



Combined Sewer Overflow Long Term Control Plans

Citywide Public Kickoff Meeting

June 26, 2012



Welcome & Introduction

Gary Kline/Venetia Lannon

DEC

&

Angela Licata/Carter Strickland

DEP



- ❖ Open House and Information Stations
- ❖ Welcome and Introductions – *Gary Kline/Venetia Lannon, DEC & Angela Licata/Carter Strickland, DEP*
- ❖ Overview of the CSO Program – *Keith Mahoney, DEP*
- ❖ Long Term Control Plan (LTCP) Process – *Linda Allen, DEC*
- ❖ LTCP Development and Schedule – *Keith Mahoney, DEP*
- ❖ Public Participation Plan – *Julie Stein, DEP*
- ❖ Discussion and Q&A Session



In addition to the presentation, please visit the following information stations for more information:

- ❖ History of NYC Sewer and Wastewater Systems
- ❖ NYC's Combined Sewer Overflow Program
- ❖ NYC's Green Infrastructure Program
- ❖ Citywide Waterfront Initiatives
- ❖ Evaluating Alternatives for WQ Improvements



Overview of CSO Program

Keith Mahoney, P.E.
DEP



❖ Builds upon success of 2005 CSO Order

- Over 120 Consent Order milestones previously achieved
- Four major CSO storage facilities completed and online
- Recommended plans from Waterbody Watershed Facility Plans incorporated into Appendix A
- Projects 12 of 16 CSO impacted tributaries will meet existing water quality standards
- Projects about 90% of the NYC waterbodies will attain primary contact pathogen standards



Paerdegat Basin CSO Retention Facility

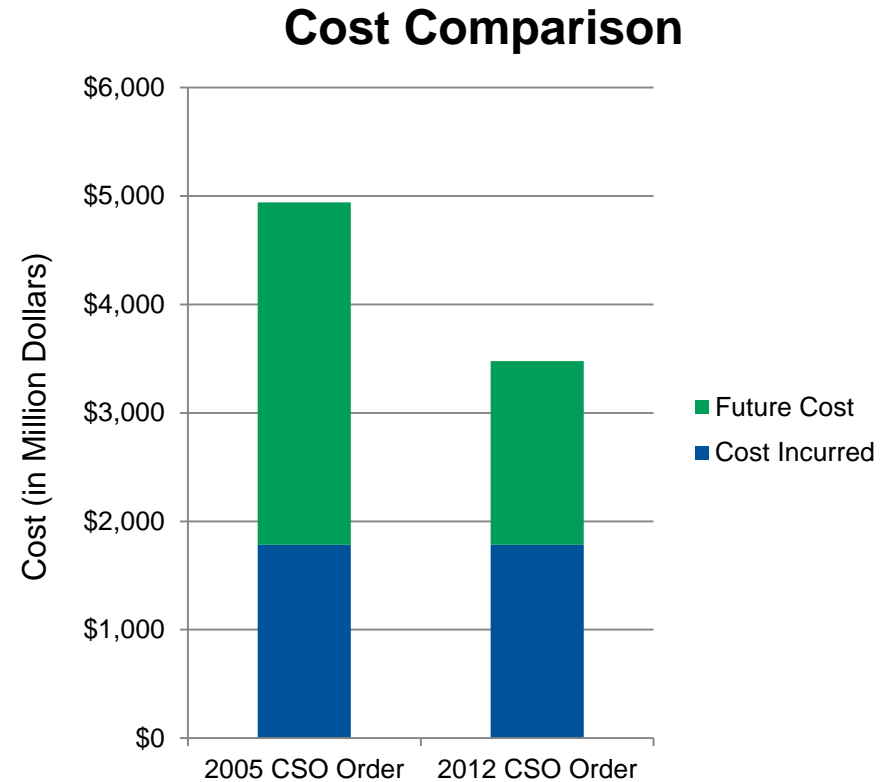


Flushing Bay CSO Retention Facility



❖ Substitutes in more cost effective grey projects and incorporates green infrastructure

- Green infrastructure investments over 20 years to manage runoff from impervious areas including commitment to spend \$187 million by 2015
- Eliminates \$1.4 billion of tanks and WWTP wet weather expansions in lieu of more cost effective CSO controls
- Defers over \$2 billion in CSO tunnels deferred



❖ Additional milestones and commitments

- Design and construction of committed green infrastructure
- Design and construction of committed grey infrastructure
- Submit LTCPs including evaluation of fishable/swimmable water quality standards attainment
- Quarterly reports, post-construction monitoring, and annual green infrastructure reports



Green Roof



Right-of-way Bioswale

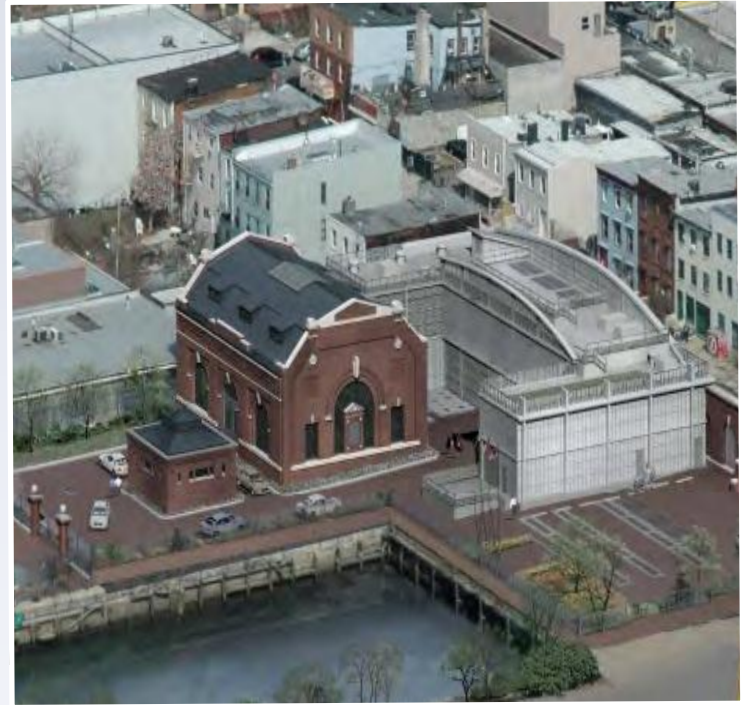


❖ Active Construction Projects:

- Gowanus PS & Flushing Tunnel
- Ave V Pump station and Force Main
- Bronx River Floatables
- Tallman Island Wet Weather Maximization
- GI Environmental Benefit Programs

❖ Active Design Projects:

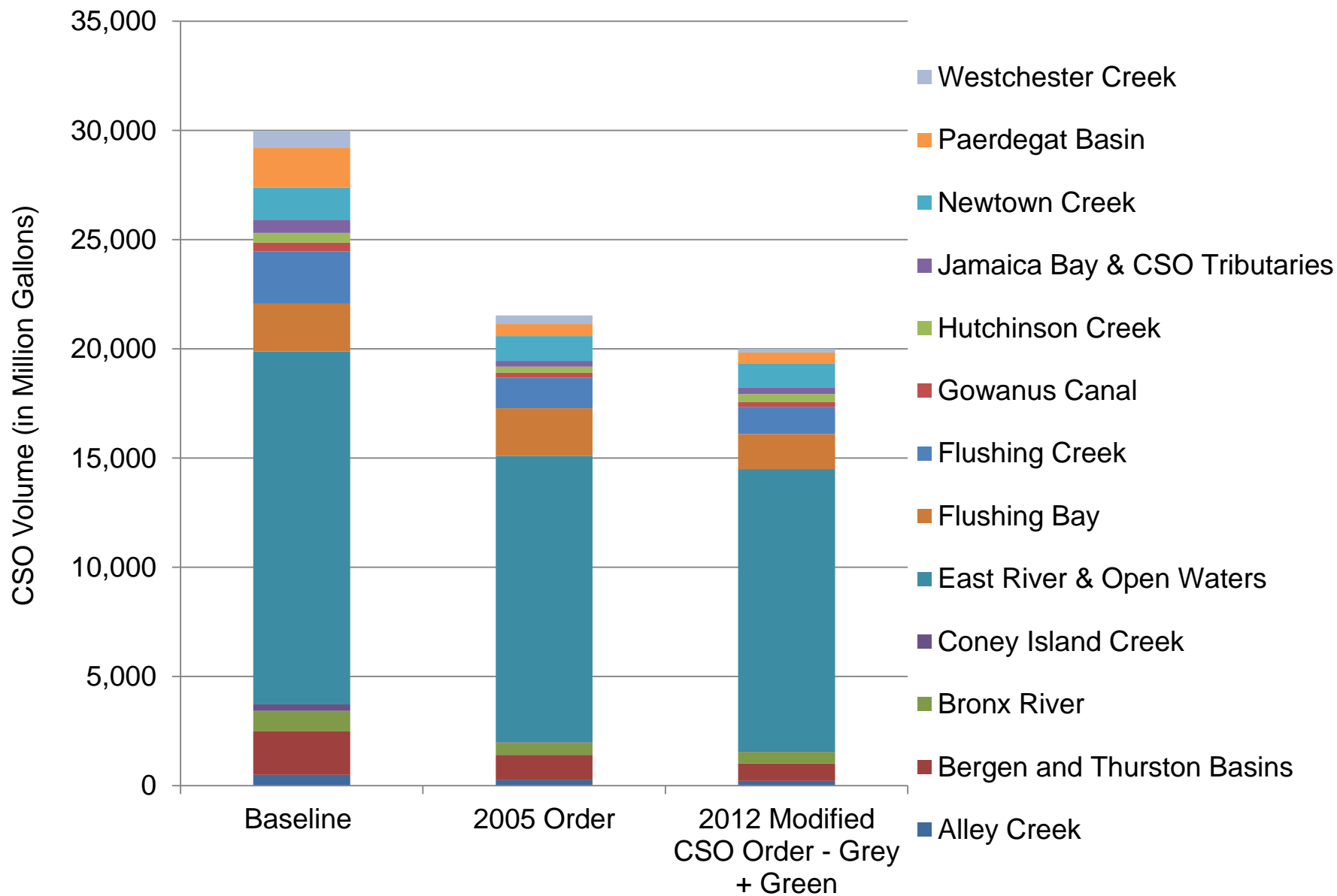
- Dredging (Flushing/Paerdegat/Gowanus)
- Newtown Creek Aeration
- Regulator Modifications (Newtown Creek, Flushing Bay, Jamaica Tribs, and Westchester Creek)
- Sewer Work (Pugsley Creek, Fresh Creek HLSS, Belt Pkwy Crossing, & Flushing Bay Low Lying Sewers)
- 26th Ward Wet Weather Stabilization
- GI Demonstration Projects in 26th Ward, Hutchinson River, and Newtown Creek Watersheds
- GI Area-wide Contracts



**Proposed Post-Upgrade
Rendering of the Gowanus
Facilities**



Projected CSO Reductions



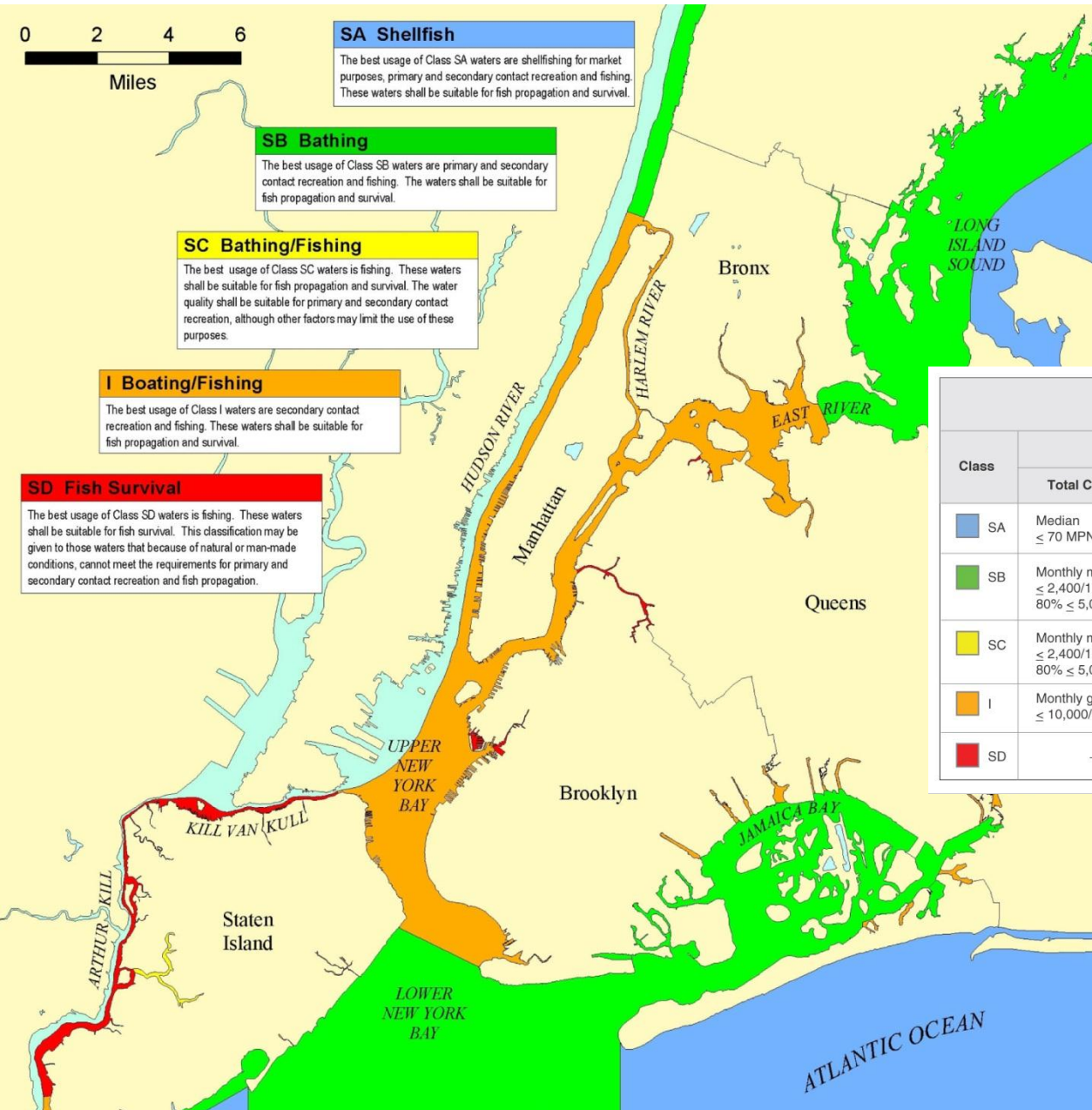


LTCP Process

Linda Allen
DEC



Current Water Quality Standards



- ❖ Best Use Designations
- ❖ Saline Surface Water Quality Standards

New York State Saline Surface Water Quality Standards				
Class	Bacteria (when disinfection is practiced)			Dissolved Oxygen
	Total Coliform	Fecal Coliform	Enterococci	
SA	Median ≤ 70 MPN/100 mL	—	Geometric mean ≤ 35/100 mL	> 4.8 mg/l (daily avg) ≥ 3.0 mg/l
SB	Monthly median ≤ 2,400/100 mL 80% ≤ 5,000/100 mL	Monthly geometric mean ≤ 200/100 mL	Geometric mean ≤ 35/100 mL	> 4.8 mg/l (daily avg) ≥ 3.0 mg/l
SC	Monthly median ≤ 2,400/100 mL 80% ≤ 5,000/100 mL	Monthly geometric mean ≤ 200/100 mL	Geometric mean ≤ 35/100 mL	> 4.8 mg/l (daily avg) ≥ 3.0 mg/l
I	Monthly geometric mean ≤ 10,000/100 mL	Monthly geometric mean ≤ 2,000/100 mL	—	≥ 4.0 mg/l
SD	—	—	—	≥ 3.0 mg/l



- ❖ What is an LTCP?
 - Required under NYC SPDES permits pursuant to the Clean Water Act (CWA) and Federal CSO Control Policy; CSO Order establishes time frames for submittal.
 - Comprehensive evaluation of long term solutions, to reduce CSOs and improve water quality in NYC's waterbodies and waterways.
 - The goal of each LTCP is to identify appropriate CSO controls necessary to achieve waterbody-specific water quality standards, consistent with the Federal CSO Policy and water quality goals of the CWA.

- ❖ The LTCP process:
 - Assesses feasibility of attaining current water quality standards, next highest standards and fishable/swimmable standards;
 - Builds off of Waterbody/Watershed Facility Plans or the first phase of the planning process;
 - Requires robust, targeted public process; and
 - Identifies grey-green balance for different watersheds.



- ❖ 1994 Guidance for CSO Long Term Control Plans includes 9 elements:
 1. Characterization, Monitoring, Modeling
 2. Public Participation
 3. Sensitive Areas
 4. Evaluation of Alternatives
 5. Cost Performance Considerations
 6. Operational Plan
 7. Maximization of Treatment at Existing Publicly Owned Treatment Plants
 8. Implementation Schedule
 9. Post construction Monitoring Plan
- ❖ 2001 Guidance for Coordinating CSO Long Term Control Planning with Water Quality Standards Review

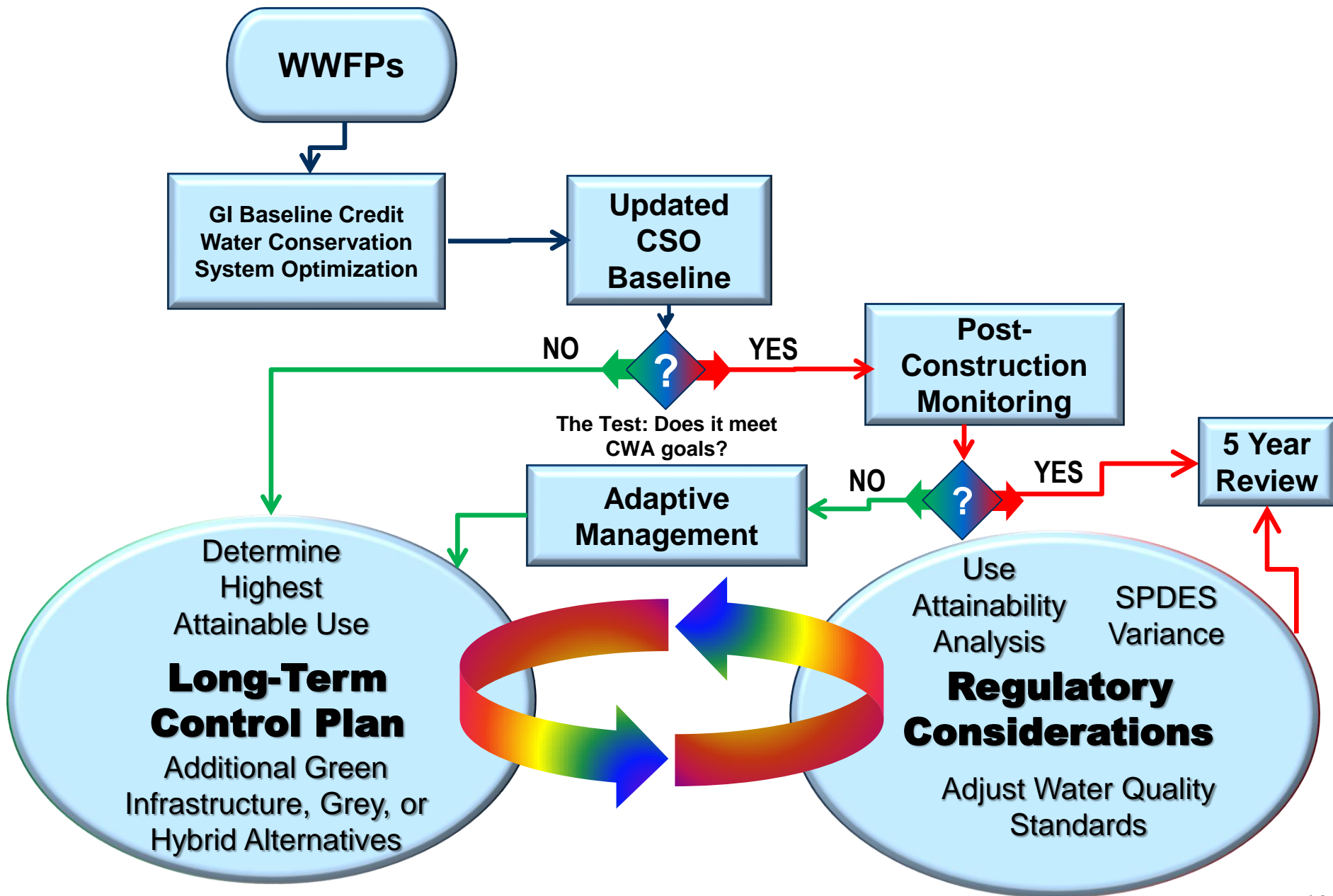


Water Quality Goals of the CSO LTCPs

- ❖ LTCPs to provide for continuing attainment of existing water quality standards and compliance with other CWA requirements.
- ❖ Where existing water quality standards do not meet the Fishable/Swimmable (F/S) goals of the Clean Water Act, or where the proposed alternative set forth in the LTCP will not achieve existing water quality standards or the F/S goals, the LTCP will include a Use Attainability Analysis (UAA).
- ❖ The UAA will identify appropriate alternative water quality outcomes and propose to the State the waterbody's "highest attainable use", which the State will consider in adjusting water quality standards, classifications, or criteria and developing waterbody-specific criteria. Any alternative selected by a LTCP and UAA will be developed with robust community engagement.



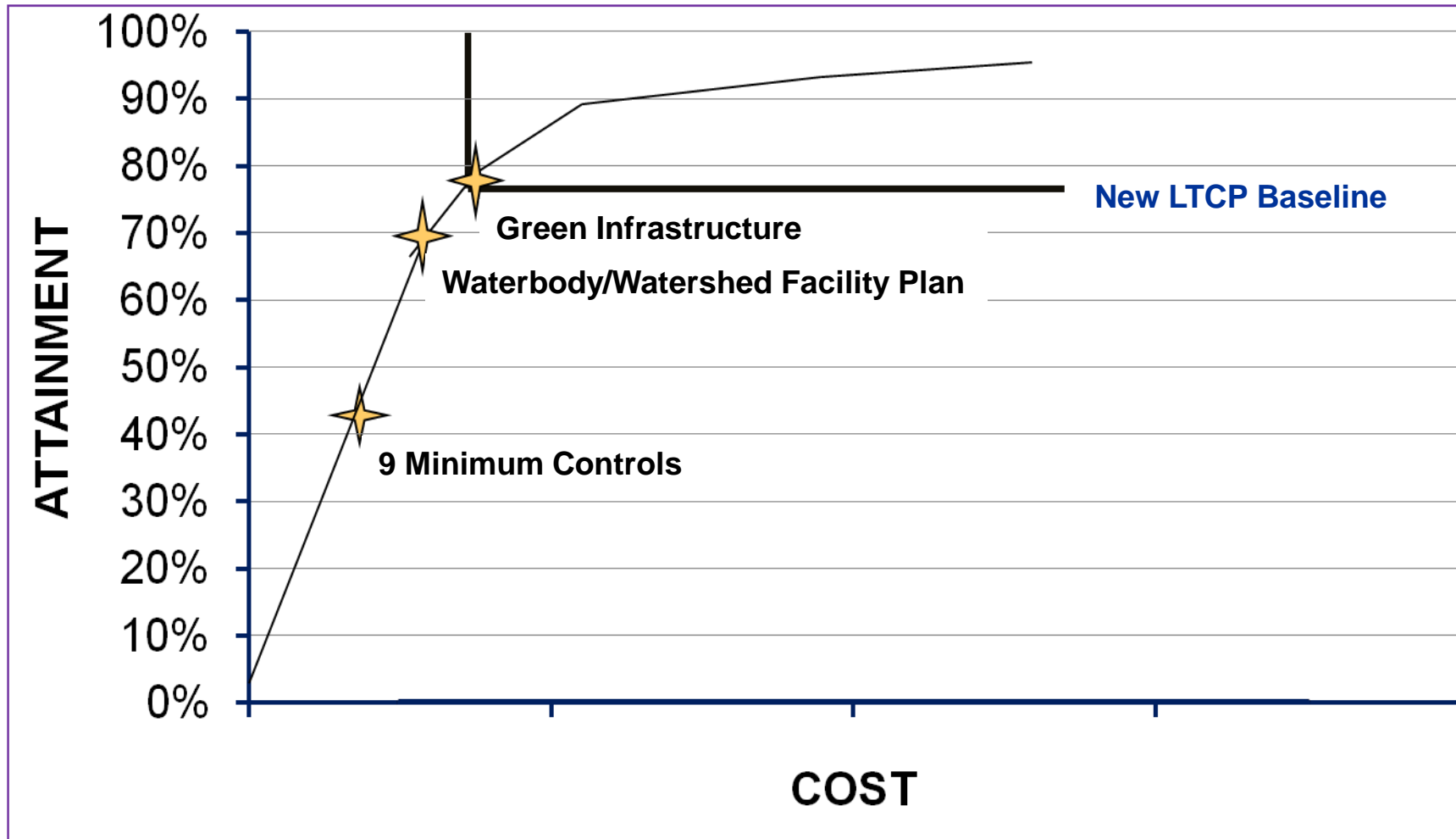
Process from WWFP to LTCP





Cost Evaluations

- ❖ Below is a hypothetical updated cost attainment curve to be developed for each LTCP.





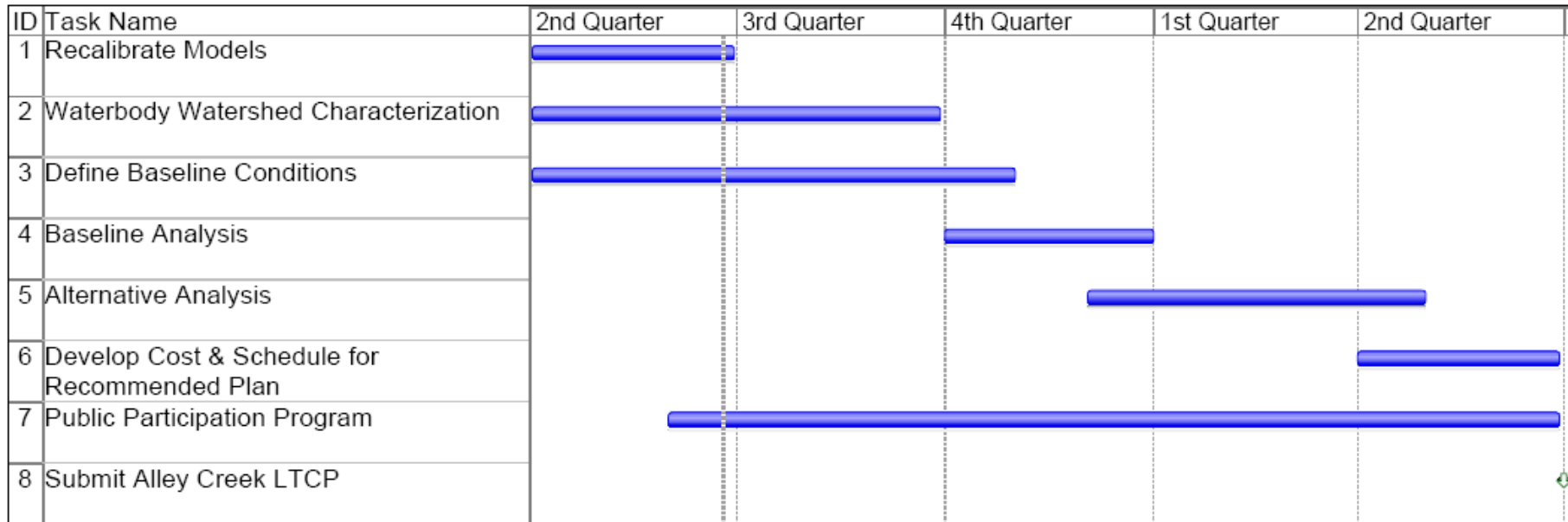
LTCP Development & Schedule

Keith Mahoney, P.E.
DEP



Sample LTCP Workplan

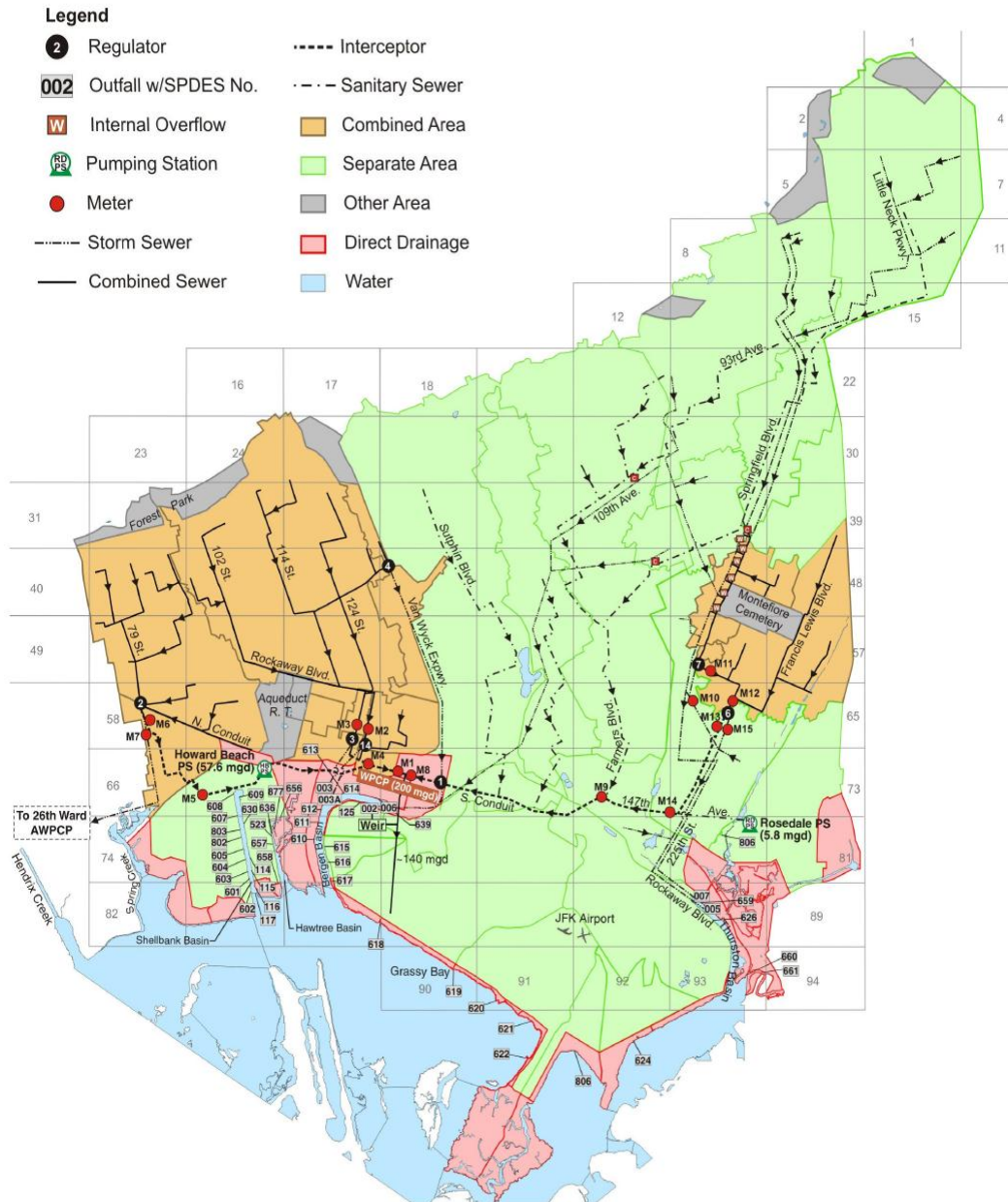
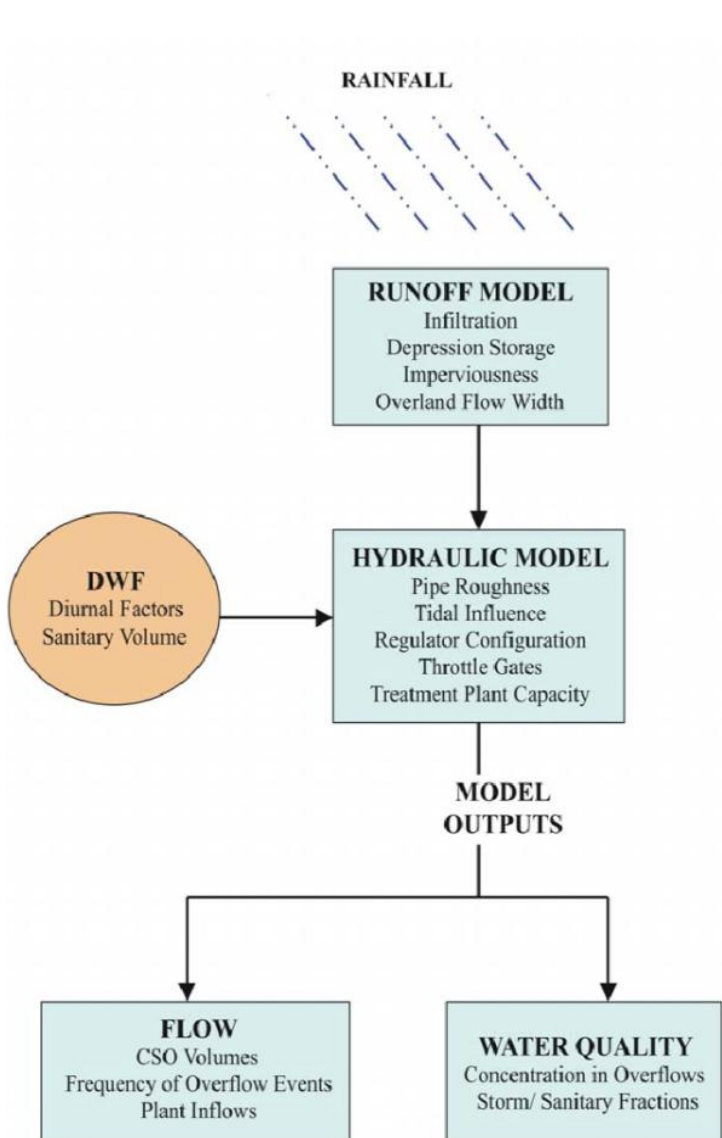
❖ Below is a sample workplan for LTCP development; dependent on the waterbody and related data needs, this workplan may be modified accordingly.



Project: Sample Alley Creek LTCP Wc Date: Mon 6/25/12	Task	[Blue bar]	Milestone	[Black diamond]	External Tasks	[Grey bar]
	Split	[Dotted blue bar]	Summary	[Black bar with arrowheads]	External Milestone	[Grey diamond]
	Progress	[Black bar]	Project Summary	[Grey bar with arrowheads]	Deadline	[Green down arrow]

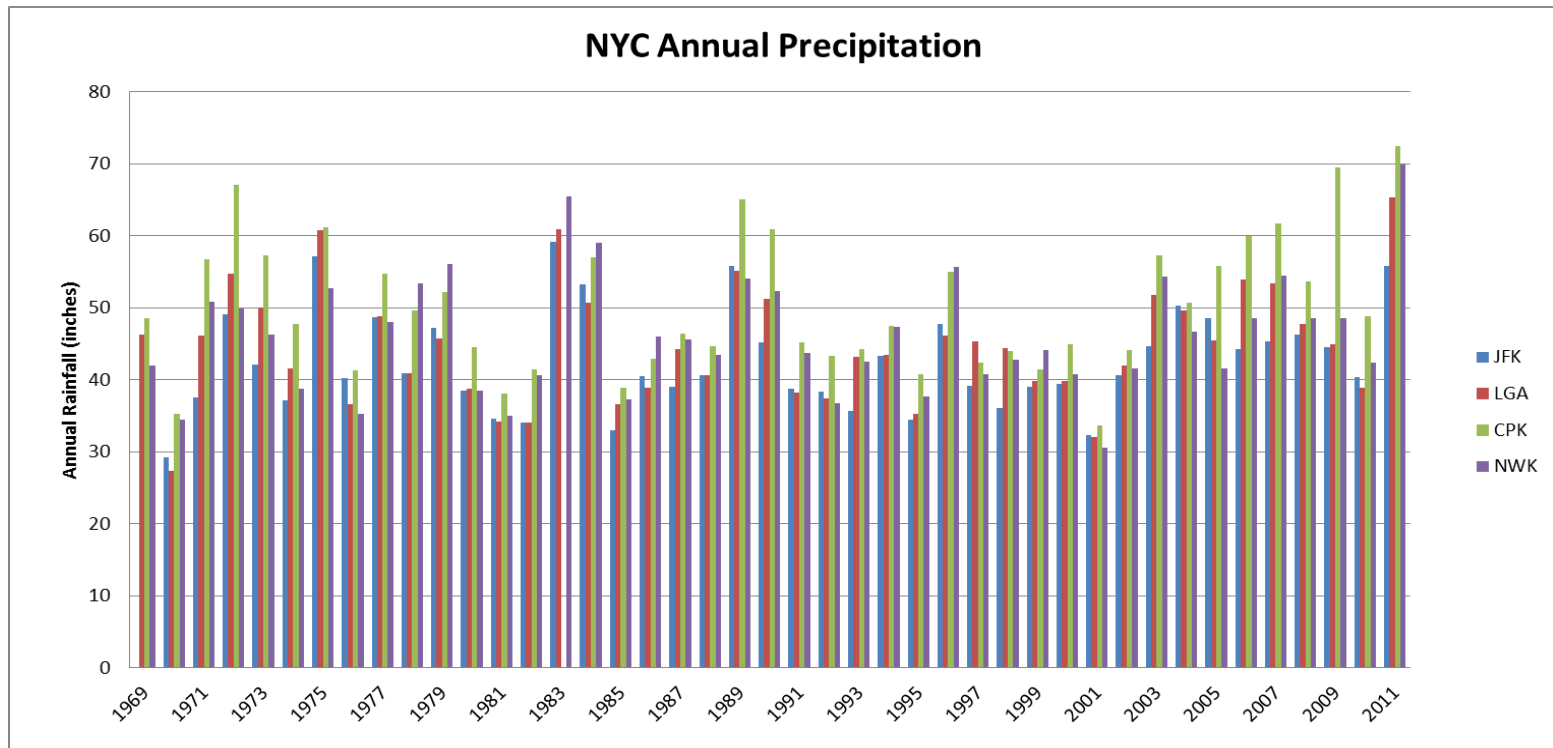


Integrated Modeling





- ❖ Revise sanitary flows based on 2040 population projections and most recent water usage projections
- ❖ Incorporate most recent impervious data based on CY2009 satellite flyover imaging
- ❖ Reevaluate rainfall conditions to incorporate more recent wet weather events and patterns





Potential LTCP Alternatives



Sewer System Modifications



Green Infrastructure



Ecological Restoration



New Sewer Construction



Pump Station Expansion



CSO Storage Tank or Tunnel



LTCP Submittal Dates

CSO Watershed	LTCP Due Date
Alley Creek LTCP	June 2013
Coney Island LTCP	June 2014
Hutchinson River LTCP	September 2014
Flushing Creek LTCP	December 2014
Bronx River LTCP	June 2015
Gowanus Canal LTCP	June 2015
Jamaica Tributaries & Bay LTCP*	June 2016
Westchester Creek LTCP	June 2016
Flushing Bay LTCP	June 2017
Newtown Creek LTCP	June 2017
Citywide LTCP**	December 2017

*The 2005 Order required separate LTCPs for the Jamaica Tributaries and Jamaica Bay. They are now to be combined into a single LTCP under this Order.

**The Citywide LTCP shall include the East River and Open Waters.



Public Participation Plan

Julie Stein
DEP



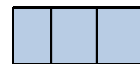
- ❖ Multi-pronged approach that includes a diverse set of public participation activities:
 - Annual citywide public meetings rotating across boroughs (starting with tonight's citywide kick-off meeting!)
 - Local open houses in each watershed
 - Presentations at existing forums including Community Boards and community, business, environmental and recreational organizations to provide updates and solicit input
 - Regular briefings for elected officials and their staff
 - Data collection from broad public through surveys, traveling kiosks and information repositories
 - Variety of communication tools including program website, social media, advisories and notifications
 - Technical reviews for development of UAAs



Public Meeting Schedule

- ❖ The next LTCP meeting will be held in early Fall 2012 to present detailed baseline assumptions and kick-off Alley Creek LTCP development.

LTCP	2012				2013				2014				2015				2016				2017				2018			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Alley Creek						★																						
Coney Island										★																		
Hutchinson River											★																	
Flushing Creek												★																
Gowanus Canal														★														
Bronx River														★														
Jamaica Bay & Tributaries																						★						
Westchester Creek																						★						
Flushing Bay																										★		
Newtown Creek																										★		
Citywide																											★	



LTCP Development and Public Participation Schedule



LTCP Submittal to DEC



- ❖ Please visit www.nyc.gov/dep to access:
 - LTCP Public Participation Plan
 - Presentation, handouts and poster boards from kick-off meeting
 - Links to Waterbody/Watershed Facility Plans
 - CSO Order including LTCP Goal Statement
 - NYC's Green Infrastructure Plan
 - Green Infrastructure Pilots 2011 Monitoring Results
 - Real-time waterbody advisories
 - Upcoming meeting announcements
 - Other LTCP updates

- ❖ Comments can be submitted at any information station or sent to:
 - Gary Kline of the New York State DEC at: gekline@gw.dec.state.ny.us
 - New York City DEP at: ltcp@dep.nyc.gov



Questions and Comments