

# Baltimore City Department of Public Works

## Large Utility Perspective on Cleaning the Chesapeake Bay



BALTIMORE CITY

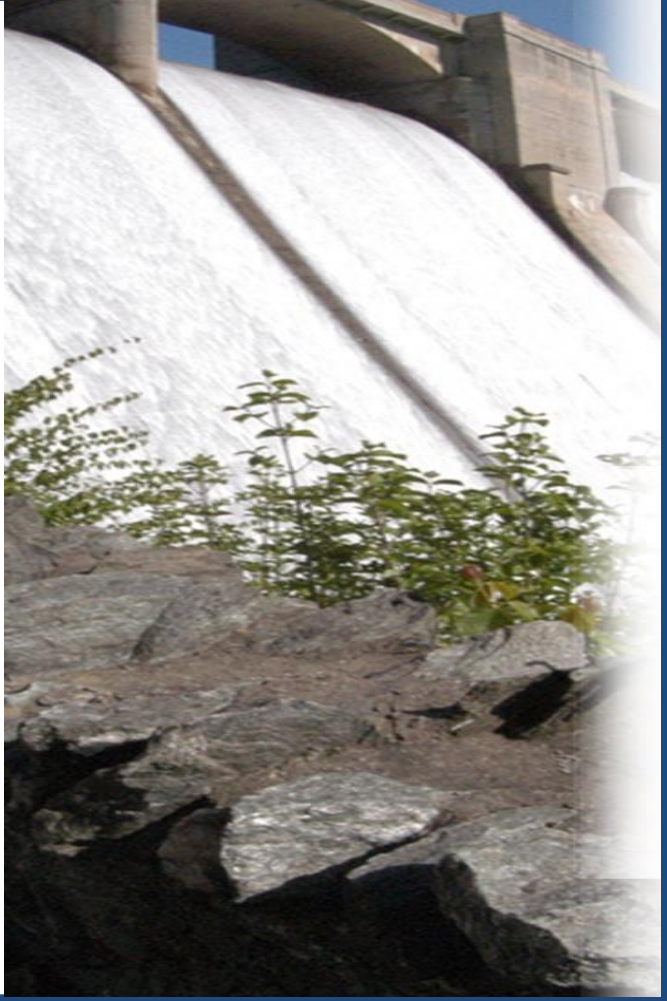
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# DPW

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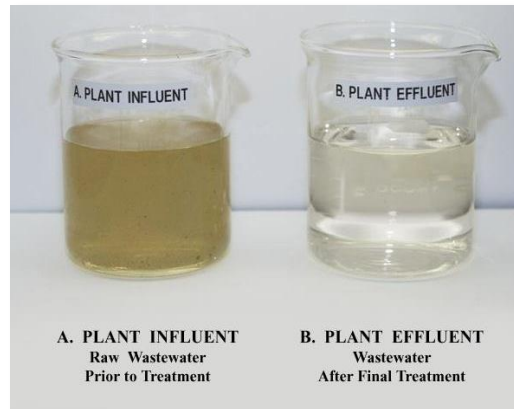
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DIRECTOR



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## What do we do?



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MAYOR



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BUREAU HEAD



KUMASI VINES  
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# Solid Waste Management



- Education
- Partner with neighborhood organizations
- Partner with NGOs

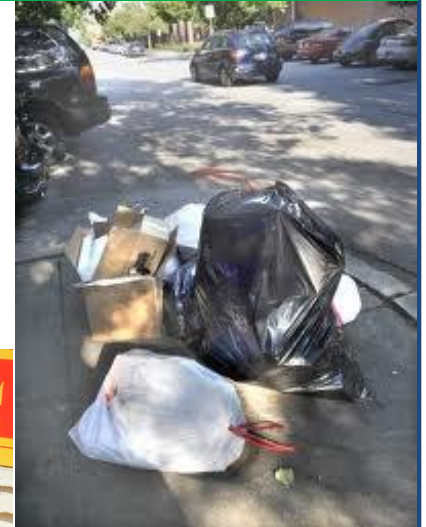


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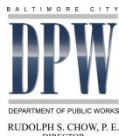


# Innovative Solution: Municipal Trash Container Pilot Program

- To keep trash off the streets
- DPW provides to each household a 64 gallon trash container with wheels and attached lid.
- DPW provides a 25 gallon recycling bin.
- Testing in 2 areas of the City to determine feasibility



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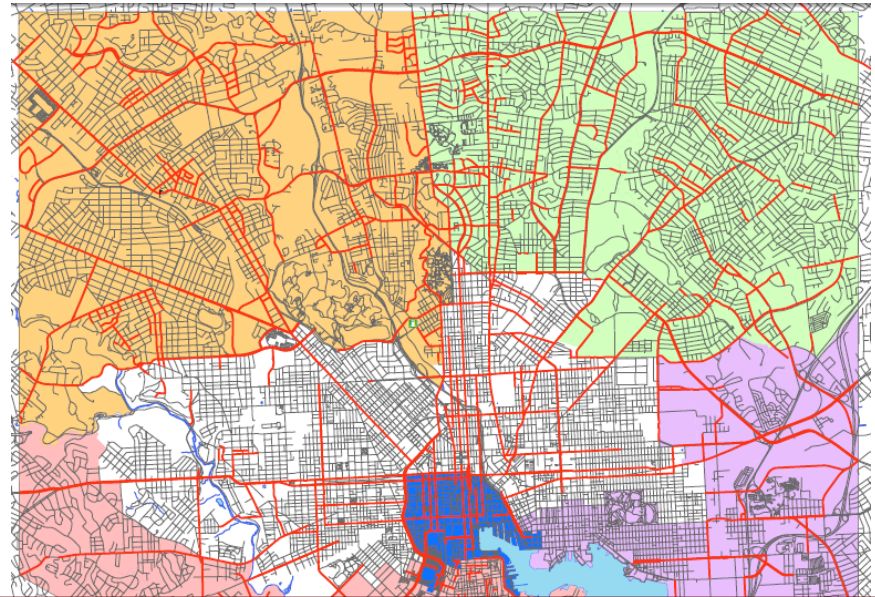


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# Innovative Solution: City-wide Street Sweeping



**1,139 tons**  
**9,579 miles swept**  
**in 4 months**



Bold red lines

Existing AM/PM Routes

Other colored lines

Street sweeping routes



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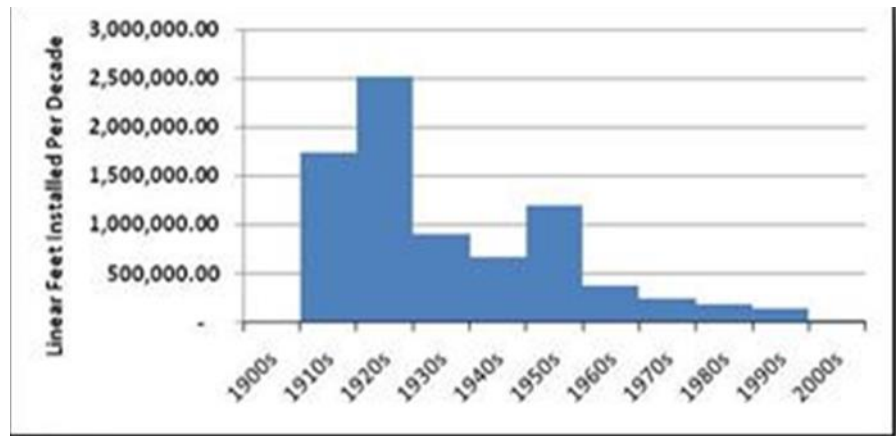


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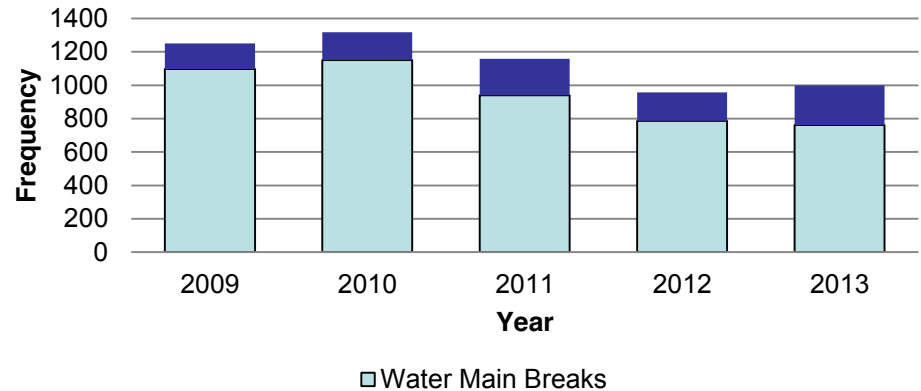
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# Drinking Water Infrastructure: Failures Impact Water Quality



**About 1,000 water main breaks every year.**

## Water Main Breaks and Leaks



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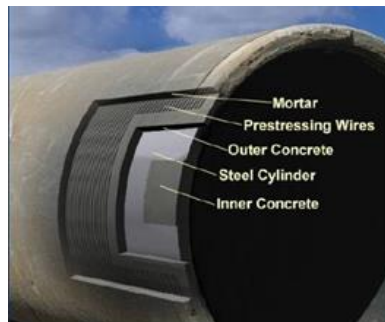
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# Innovative Solution: PCCP Strategy

- Plan to address a critical water asset: Pre-stressed Concrete Cylinder Pipe (PCCP)
- Developing long-term strategy based on risk-based planning
  - 10-year plan to inspect all PCCP in system
  - Prioritized pipe by criticality and condition
  - Will inspect pipe segments by risk score in zones and determine repair actions
- Recent success: By being proactive and using latest technology, we prevented a problem in 2012 on a 54-inch transmission main.



**PipeDiver**



**PCCP**



**Broken wires –  
SW Transmission Main**



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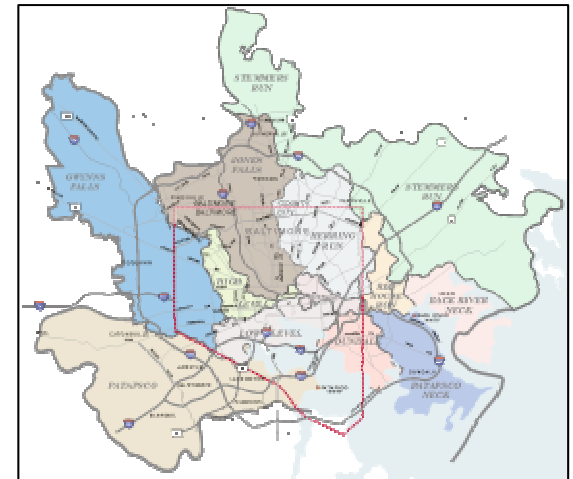
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# Wastewater

- Convey wastewater through 1,400 miles of sanitary sewer mains
- Treat 201 million gallons of wastewater per day at two wastewater treatment plants
- Wastewater comes from City and surrounding jurisdictions
- Plants regulated by State-issued discharge permits
- Permits include limits for nitrogen, phosphorus, suspended solids, etc.



## WASTEWATER SERVICE AREA



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# Innovative solution: ENR Upgrades at both Wastewater Treatment Plants

- Constructing Enhanced Nutrient Removal facilities
- The projects will result in a total Nitrogen Reduction of 2.2 million pounds/year, which is 30% of the State of Maryland's Chesapeake Bay Goal



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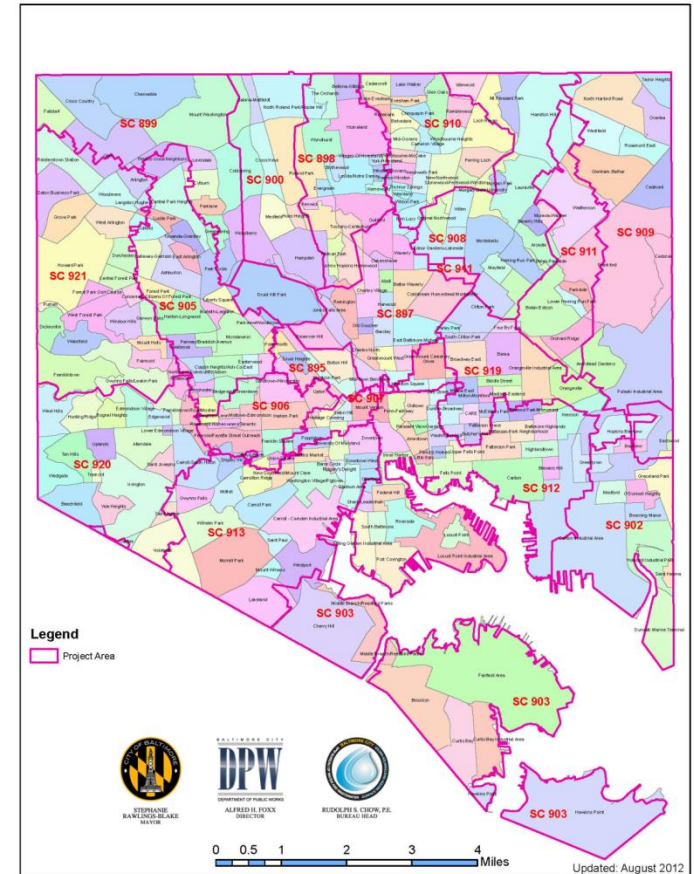
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# Regulatory Solution: Consent Decree

- 2002 Consent Decree agreement with the City, the U.S. Environmental Protection Agency, & the Maryland Department of the Environment.
- The Consent Decree requires the City to eliminate sanitary sewer overflows, conduct a comprehensive evaluation & rehabilitation of its sewer system, & continually upgrade its sewer operations and maintenance.



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# Stormwater Management

- Aging Infrastructure.
- MS4 Permit: 20% Impervious Area Restoration in 5 years.



37<sup>th</sup> & Keswick (June 2012)



WS 263: Baltimore & Frederick Ave. (2009)



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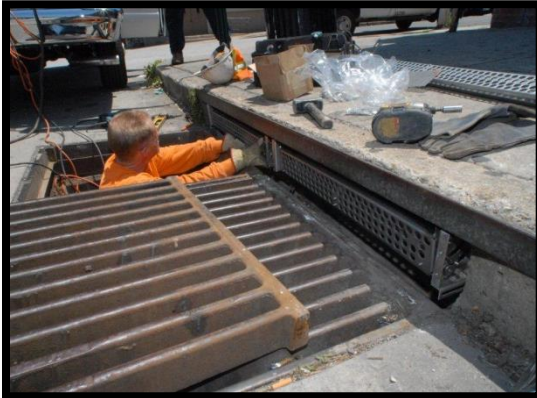
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# Regulatory Solution: MS4 Permit Compliance Programs

- Preventative inlet cleaning
- Routine waterway cleaning
- Inlet Screens
- Debris Collection Systems



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# Regulatory Solution: MS4 Permit Compliance Projects



- Large Stormwater BMPS
  - Ponds and wetlands treating large drainage areas. Potential tie-in with Growing Green Initiative.
- Stream Restoration Projects
  - 9 miles of restoration
- Urban ESD Projects
  - Micro-scale retro-fit projects on City property or in ROW. Estimate 110 locations. Potential tie-in to Tree Baltimore Program and Growing Green Initiative.
- Impervious Removal / Greening Projects
  - Equivalent to 30 ac of removal. Potential tie-in to Tree Baltimore Program and Growing Green Initiative.
- Catch Basin Inserts & Large Debris Collection Systems



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# Stormwater fee: Case Study in Cooperation

Detailed study,  
analysis, financial  
planning

Advisory taskforce of  
stakeholders

Business forums

Religious forums

Small meetings with  
businesses, non-profits,  
institutions, advocacy orgs.

Outreach meetings in 4 City  
quadrants

City Council committee  
hearings and work  
sessions

Public participation in  
hearings and public comment  
period



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# Political Pressures: Maintaining Your Course

- Make the right choice obvious and easy
- Clear vision and mission
- Be consistent (sometimes this means repetition of your message)
- Clearly define the risks and rewards
- Explain the impacts to the community
- Look to the future



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Questions?

