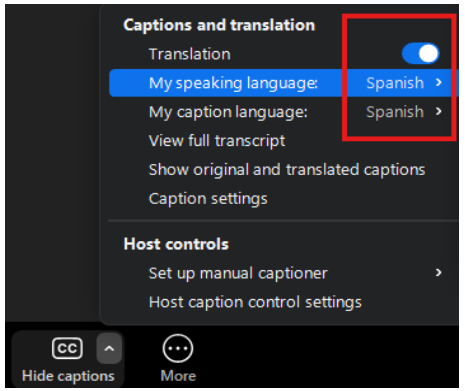
We will begin the meeting shortly.

Please turn on the closed captioning option and select your preferred speaking and caption language.

Instructions for Spanish speakers are noted below.



En las opciones de subtítulos a continuación, por favor seleccione las traducciones, su idioma de habla y el idioma de los subtítulos. Para hacer una pregunta, por favor levante la mano. Su pregunta será traducida.



NYC Environmental Protection

NYC Parks

Corona Cloudburst Hub

60% Design - Community Update

June 16, 2025

NYC Environmental Protection

NYC Parks

Agenda

Cloudburst Program

Corona Cloudburst Hub

Recap of Community Engagement

Further Opportunities for Community Input

Next Steps

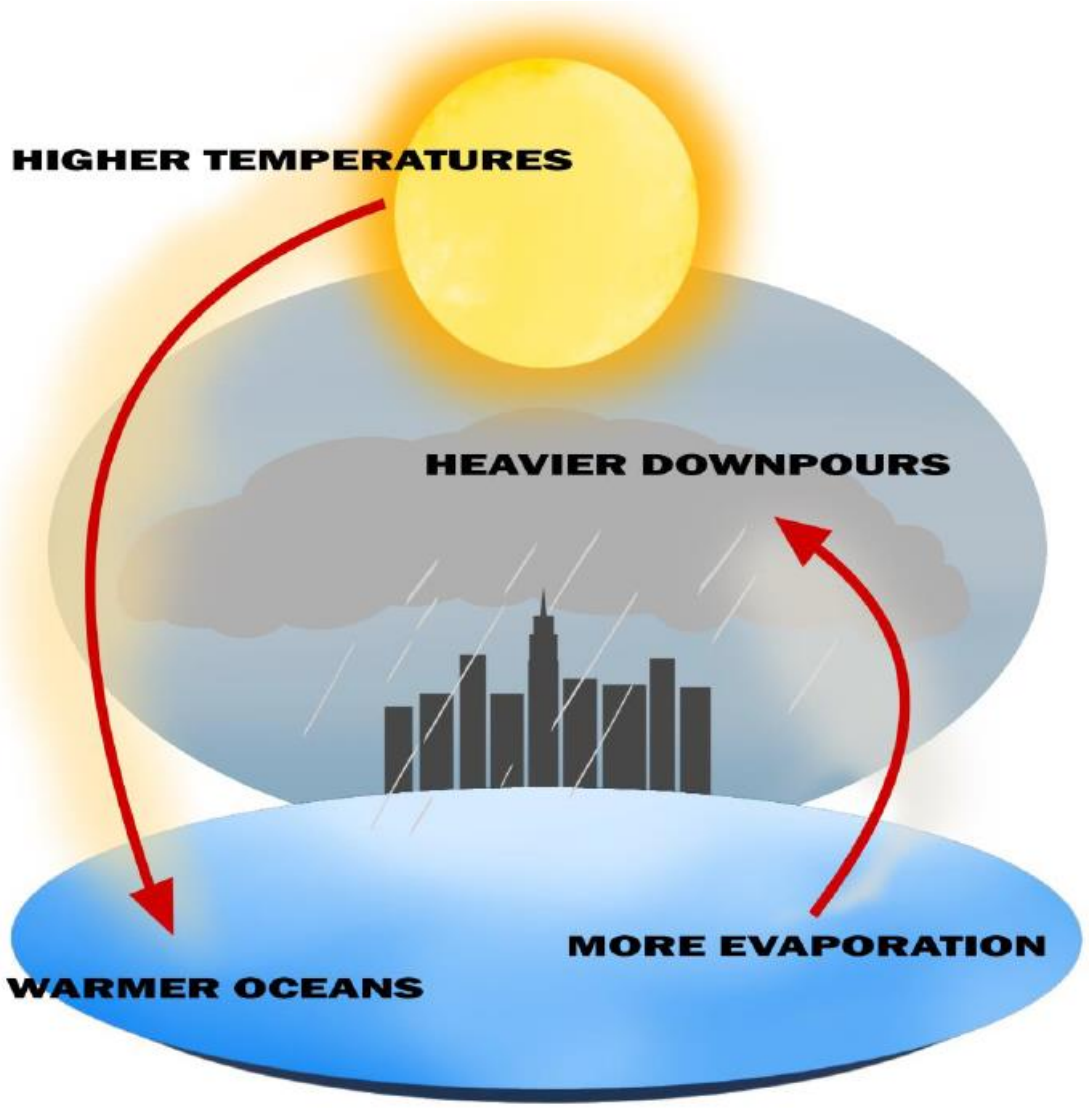
Q&A

NYC Environmental Protection

The Problem

Climate change is causing more localized flooding across NYC.

Our Changing Climate



Sudden, powerful storms are bringing more **intense rainfall** to New York City.

In 2020 NOAA (National Oceanic and Atmospheric Administration) **reclassified NYC from a "coastal temperate" climate zone to a "humid subtropical" climate zone.**

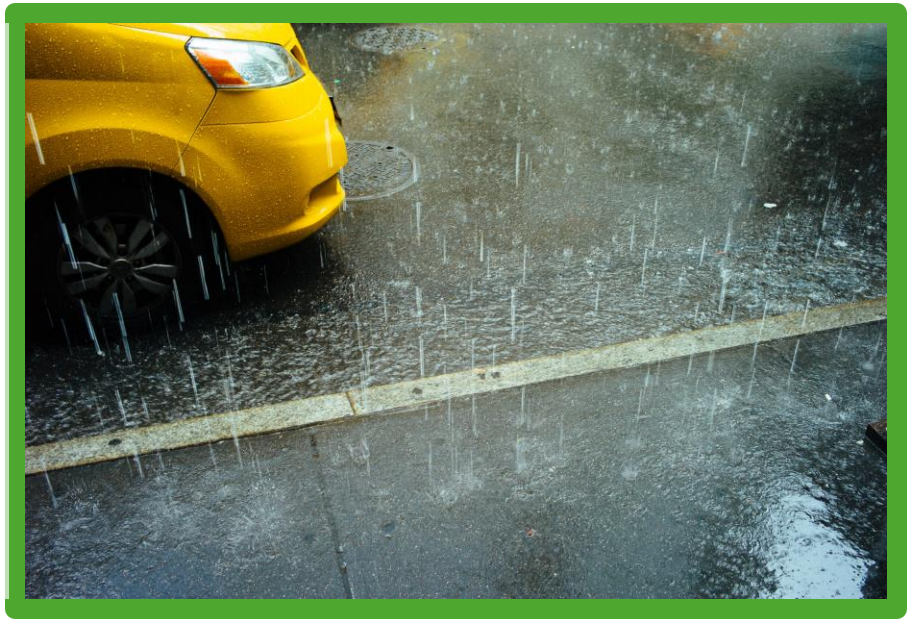
- August 2021 (Henri) – 1.94 inches in an hour
- **September 2021 (Ida) – 3.15 inches in an hour**
- September 29, 2023 – 2.5 inches in an hour

In 2023, NYC experienced **rain every 3 days.**

There are several different types of flooding that New Yorkers may experience, either combined or in isolation during a flooding event.

Overland Flooding

Occurs when rainwater flows downhill over the land and collects in low-lying areas.



System Surcharging

Occurs when the sewer system is unable to properly convey the flow during a rainfall event.

Groundwater Flooding

Occurs when the ground becomes saturated with water, either due to historic waterways below the surface, or when prolonged rain leads to oversaturation.


Photo Credit: The City

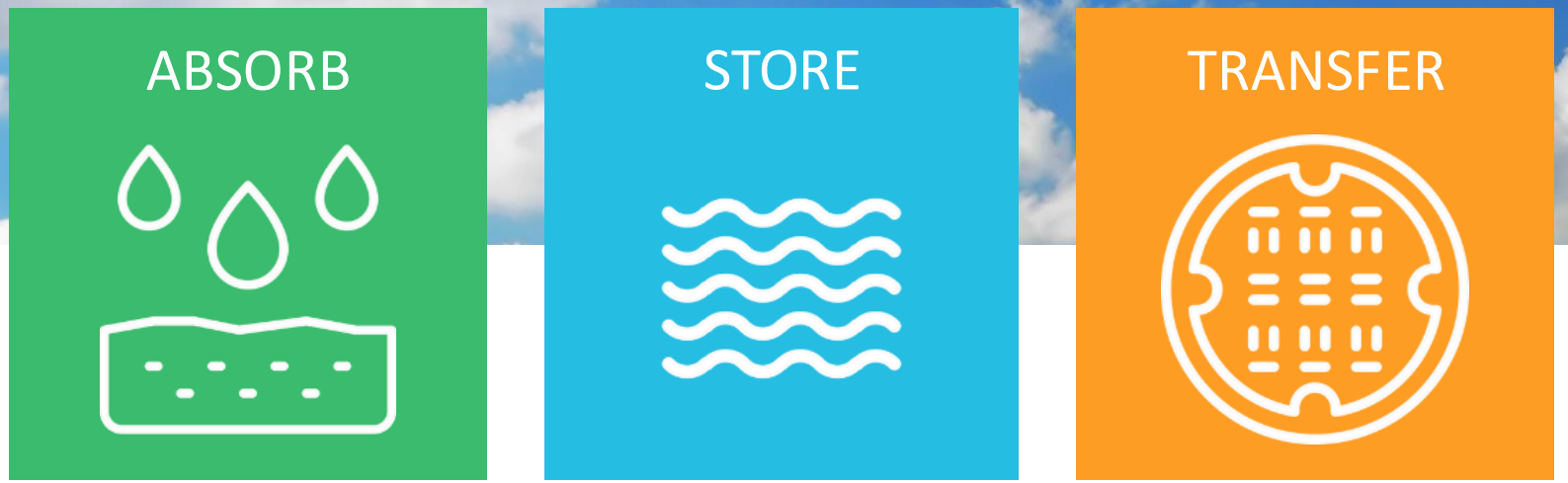

Photo Credit: NY Daily News

Coastal Flooding

Occurs when rising tides or storm surges push ocean water over the coastline.

What is a cloudburst?

A cloudburst is a sudden, heavy downpour where a lot of rain falls in a short amount of time. Cloudbursts can cause flooding, damage property, disrupt critical infrastructure, and pollute New York’s rivers and Harbor.



What is Cloudburst Infrastructure?

- **Cloudburst infrastructure** captures and holds rainwater from these high intensity / short duration rain events.
- It is typically designed to manage up to **2.3 inches of rain per hour**.
- It is a networked combination of grey and green infrastructure.

Cloudburst Toolbox

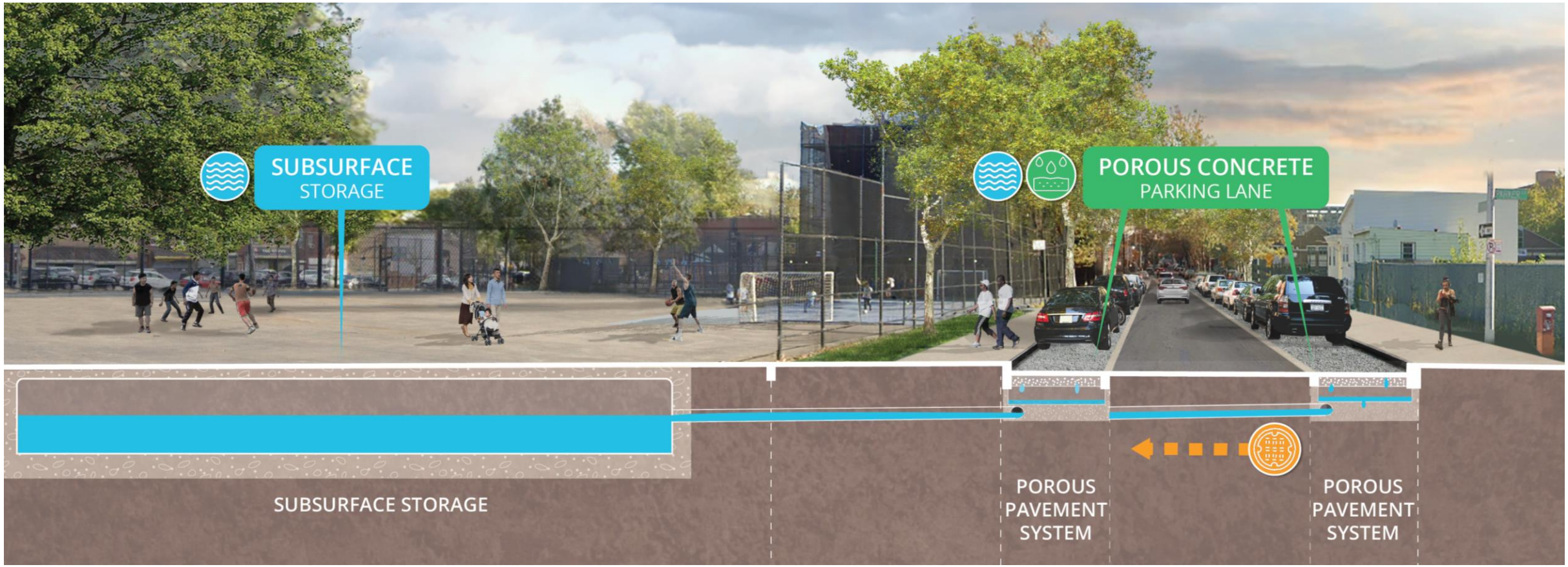
Porous Pavement
bike lanes and parking lanes

Rain Gardens + Bioswales
streets and sidewalks

Subsurface Water Detention
parking lots, fields and courts,
lawns, streets

Cloudburst Hubs

Cloudburst Hubs are identified at the sub-catchment scale, which are hydraulically connected areas based on the sewer network. **In short, a Cloudburst Hub is the area that is contributing stormwater flows to a target flooding hotspot.**

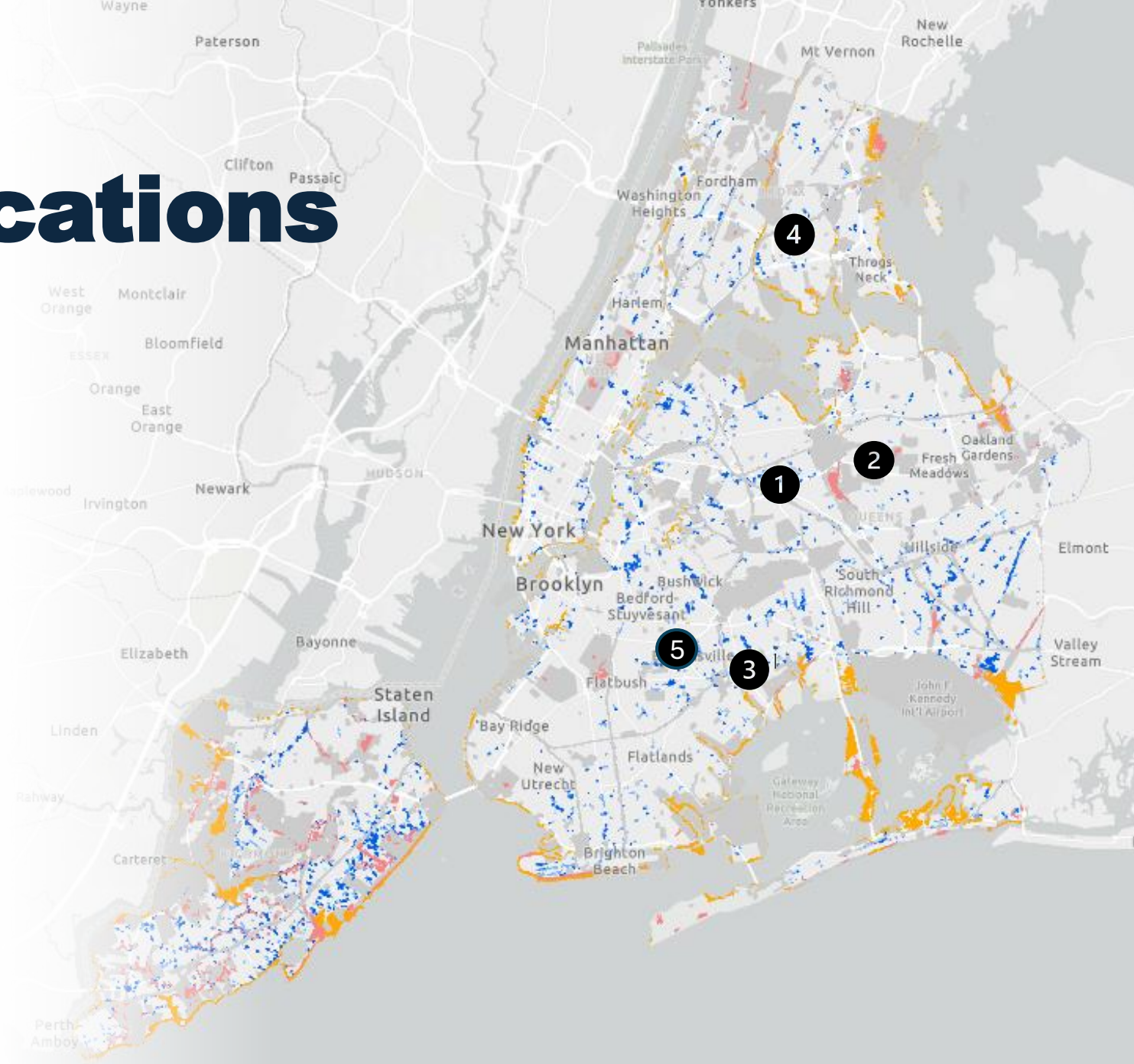


1 = Initial Locations

5 Initial Hub Locations

Announced January 2023

1. Corona (Queens)
2. Kissena (Queens)
3. East New York (Brooklyn)
4. Parkchester/Morris Park (Bronx)
5. Brownsville (Brooklyn)*



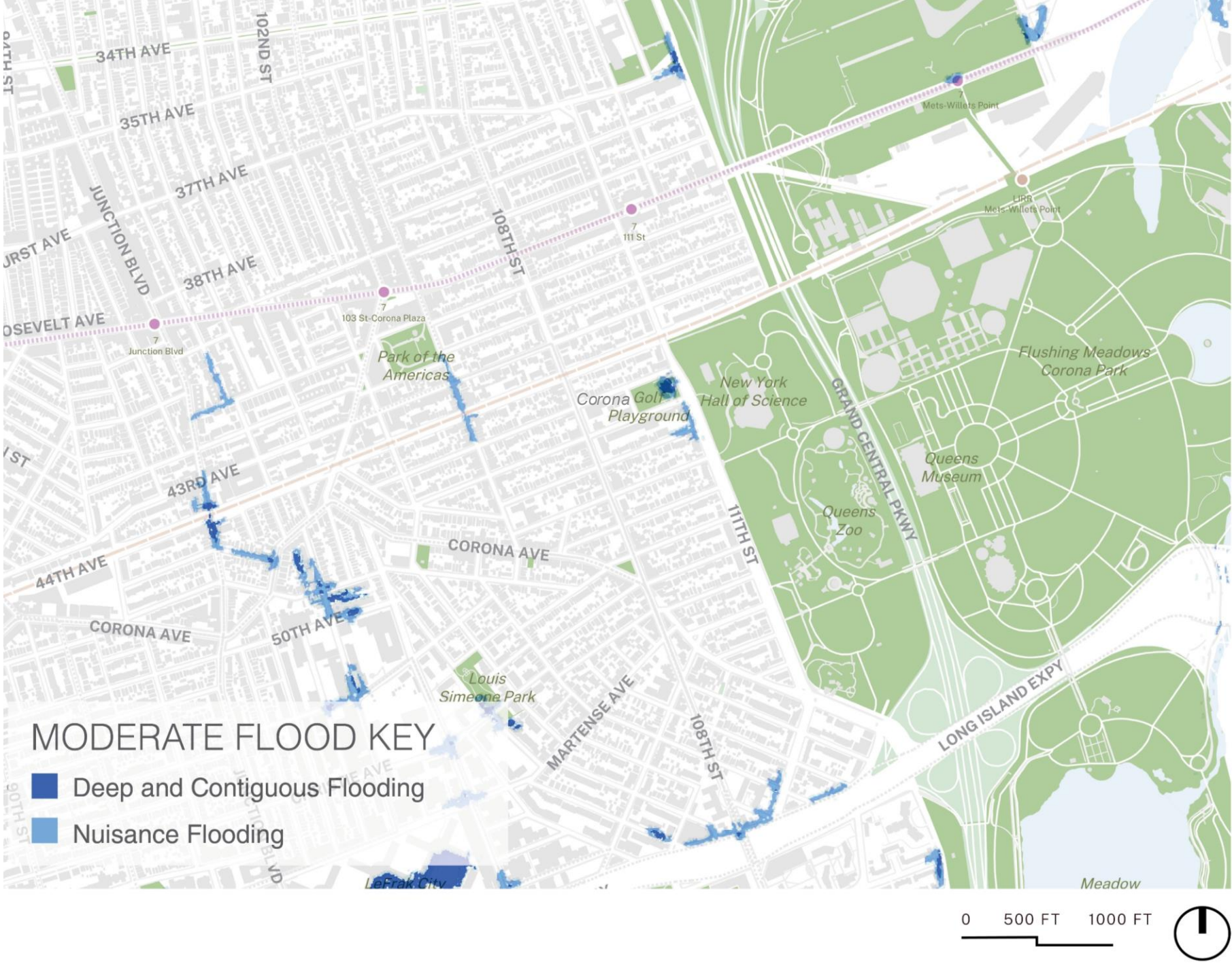
Partially funded, will be transferred to DDC

Stormwater Flooding in Corona

- Map shows flooding from a moderate cloudburst storm, or approximately 2.13 inches of rain per hour.

- Flooding at Corona Golf Playground, 111th Street, and along 104th Street and Park of the Americas.

Source: NYC Open Data Extreme Stormwater Flood Map and NYC DCP Flood Hazard Mapper

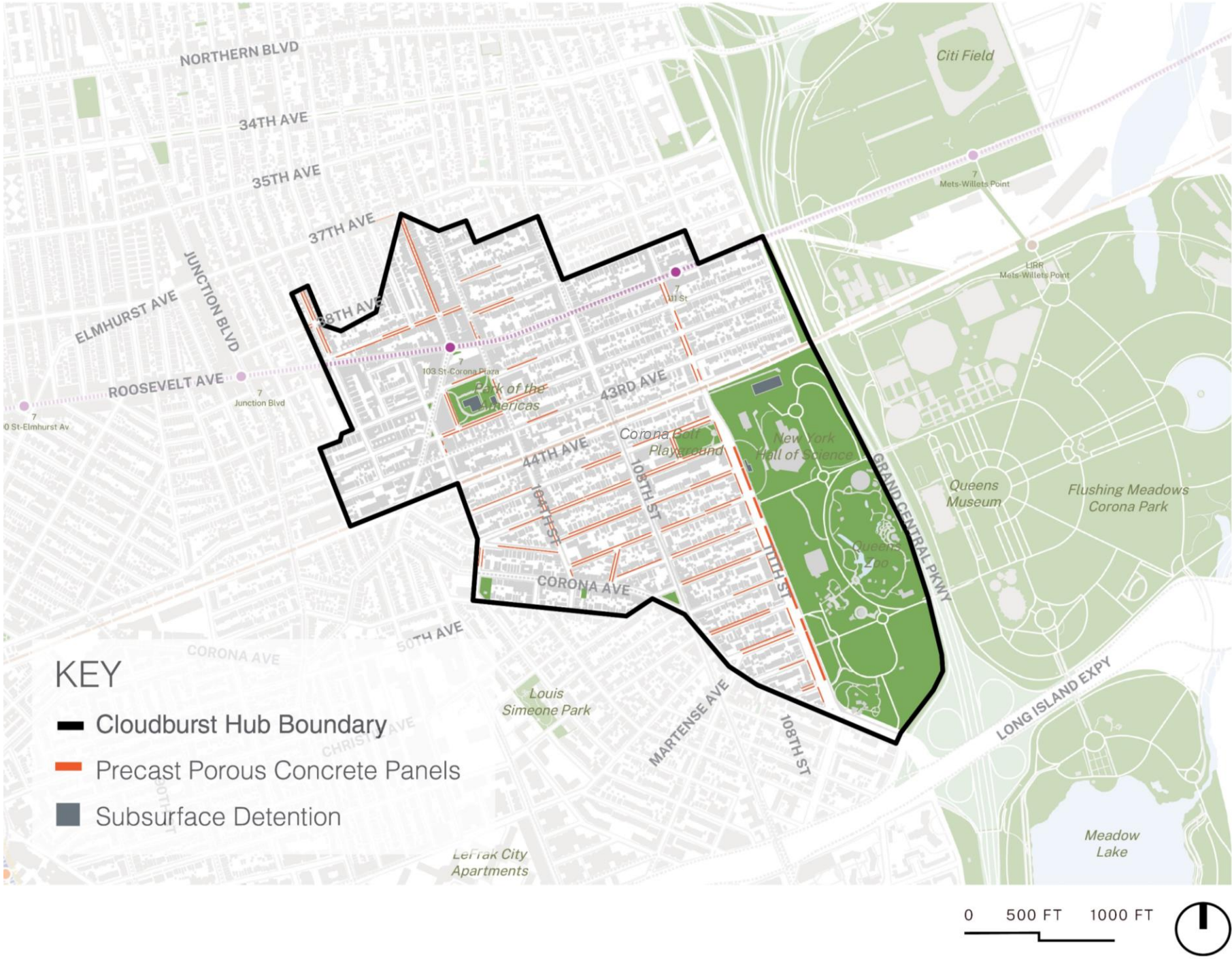


Corona Cloudburst Hub

- Total of 2.9 acres of precast porous concrete pavement in parking lanes across the neighborhood.

- Three subsurface detention sites, including:
  - Park of the Americas
  - NYSCI front lawn
  - NYSCI parking lot

- In total, the green infrastructure storage is designed to reduce flood extents during a 10-year, 1hr storm by 14.2 acres, or 30% reduction.



Precast Porous Concrete Panels

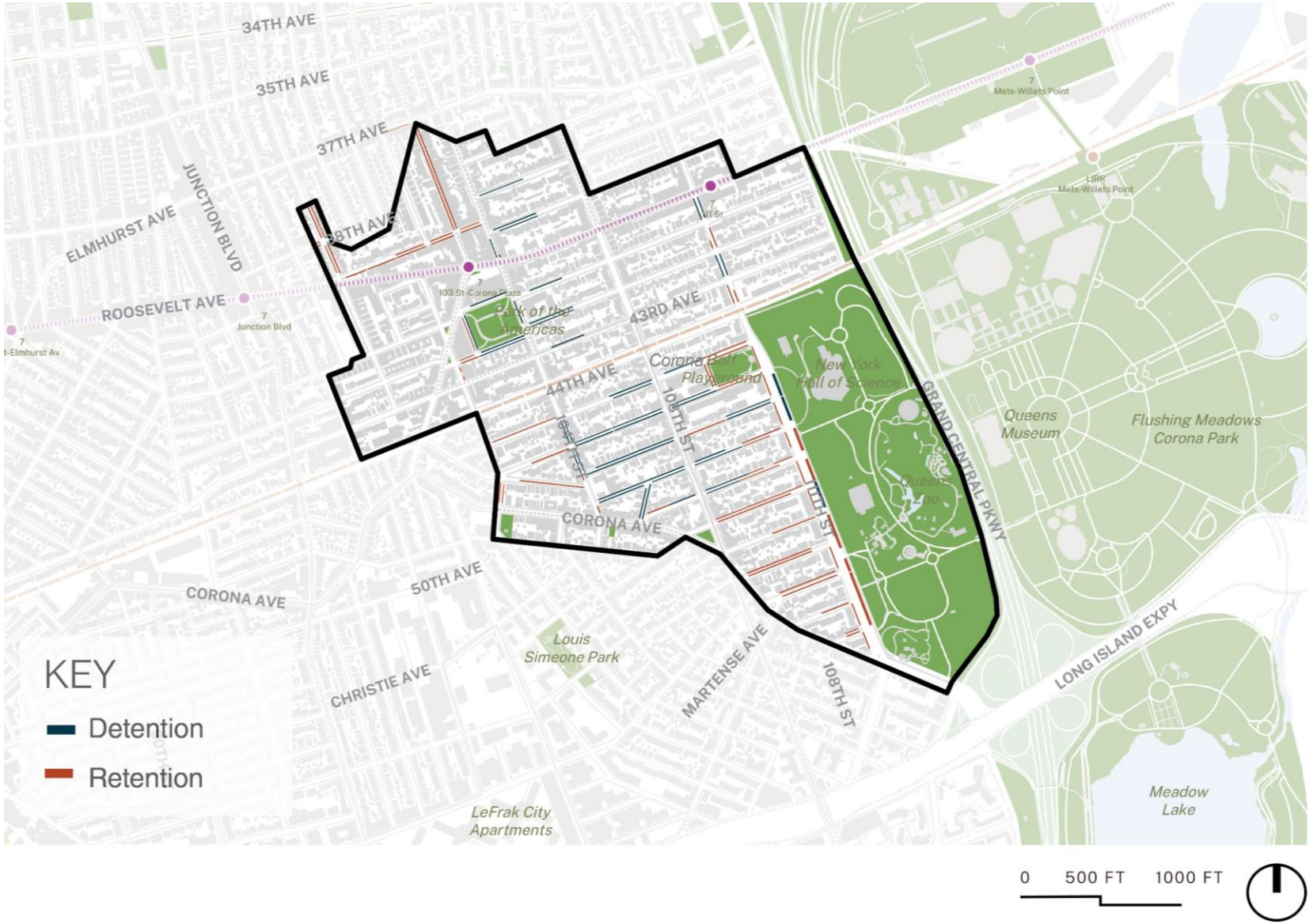
Porous pavement is special roadway paving that is designed to collect and manage stormwater that runs off the streets and sidewalks when it rains.

Close-ups of Panel and Installation

DDC and DEP Commissioners Demonstrate Precast Porous Concrete Panels

Neighborhood Wide Porous Pavement

- There will be 2.9 acres of precast porous concrete panels (PPCP) in parking lanes across the neighborhood.
- Some of the pavement will function as stormwater detention while other is stormwater retention.
- Detention means the water is held and released after a storm, while retention means the water is absorbed into the ground.
- Retention PPCP will still be connected but also provide additional storage for infiltration in areas with suitable soil conditions.



Subsurface Storage

Subsurface storage temporarily holds back stormwater so that it can be released in a controlled manner at a lower rate. Storage tanks can be placed below the surface of large open areas, such as playing fields and parking lots.

Directing stormwater to storage systems below public spaces

Proposed subsurface storage system

New York Hall of Science Front Lawn

- Approximately 1.14 acre site.
- Existing lawn with minor shrub plantings and trees maintained by the New York Hall of Science.
- Following the installation of the subsurface storage, the front lawn will be replaced in kind, which means restored to its current condition.

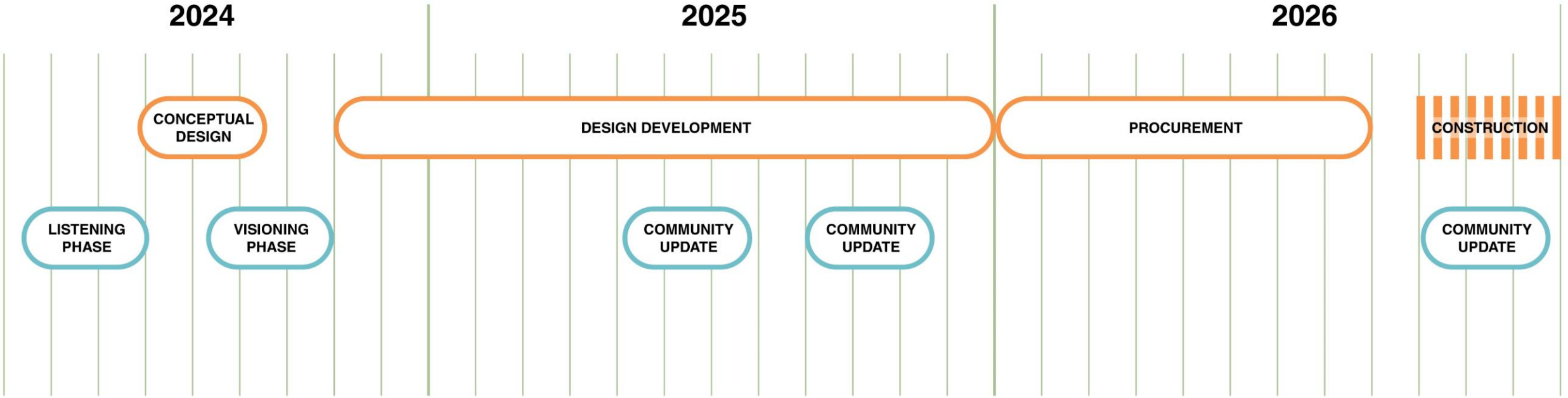
New York Hall of Science Parking Lot

- Following the installation of the subsurface storage, the parking lot will be replaced in kind, which means restored to its current condition.

Park of The Americas

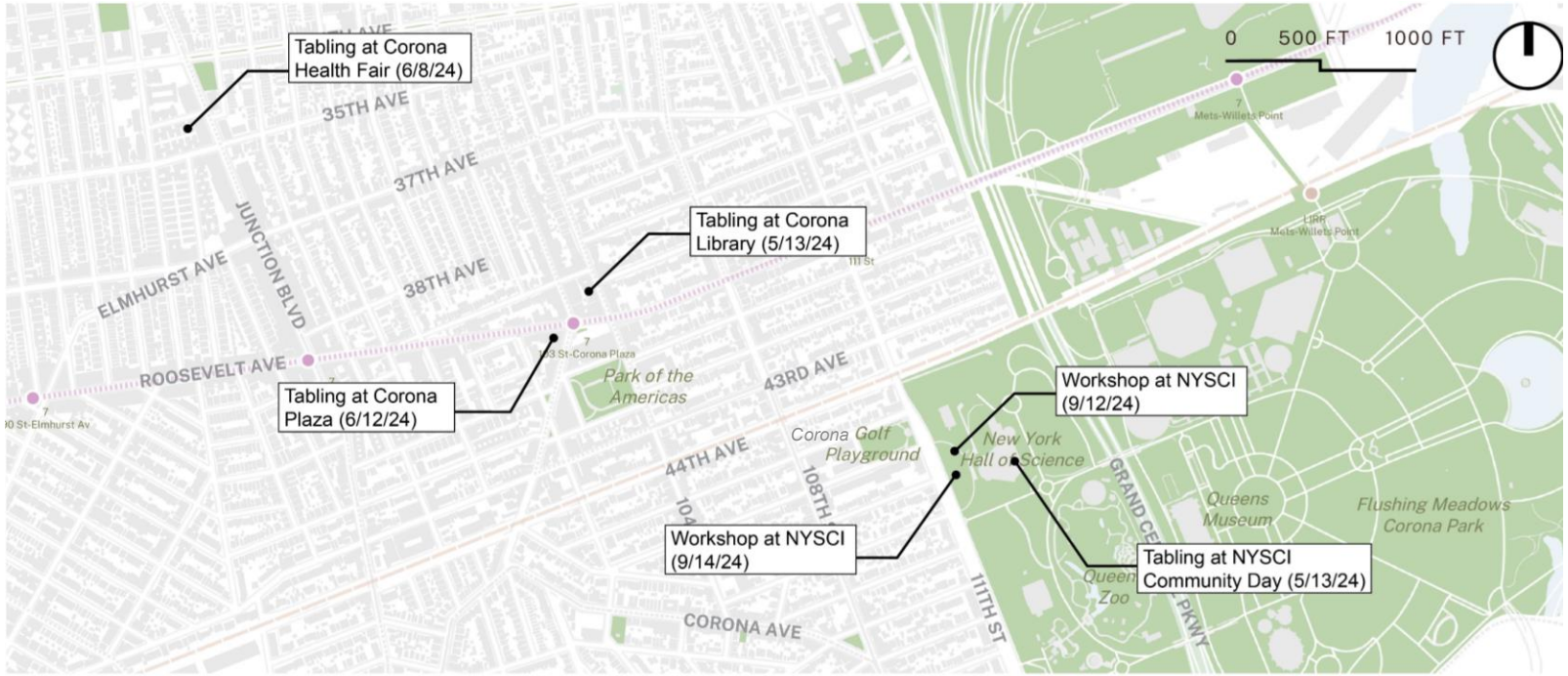
- Approximately .87 acre site.
- Following the installation of the subsurface storage, the playing field will be replaced in kind, which means restored to its current condition.

Engagement Timeline



2024 Engagement Summary

- Tabled at four locations during the listening phase.
- Held two visioning workshops on the lawn in front of the New York Hall of Science.
- Spoke to about 60 Corona residents, NSYCI visitors and staff, and community advocates.



Project Coordination

- The New York Hall of Science has completed a Capital Project Scope Development (CPSD) report with the NYC Office of Management and Budget.
- The report studied approaches to protect the NYSCI campus from flooding.
- The report also included guidance for improvements to the front lawn at NYSCI.
- To save resources and avoid duplicating effort, community feedback received during outreach will be transferred to this team, but for now the lawn will be replaced in kind.

Community input communicated to NYSCI:

- Outdoor classroom features
- Educational signage
- Play elements, public art, and paths
- Additional planting

Further Opportunities for Community Input

Signage

- DEP is developing standard graphics and language for signs to help the public understand Cloudburst Hub infrastructure in their neighborhood.

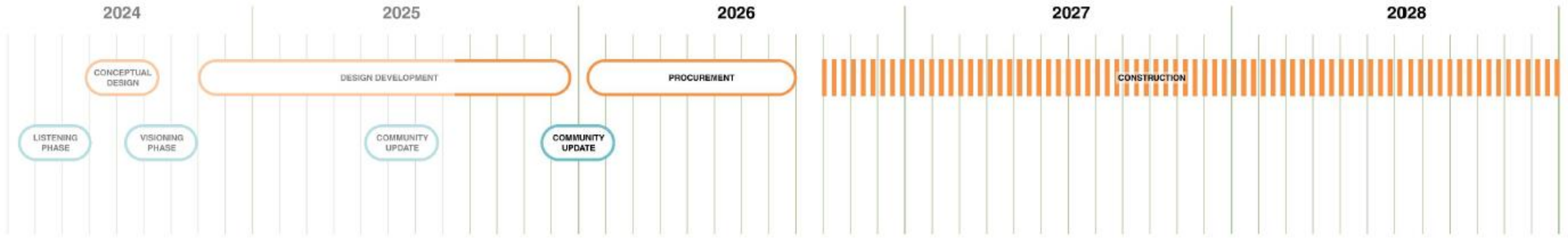
- DEP is seeking feedback on themes and ideas to highlight, such as:

Historical Hydrology: How the neighborhood's waterbodies flowed historically.

Education: How the stormwater management infrastructure works.

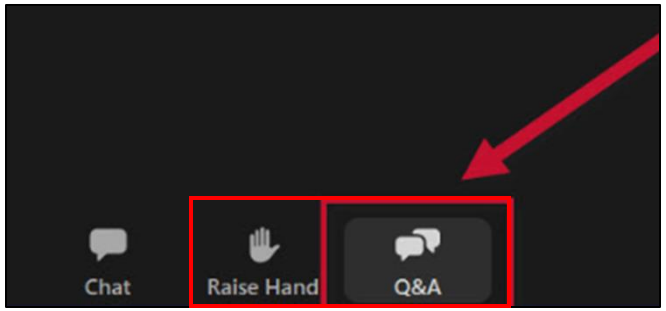
Neighborhood Story: Local stories expressing community experiences of flooding and public space.

Next Steps Timeline



Questions?

Please raise your hand to speak or type your questions in the Q&A tab at the bottom of your screen.



Thank you!

Learn more:

Stay in touch: