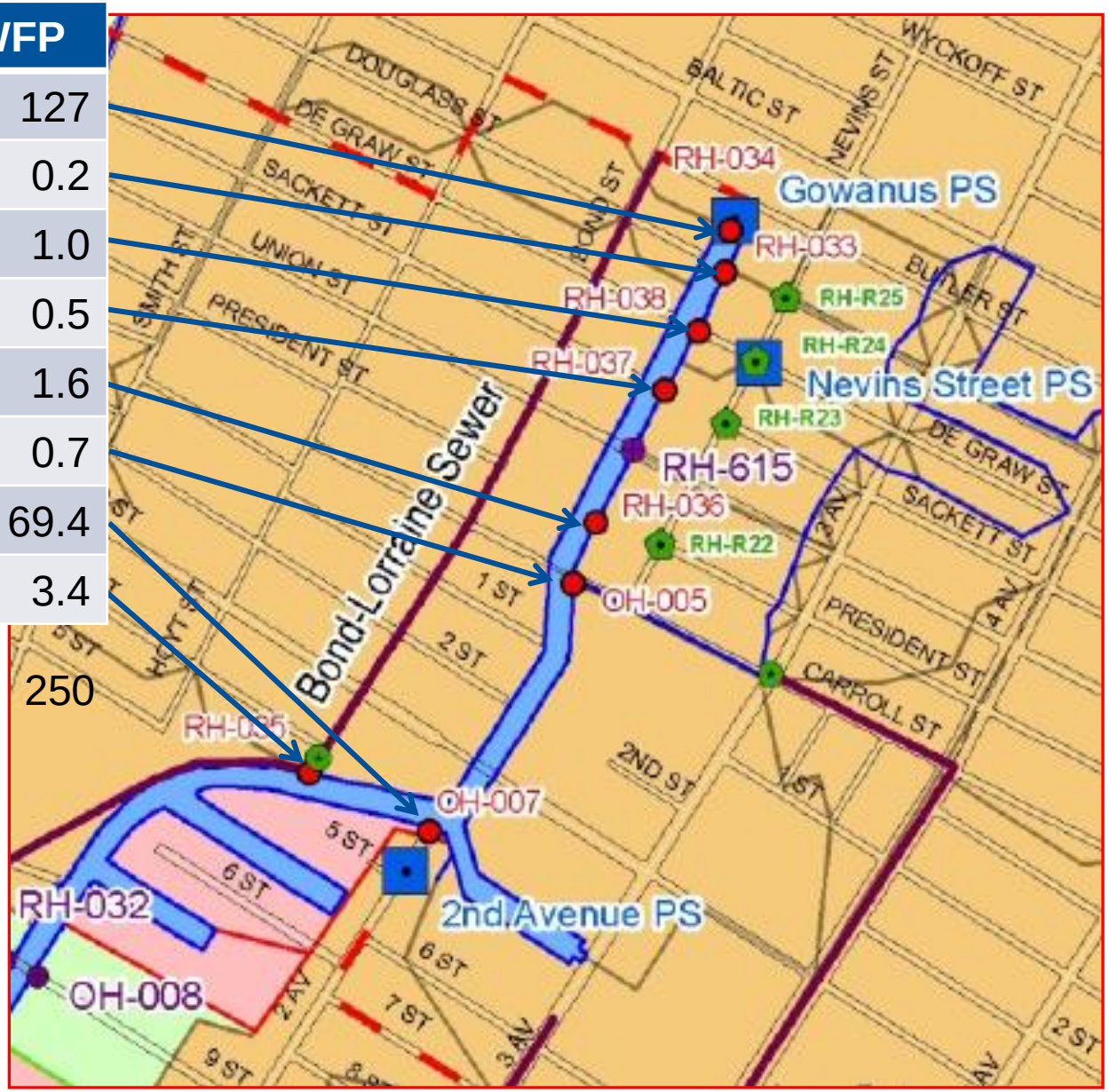
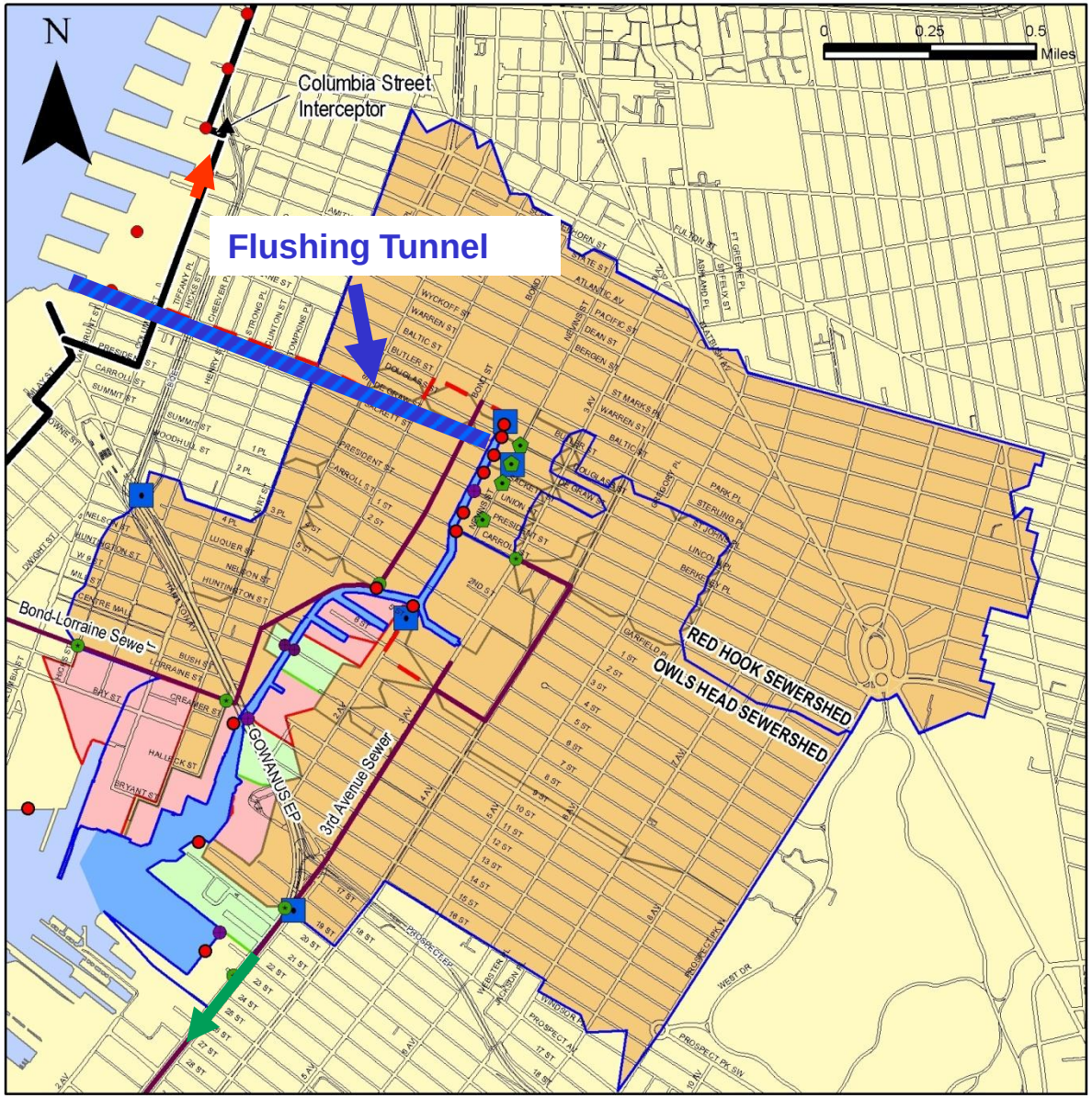
CSO Discharges to Gowanus Canal (MG)

Outfall	Baseline	WWFP
RH-034	121	127
RH-033	0.2	0.2
RH-038	0.9	1.0
RH-037	0.5	0.5
RH-036	1.6	1.6
OH-005	0.7	0.7
OH-007	69.4	69.4
RH-035	111.3	3.4
Total	377	250



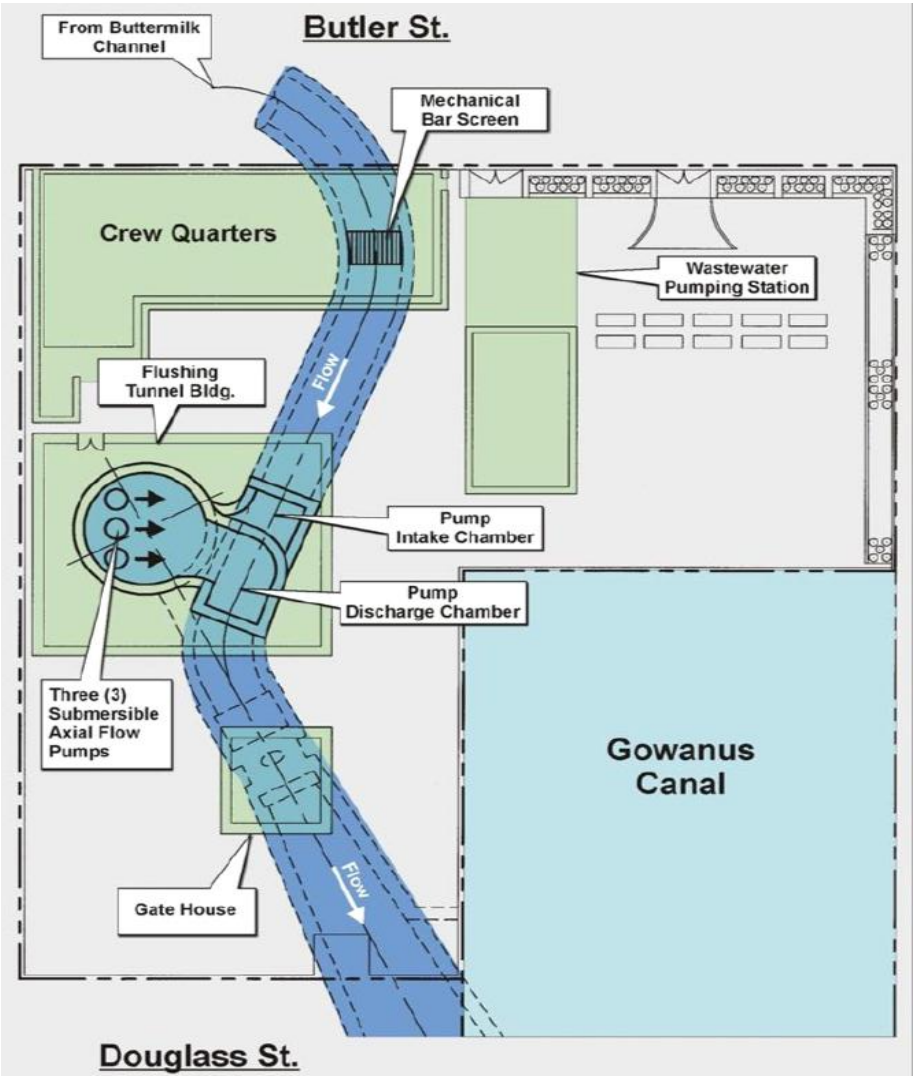
Flushing Tunnel

- Flushing Tunnel (FT) Dimensions and Elevations
  - 12-ft diameter pipe
  - 6,070 linear feet
  - Constant Invert Elevation = -19.34
- FT will provide 6,500 lbs/day of oxygen via upgraded 215 mgd Flushing Tunnel Pumping Station
- FT Operation will Result in Compliance with Current State Water Quality Standards
- $60M upgrade of FT underway

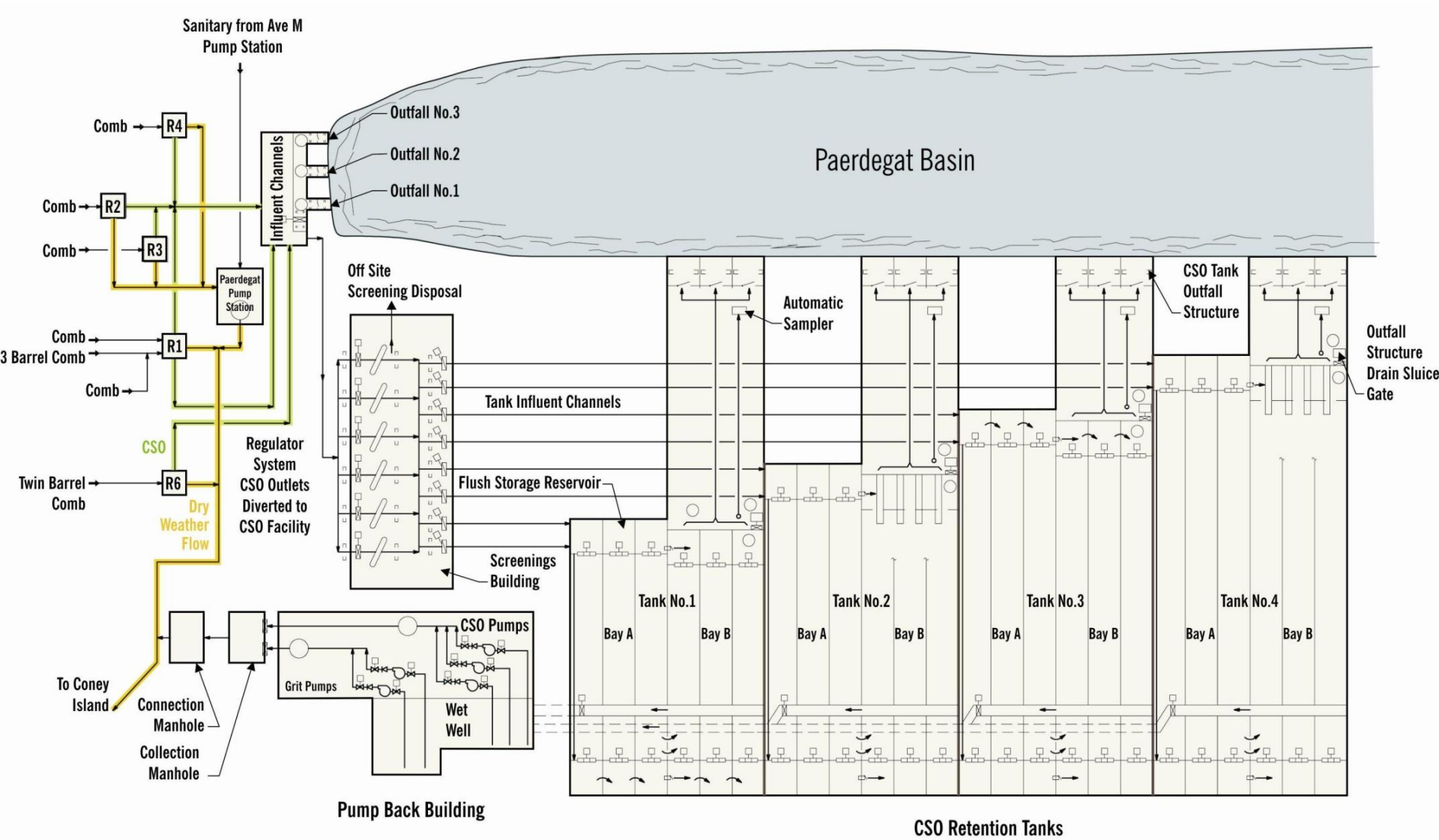


CSO Storage Concept

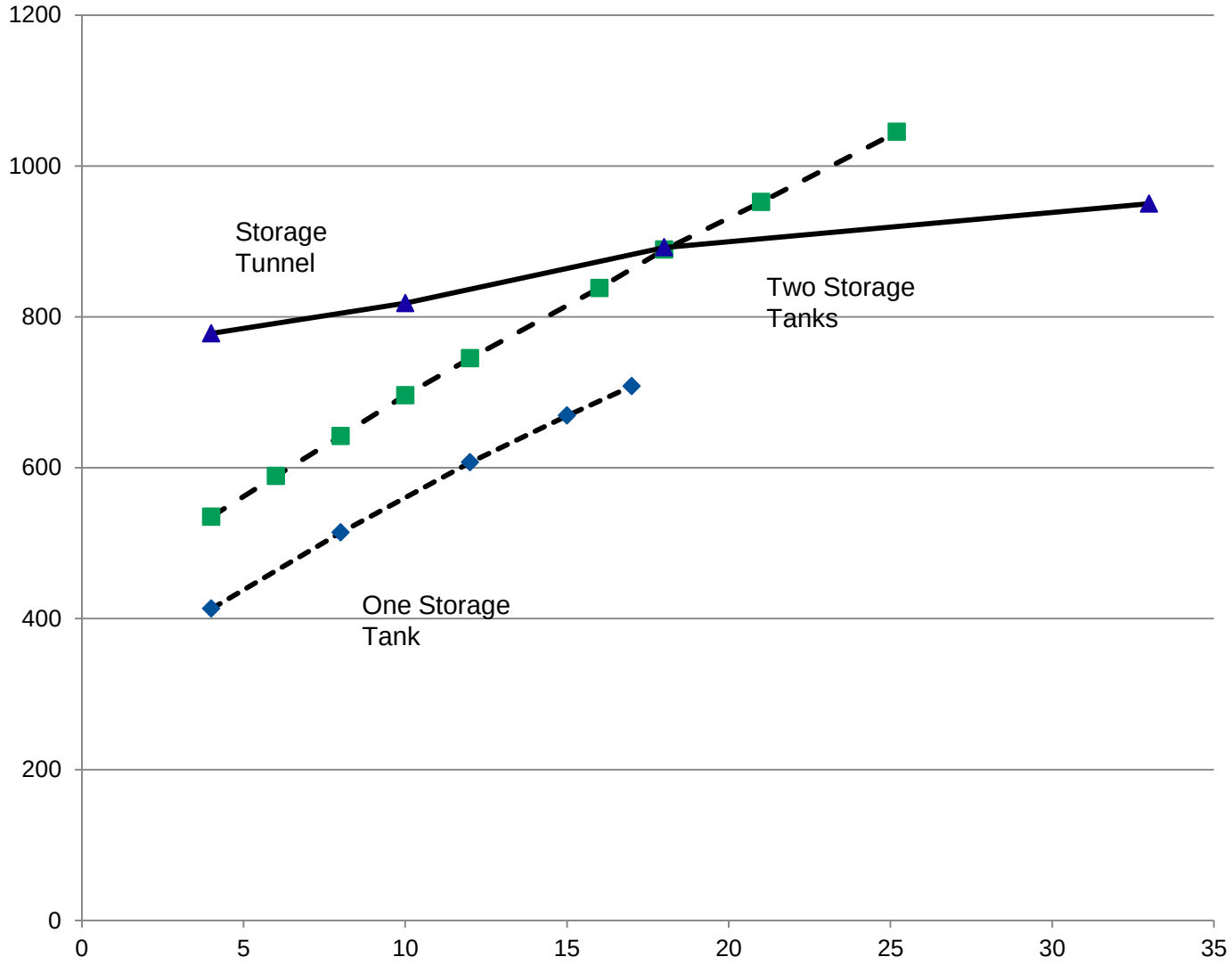
- Flushing Tunnel (FT) Storage : 5.1 MG
  - 60 MG/yr reduction of CSOs
  - 50 % reduction of CSOs from RH-034
  - 25% reduction of CSOs to Gowanus Canal
- **Engineering & Construction Issues**:
  - Must bulkhead both ends of tunnel
  - No potential for dual use
  - No slope to drain and scour stored CSO
  - Invert of GPS CSO 6” below Tunnel Crown (may need to pump into Tunnel)
  - Major Ventilation required for odor control, confined space access, and air release required
  - Lack of available space at GPS site
  - Up to two new pumps stations needed (dewatering and tunnel fill)
- **Water Quality/Regulatory Issues**:
  - Reduction in WQ compliance
  - More Difficult to Upgrade WQ Classifications w/o Flushing Tunnel
  - Operation of FT part of Approved DEC WWFP
- **Cost Issues**:
  - $60 M in sunk costs becomes obsolete



Paerdegat Basin PFD



Other Alternatives Considered (Conceptual)



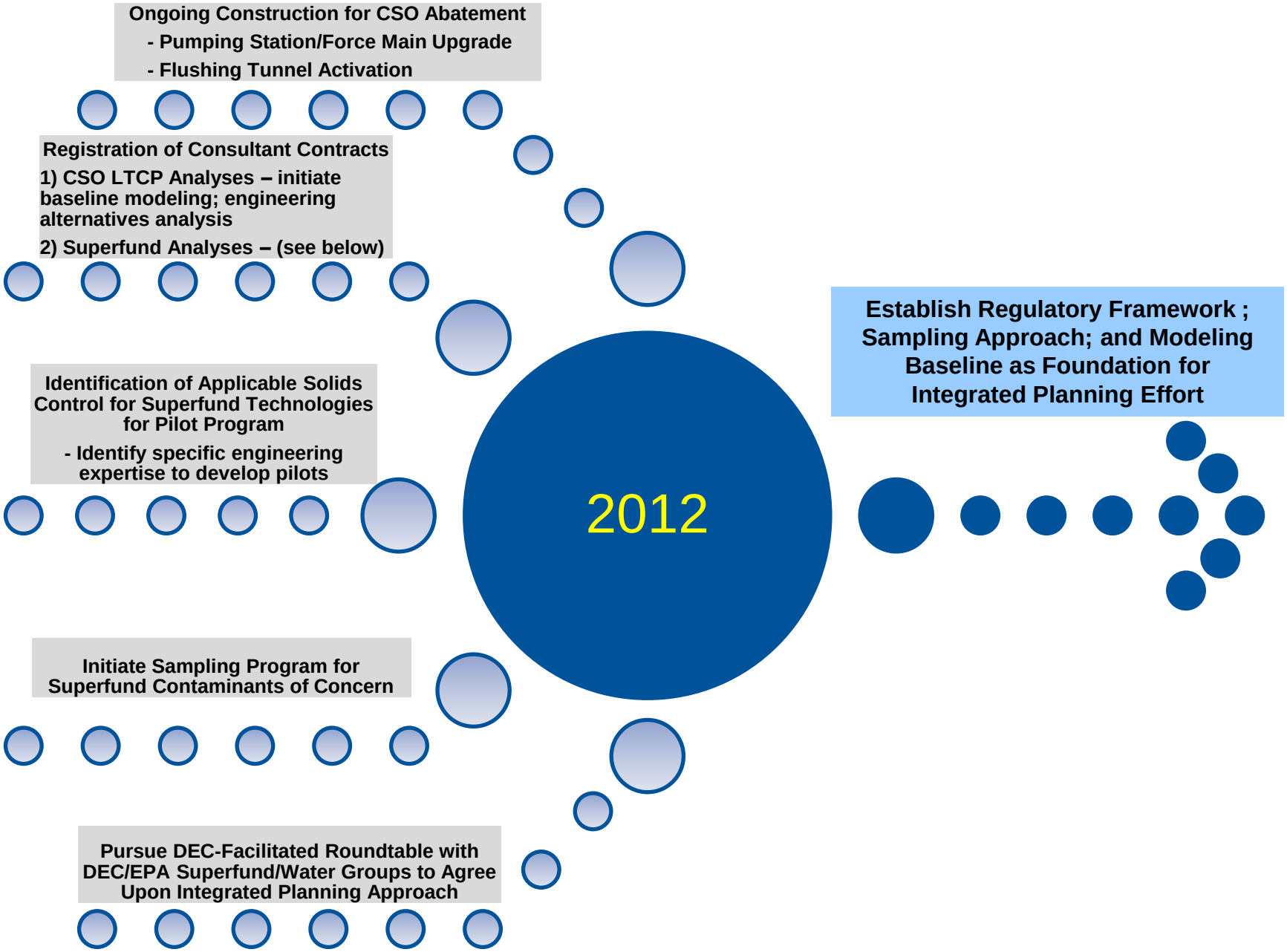
Conceptual Analysis

- Additional Detailed Technical Analyses Required for Engineering Alternatives :
  - ❖Siting
  - ❖Geotechnical
  - ❖Hydraulics
  - ❖Costs
  - ❖Water Quality Compliance
  - ❖Community Impacts

The LTCP Process

- Gowanus Canal LTCP due June 2015
- Additional engineering controls to be evaluated

NYCDEP – Conceptual Integrated Plan



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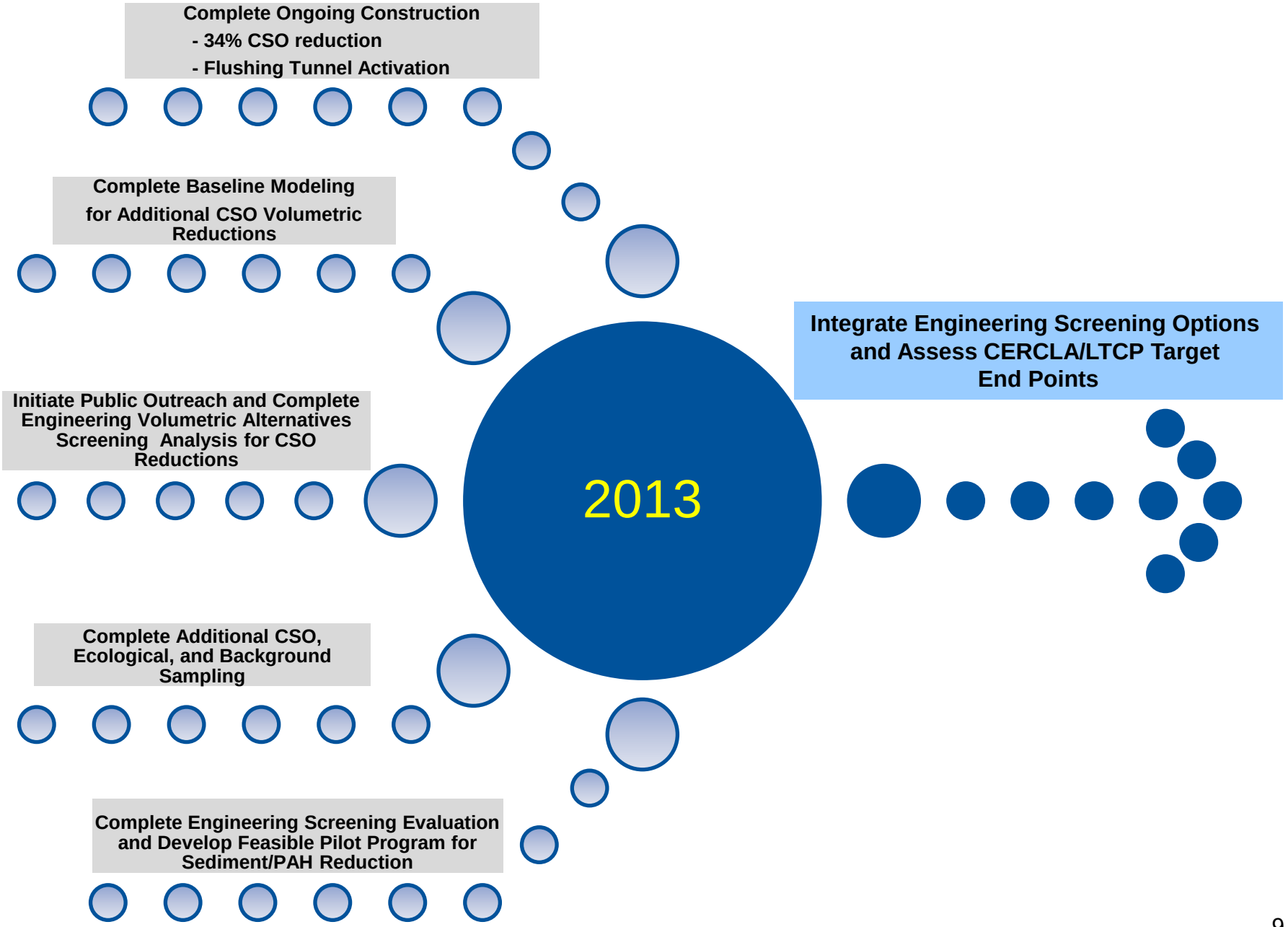

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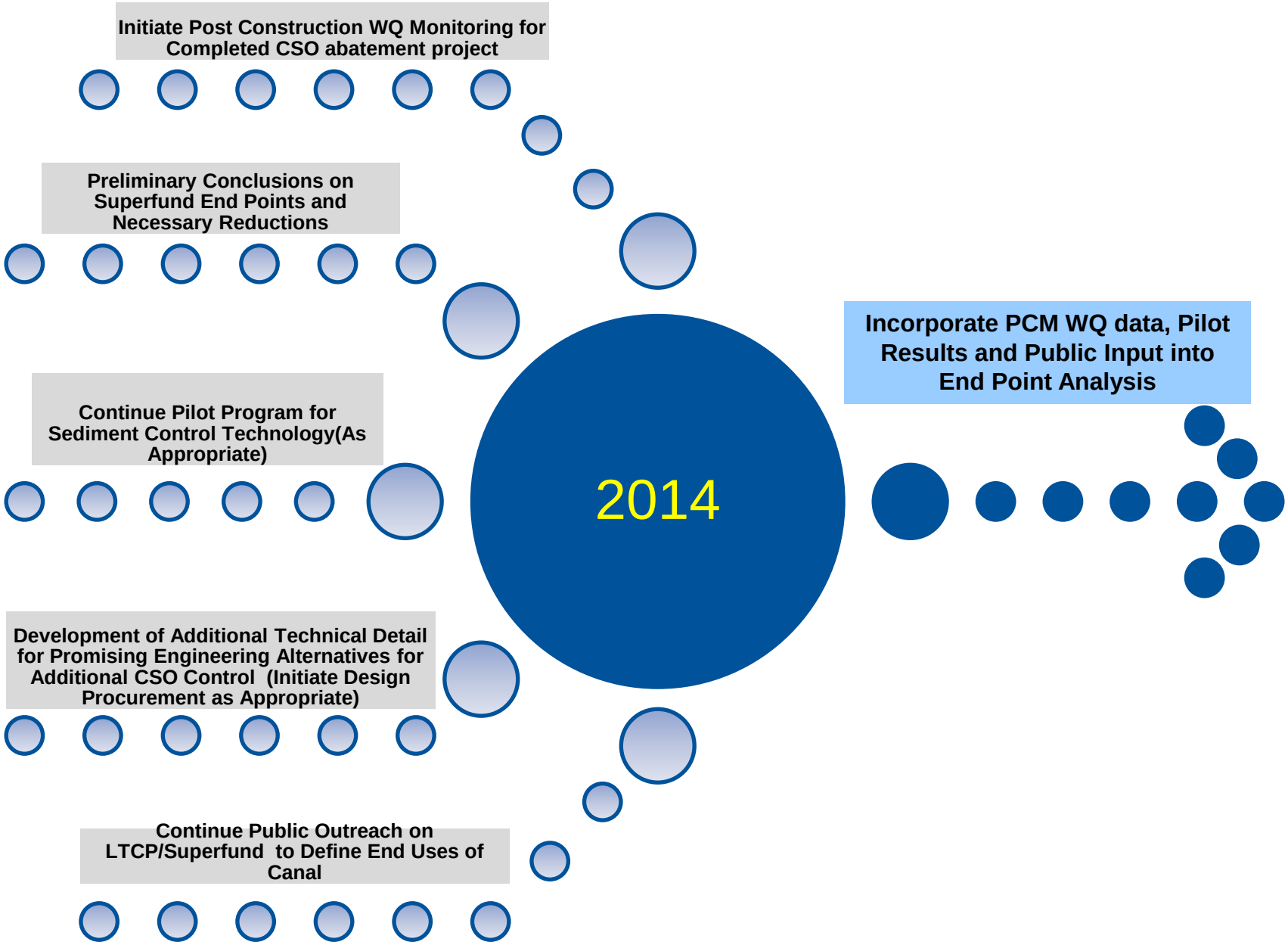

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