

Rivers, Hill, Valley, Park & Heights

How water flows in Bronx CB 8

Presentation to the Joint Committees:
Environment & Sanitation
Parks & Recreation

Wednesday, January 28, 2015 rev 091116

Rivers Hill Valley Park Heights

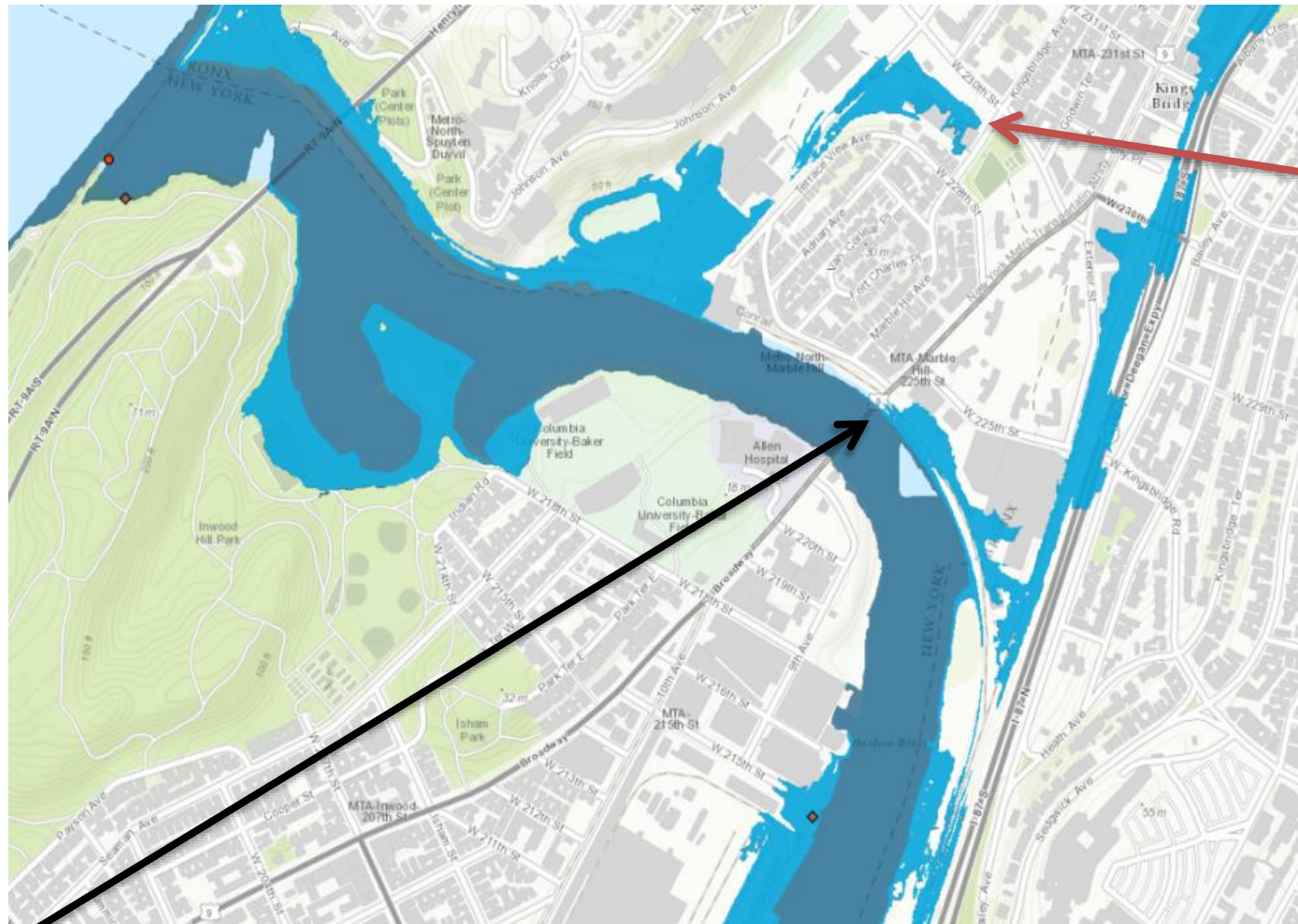


Topography lines denote how many feet above sea level



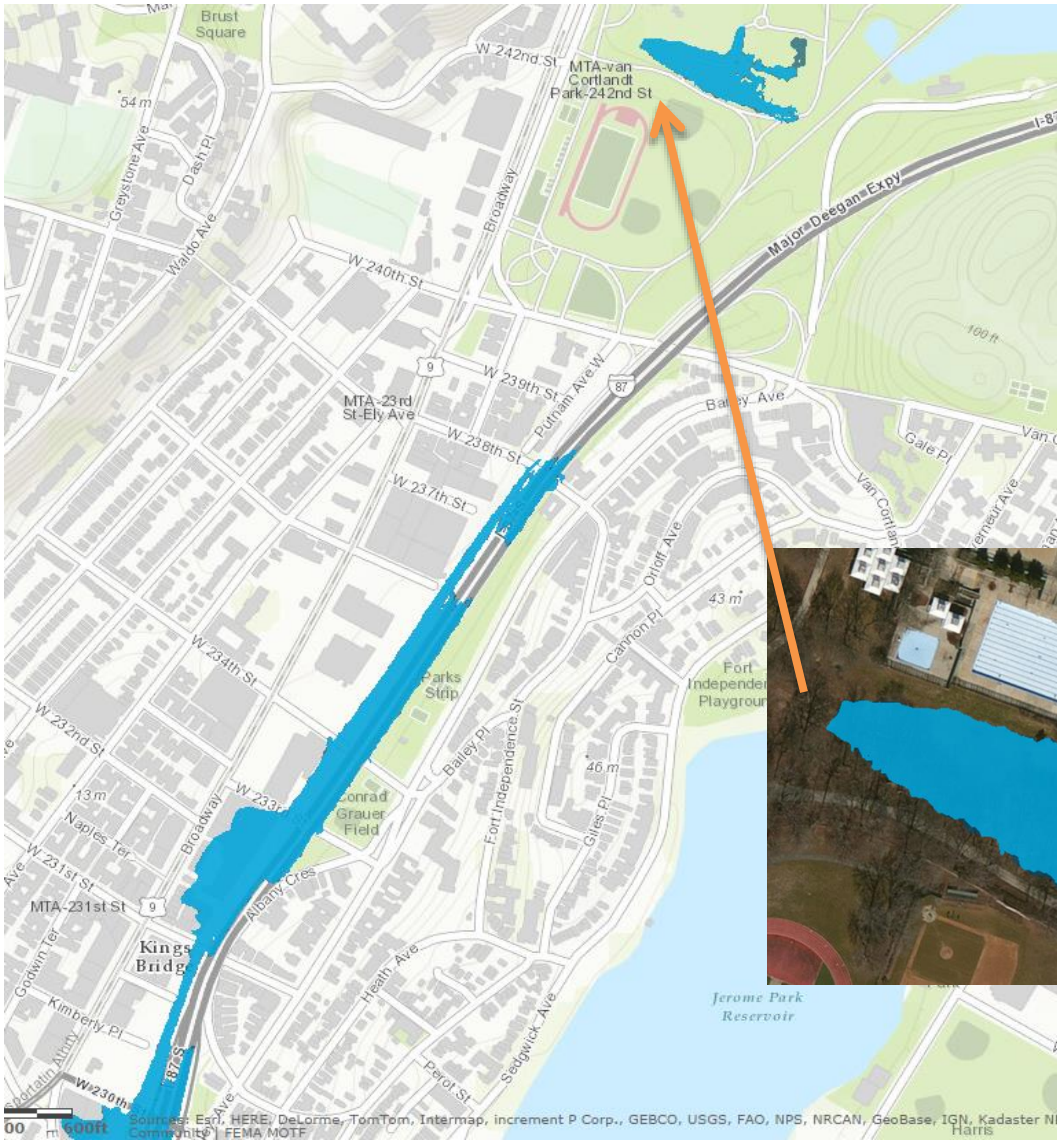
0' 250' 26' 200 135

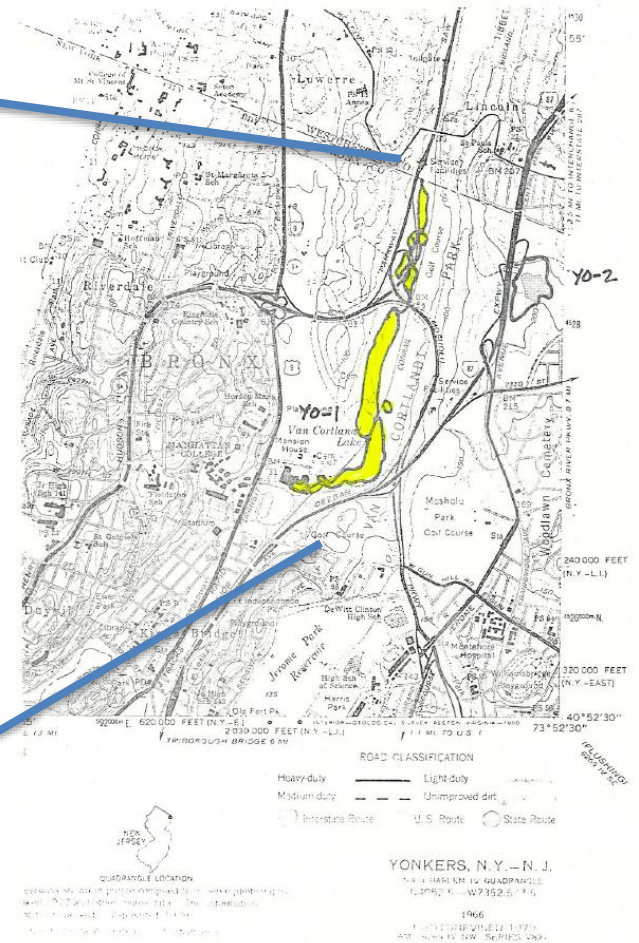
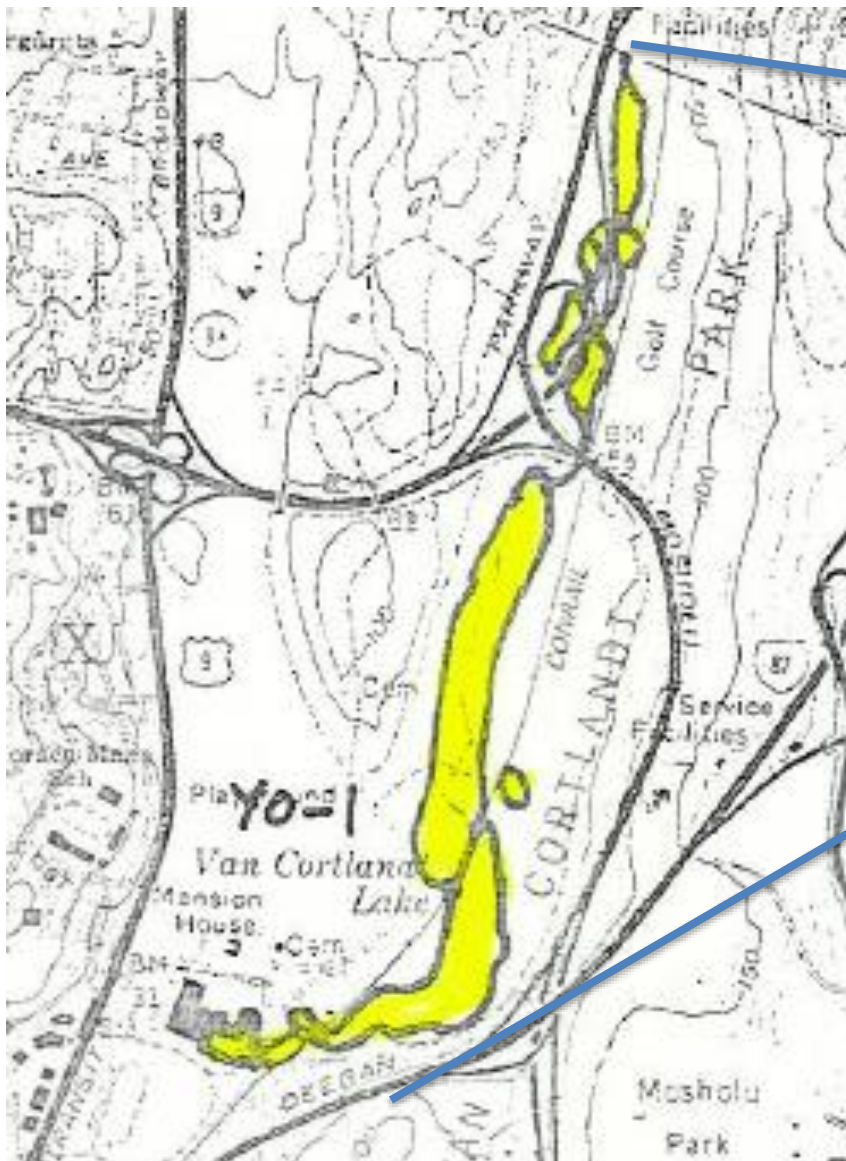
USGS SANDY MAPPER: Spuyten Duyvil, Harlem River, Kennedy HS, Putnam Rail



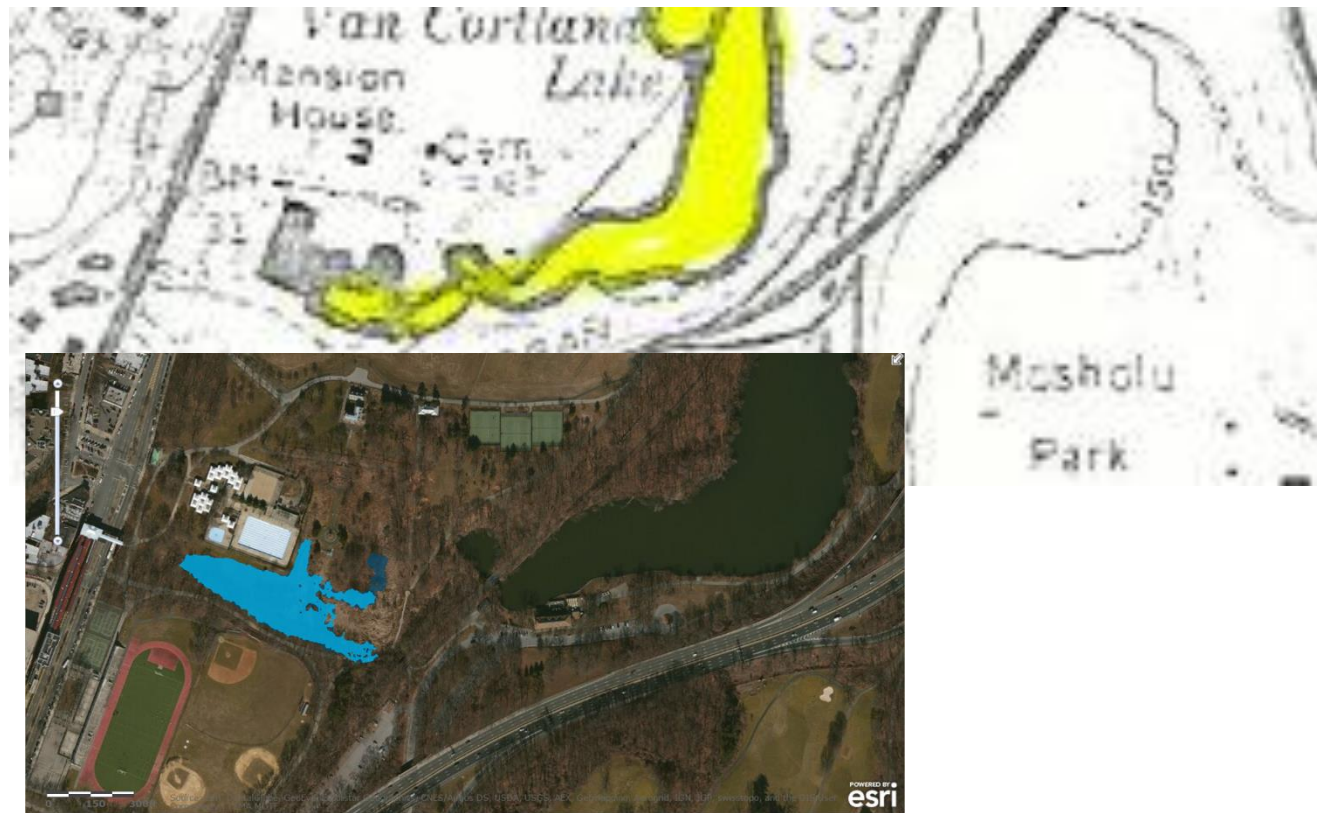
Broadway

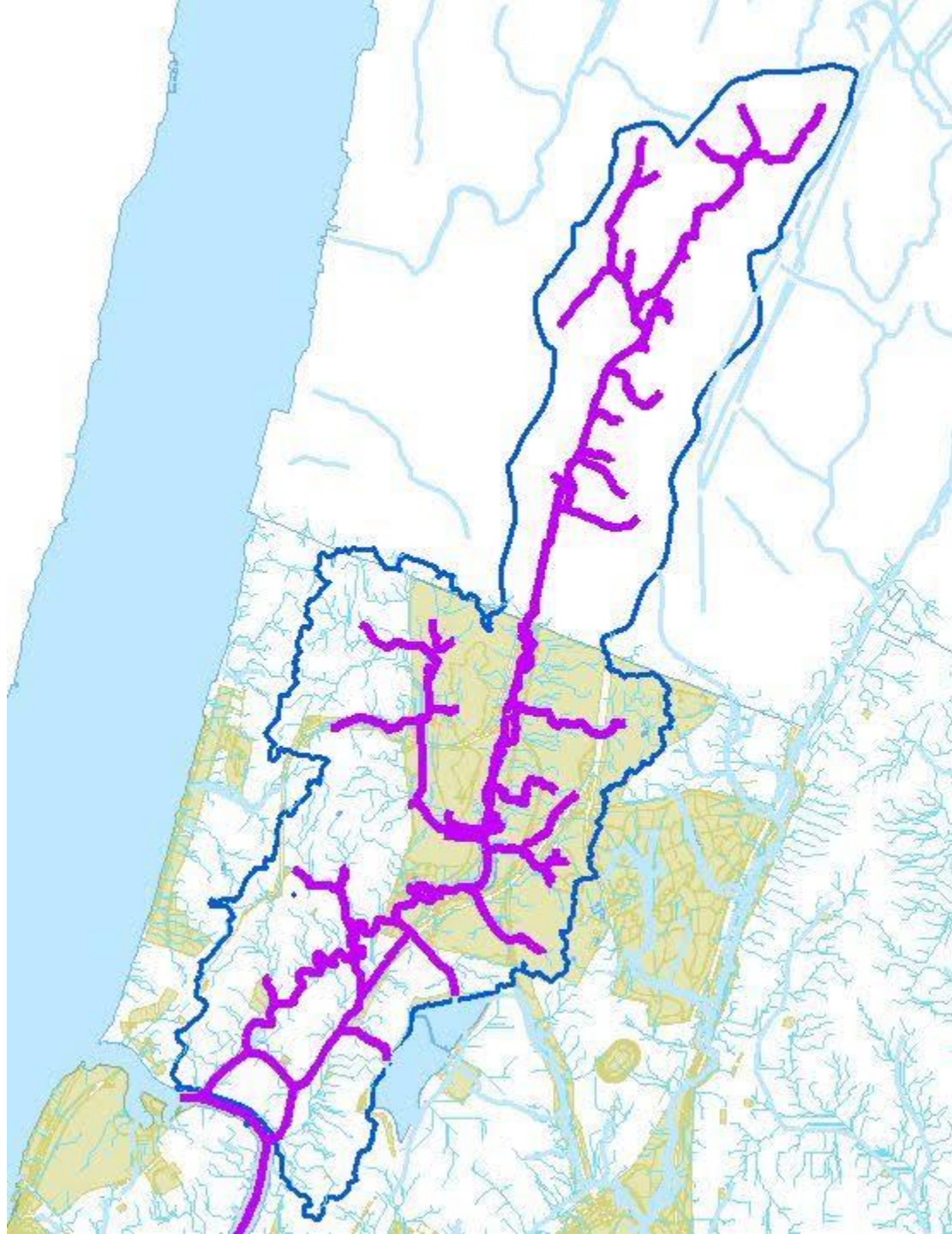
USGS SANDY MAPPER: Putnam Rail and Van Cortlandt Park

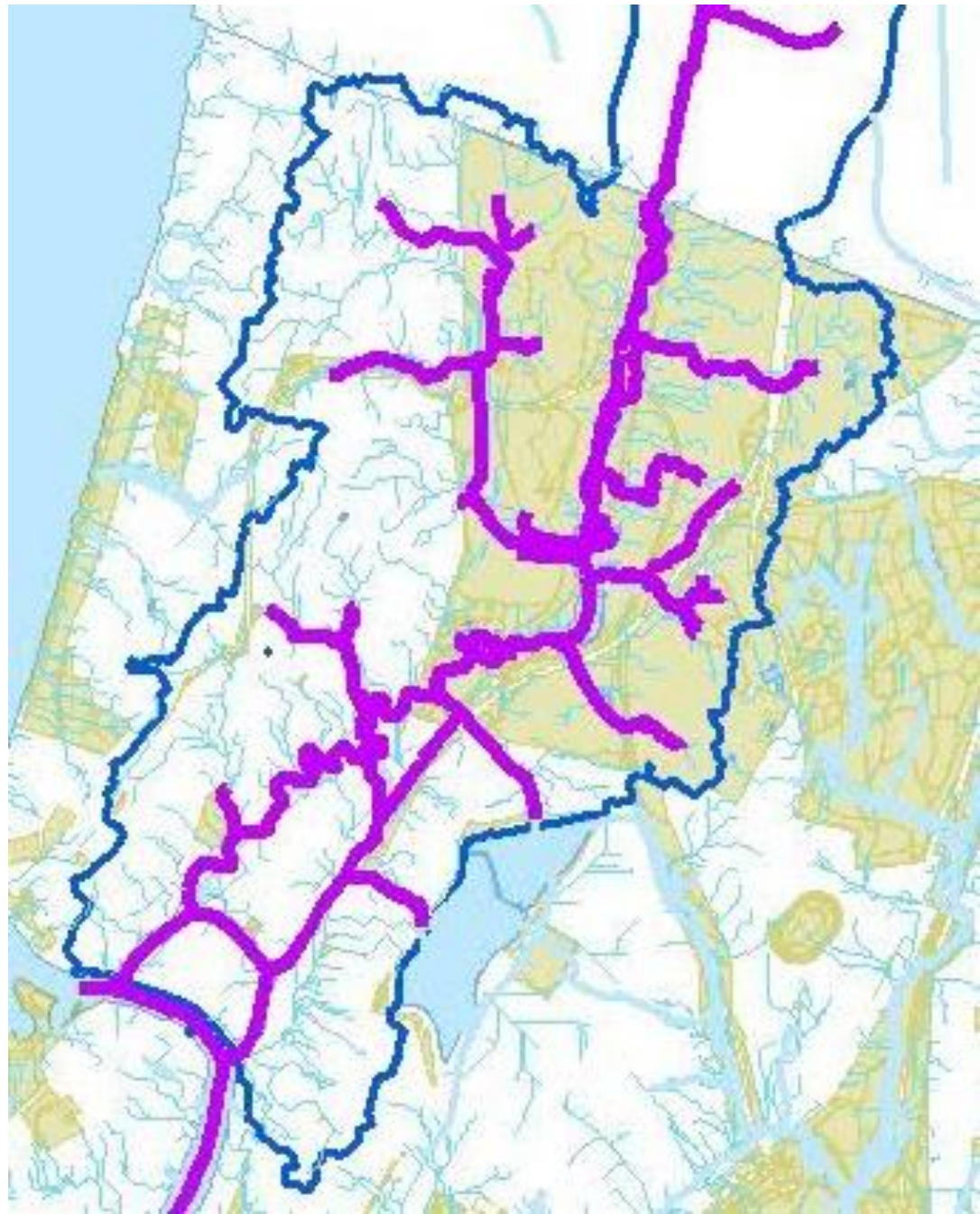




NYS DEC Van Cortlandt Park
Wetland Map



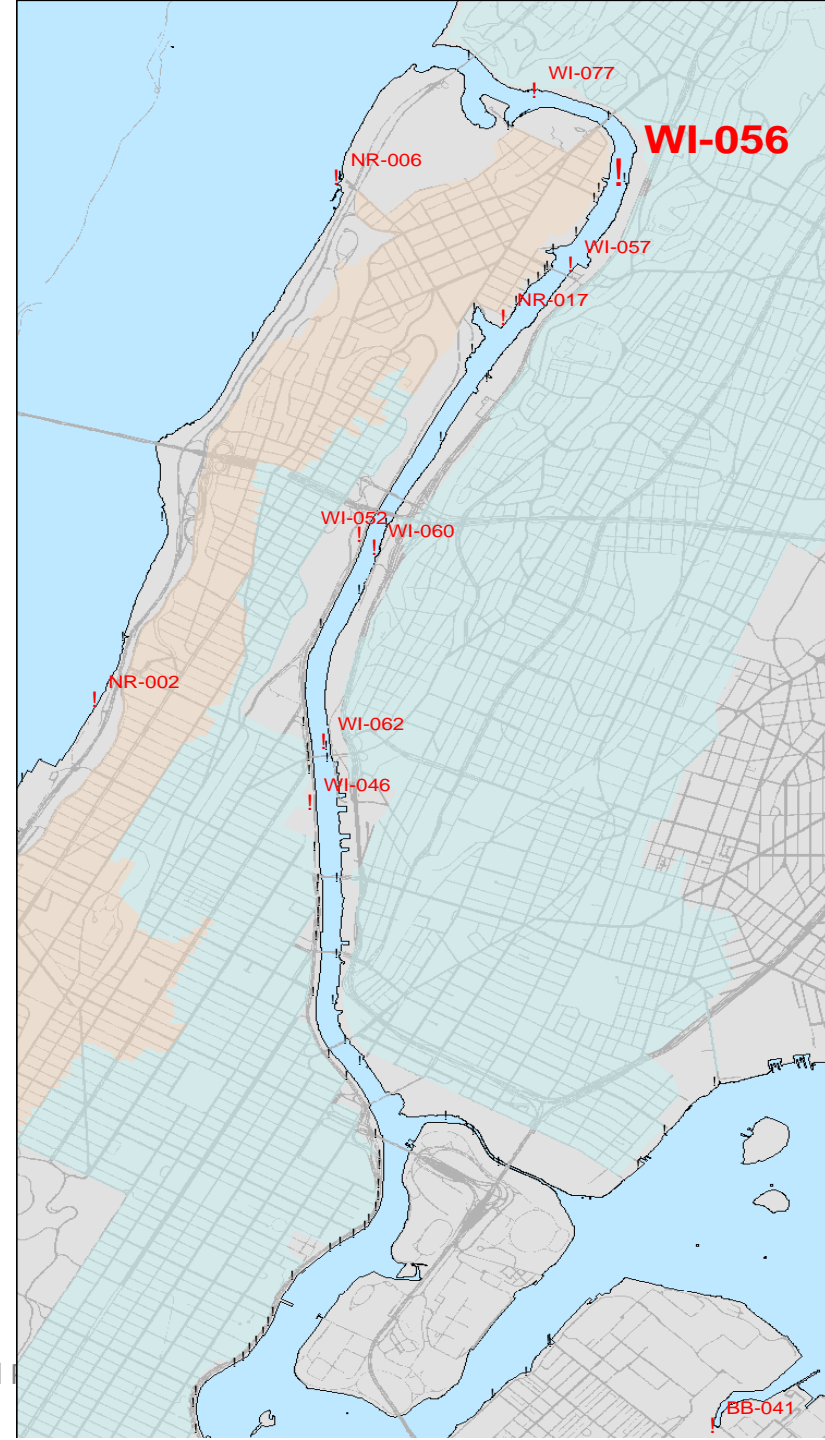




CSO Discharges to the Harlem River*

- **74 Outfalls**
 - 52 in Manhattan
 - 22 in the Bronx
- **Annual CSO: 2.7 billion gallons**
 - **50% from 1 outfall (WI-056)**
 - **75% from 8 outfalls**

*DEP presentation in 2007 BCEQ Water Conference



TIBBETTS BROOK WETLAND - VAN CORTLANDT PARK

Cost of throwing water down the drain (rev)

4.5 million gallons of water per day on average

Flows from Van Cortlandt Lake into the overflow weir, then through a pipe into Broadway to the Wards Island Sewage Treatment Plant, then to the East River.

210,566,667 cu. ft.

7.5 gallons in a cubic foot for a yearly discharge

\$3 per 100 cu. ft.

to treat the water in the STP

50% of the total of the annual CSO discharge

1.35 billion gallons per year comes from WI-056 (Broadway). When it rains the flap discharges a combined sewage and runoff in the Harlem River

\$6,117,000/year down the drain.

1,529,250,000 gallons of water

That is, 365 days – rain or shine

210,566,667 cu. ft.

(7.5 gallons in a cubic foot for a yearly discharge)

Let's not waste it -- get it back!

Or, use the savings from the STP to buy the Putnam Rail Trail (south of the Park) and take the water out of the system. It would save so much over the long run, along with all of the other environmental economic benefits having the stream and the extra parkland above ground would provide.



The Overflow into the Harlem River



Above photograph shows Spuyten Duyvil CSO site and to the right a CSO near the Broadway Bridge.

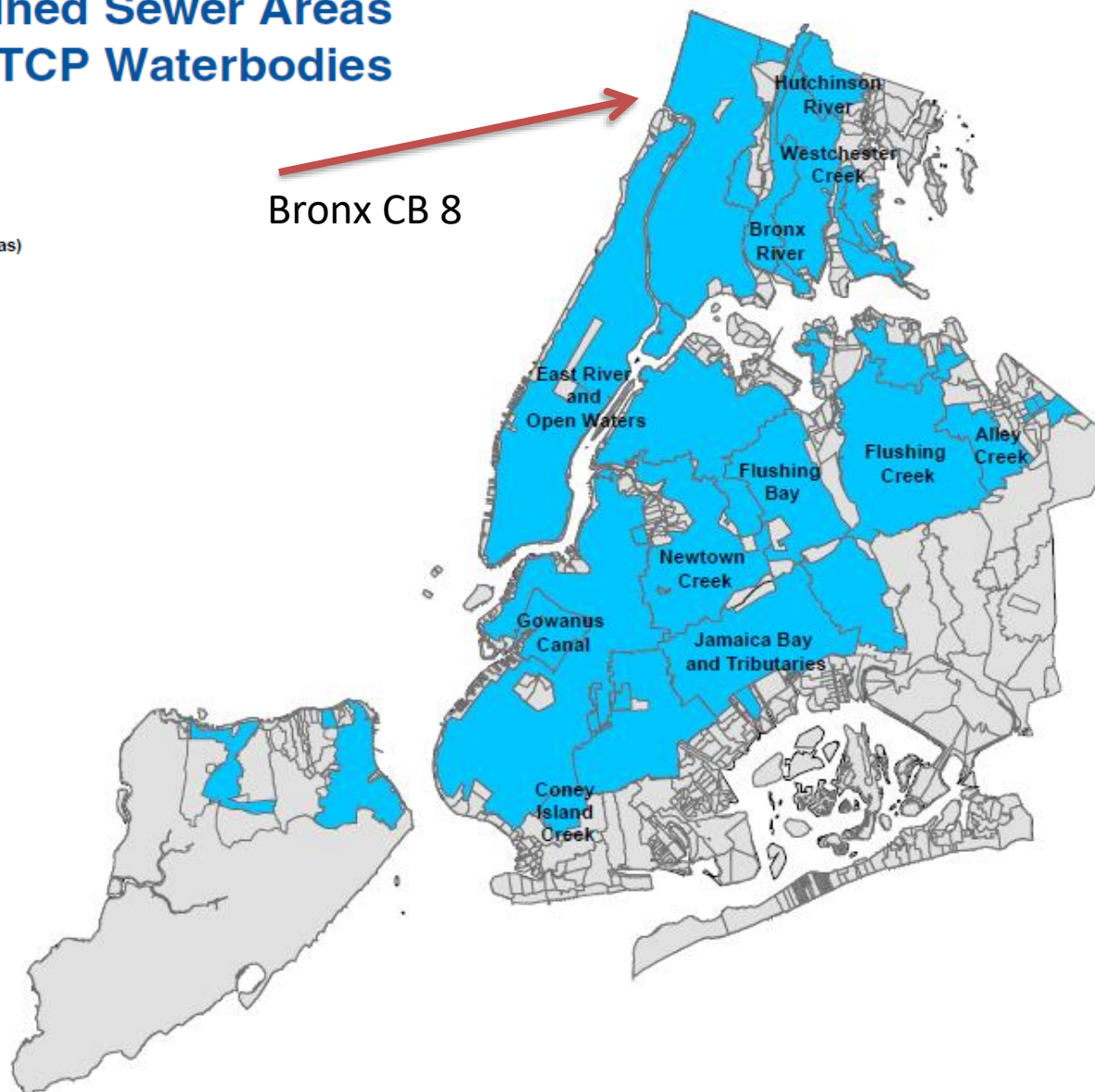
CSO stands for Combined Sewage Overflow and there are more CSO's in the Harlem River than in any other water source in NYC.

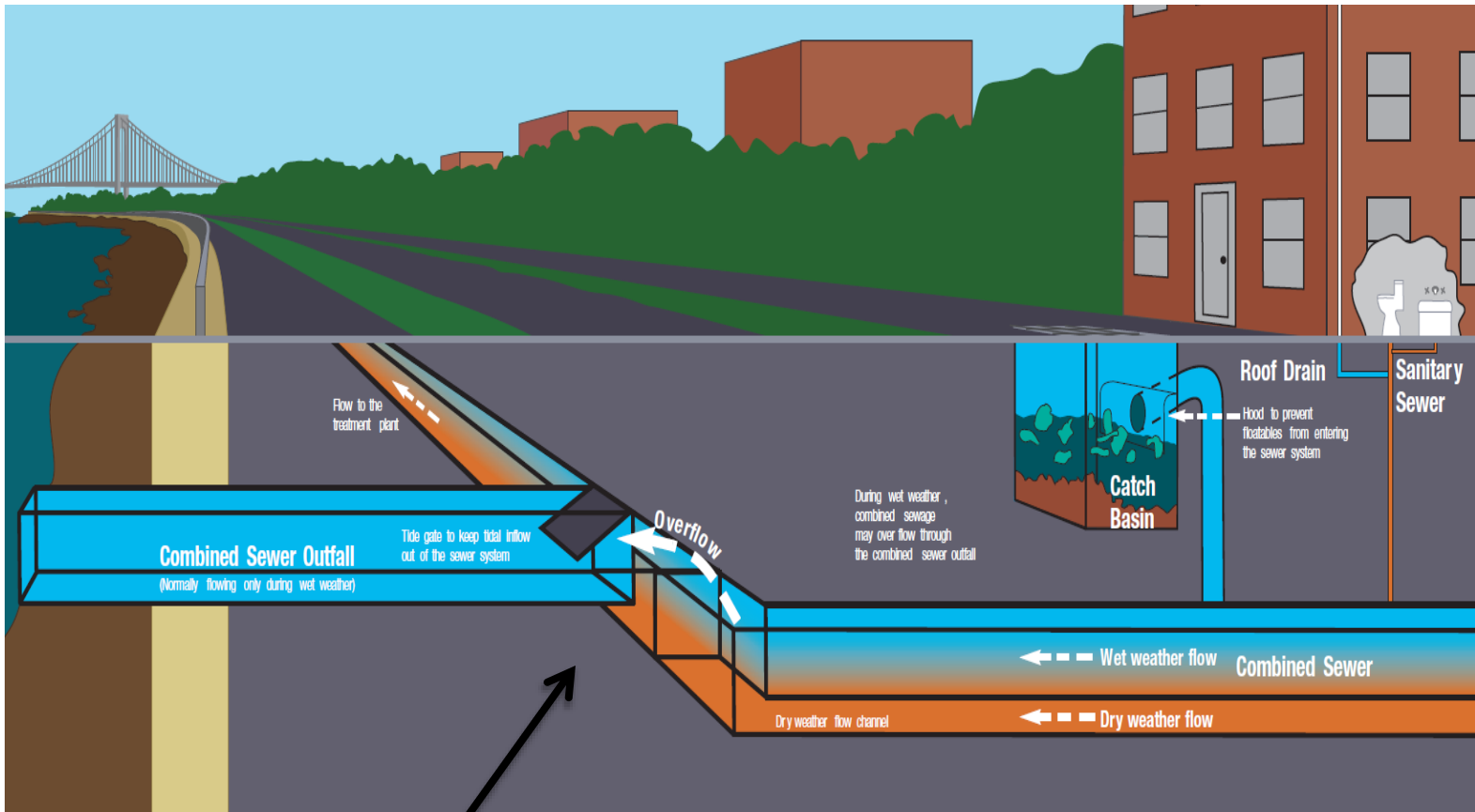
1/28/2015

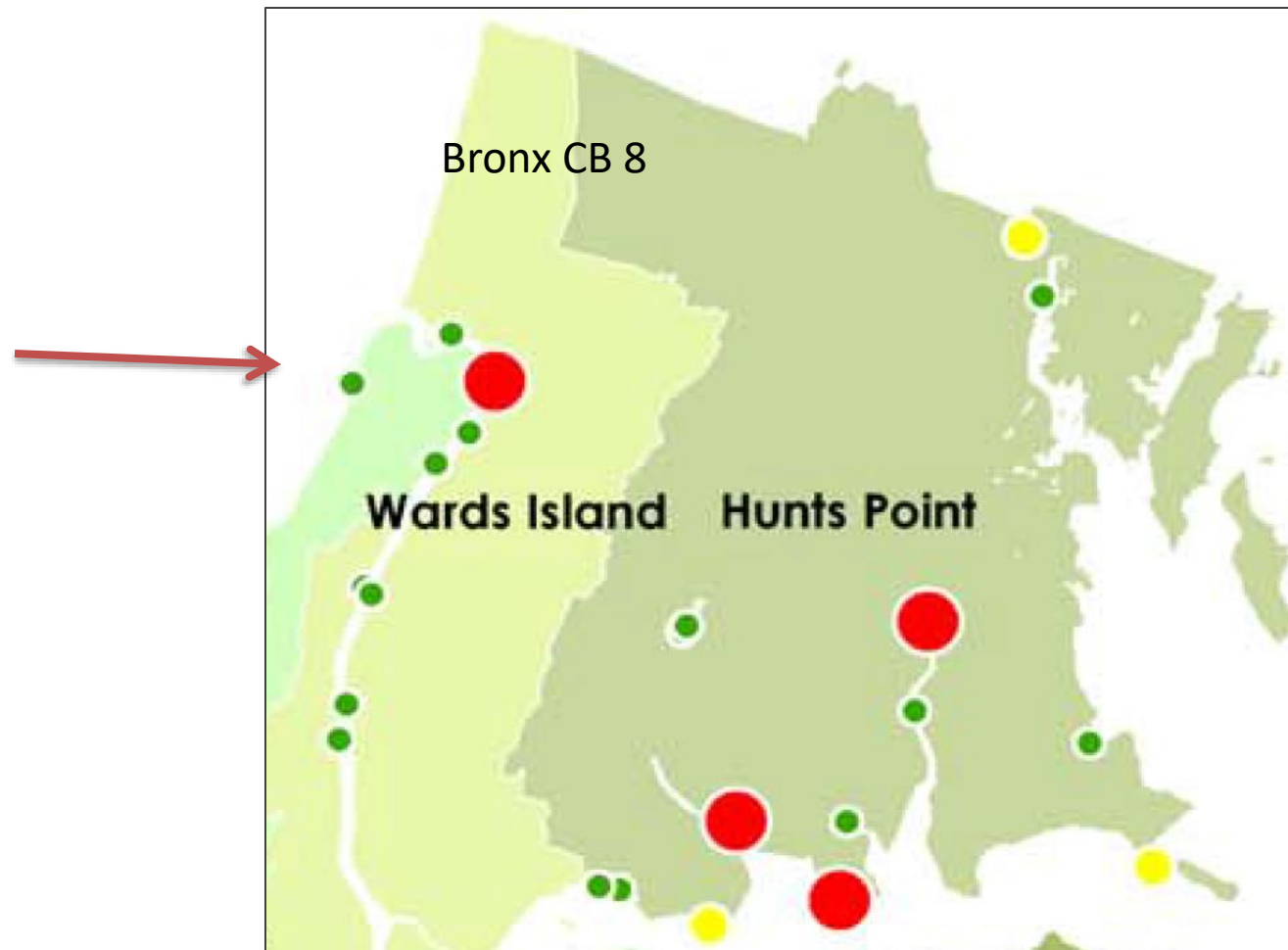


NYC's Combined Sewer Areas and LTCP Waterbodies

 Combined Sewer Watersheds
 Other (Separate Sewers, Direct Drainage, Unsewered Areas)





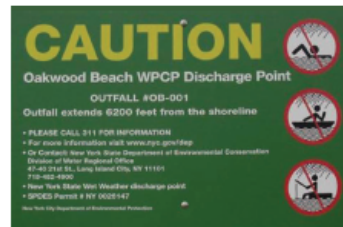


Combined Sewer Overflow (CSO) Volumes

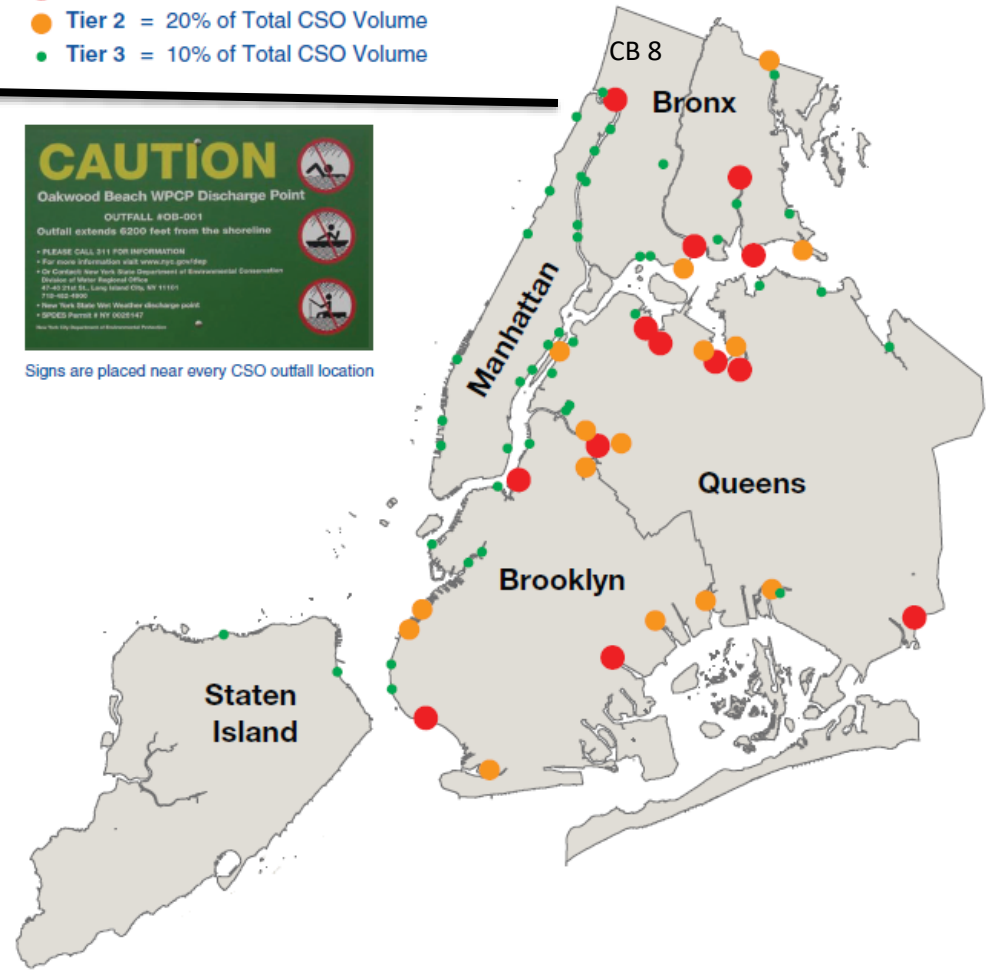
Combined Sewer Overflow (CSO) Volumes

- Tier 1 = 50% of Total CSO Volume
- Tier 2 = 20% of Total CSO Volume
- Tier 3 = 10% of Total CSO Volume

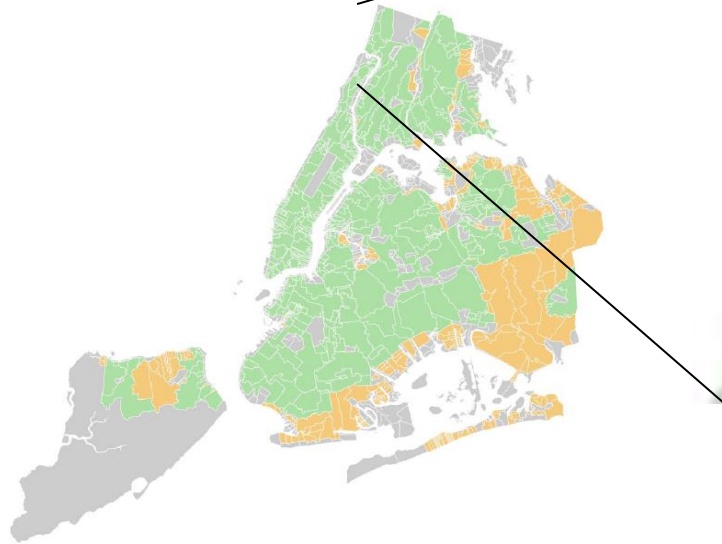
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Signs are placed near every CSO outfall location

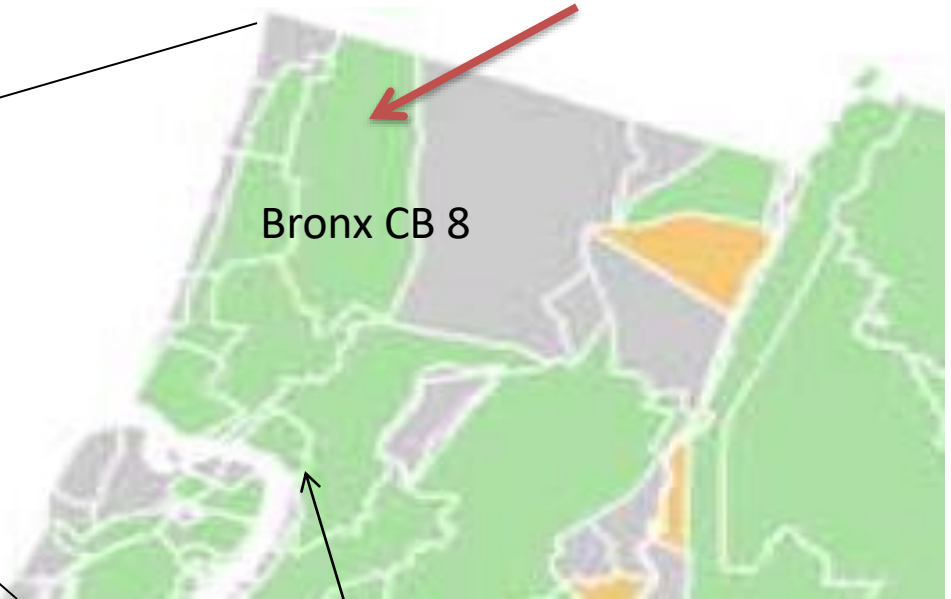


NYC Sewer Systems



Bronx CB 8

Broadway

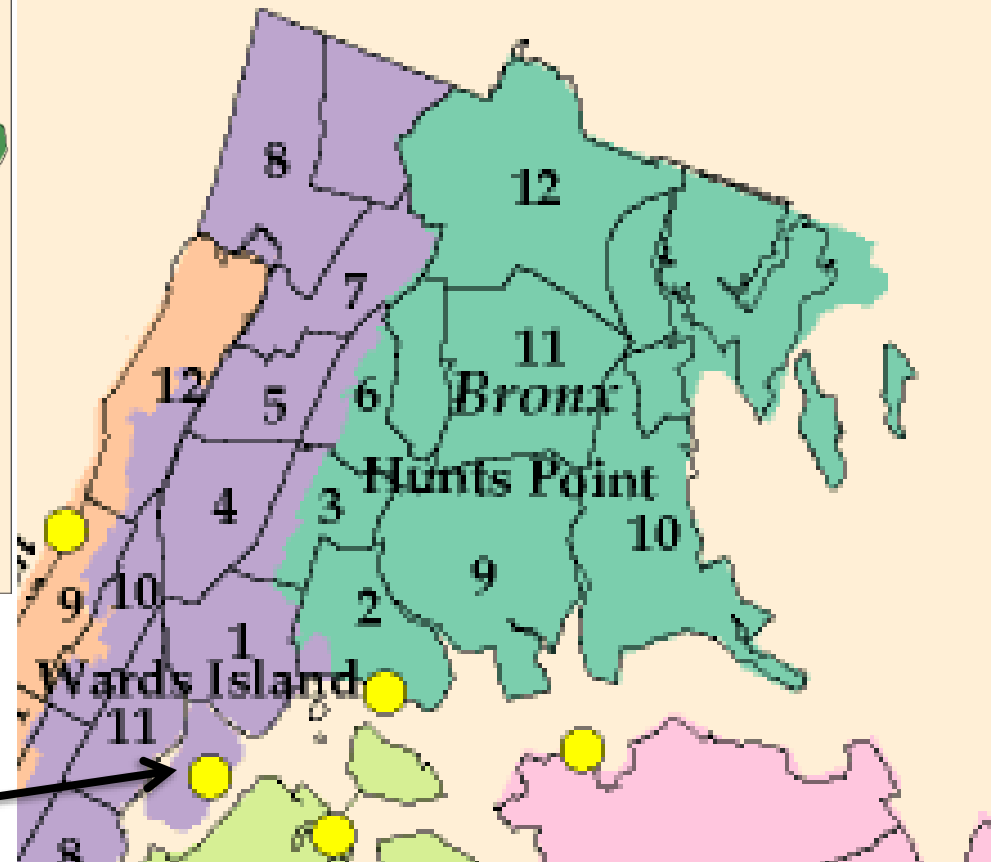
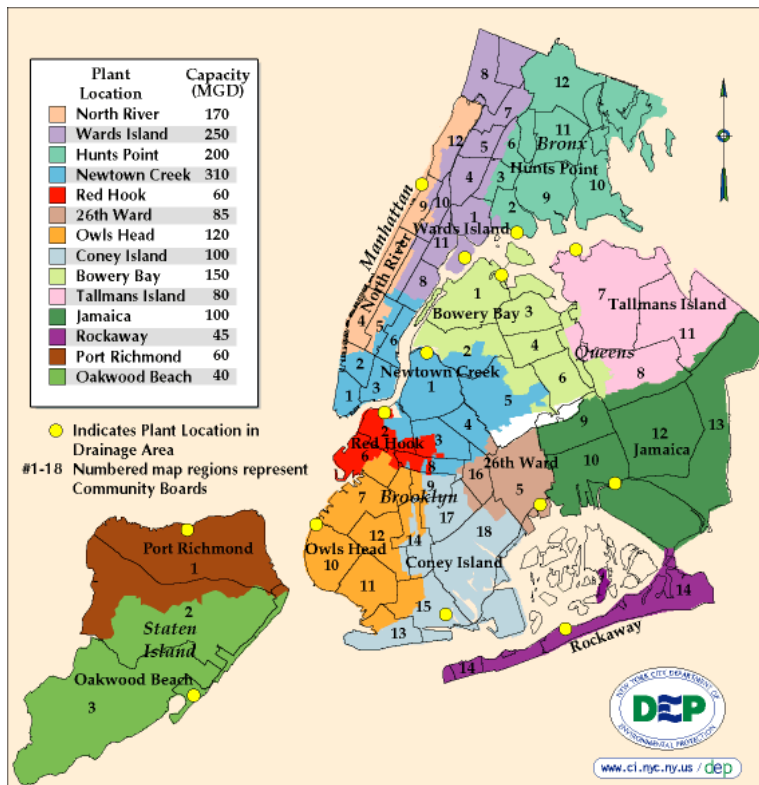


COMBINED
SEPARATE
OTHER (Direct Drainage, Surface Drainage, Blue Belts, etc.)

7 Miles
Bureau of Environmental Planning and Analysis
Created September 2010

COMBINED
SEPARATE
OTHER (Direct Drainage, Surface Drainage, Blue Belts, etc.)

Sewershed and STP



Ward's Island STP
 250 mgd



Stratford Avenue capturing the 100 year storm



Thank you