

Why Bangor Said NO to Integrated Planning

New England Water Environment Association
2015 CSO/Wet Weather Issues Specialty Conference
October 26, 2015



Bradley Moore, Bangor Director of
Water Quality Management (Retired)

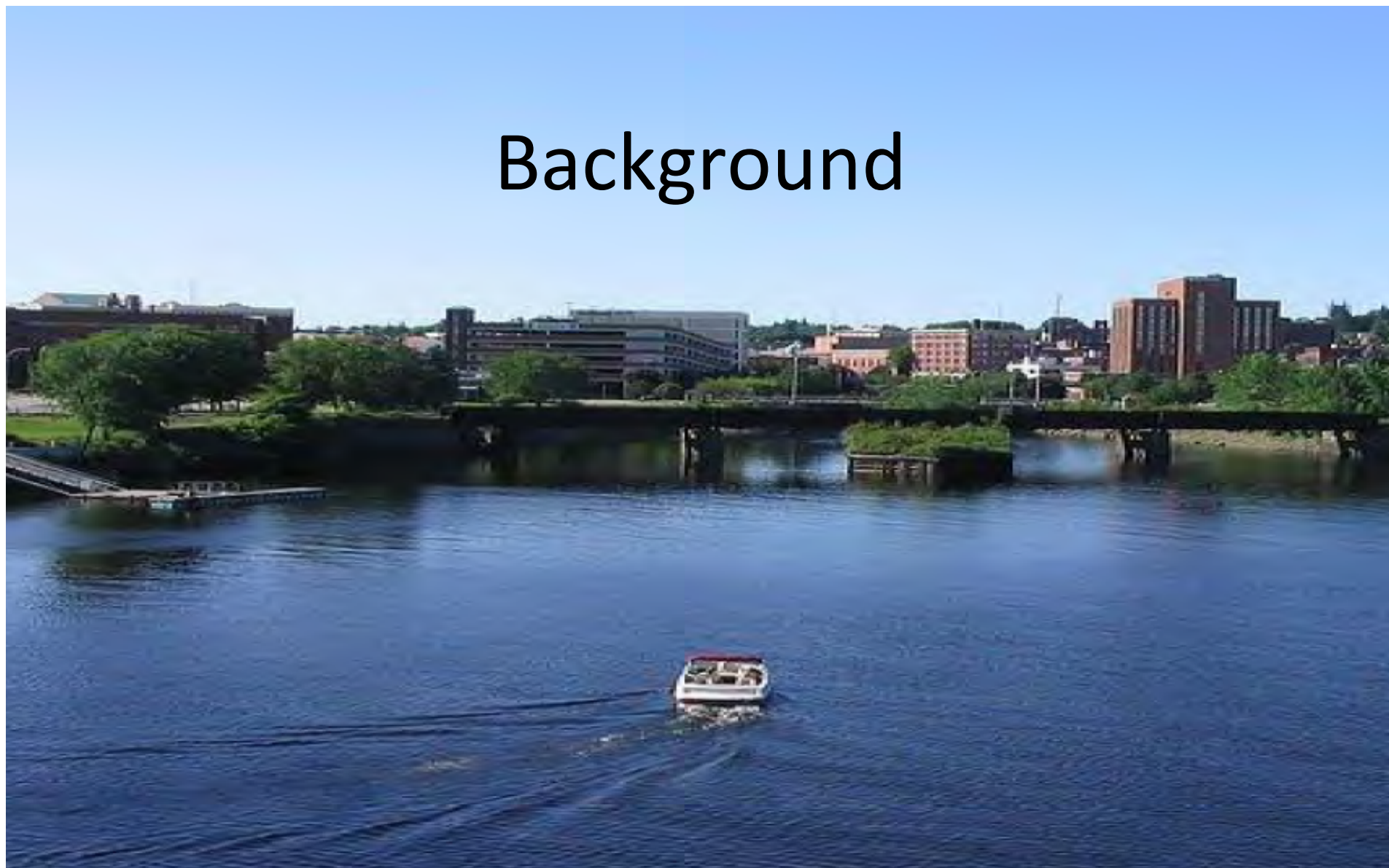
Gregory Heath, AECOM



Presentation Outline

- Background
- Clean Water Act Compliance Milestones
- August 2015 Consent Decree
- Affordability is THE KEY Issue
- Integrated Planning as the Logical Solution

Background



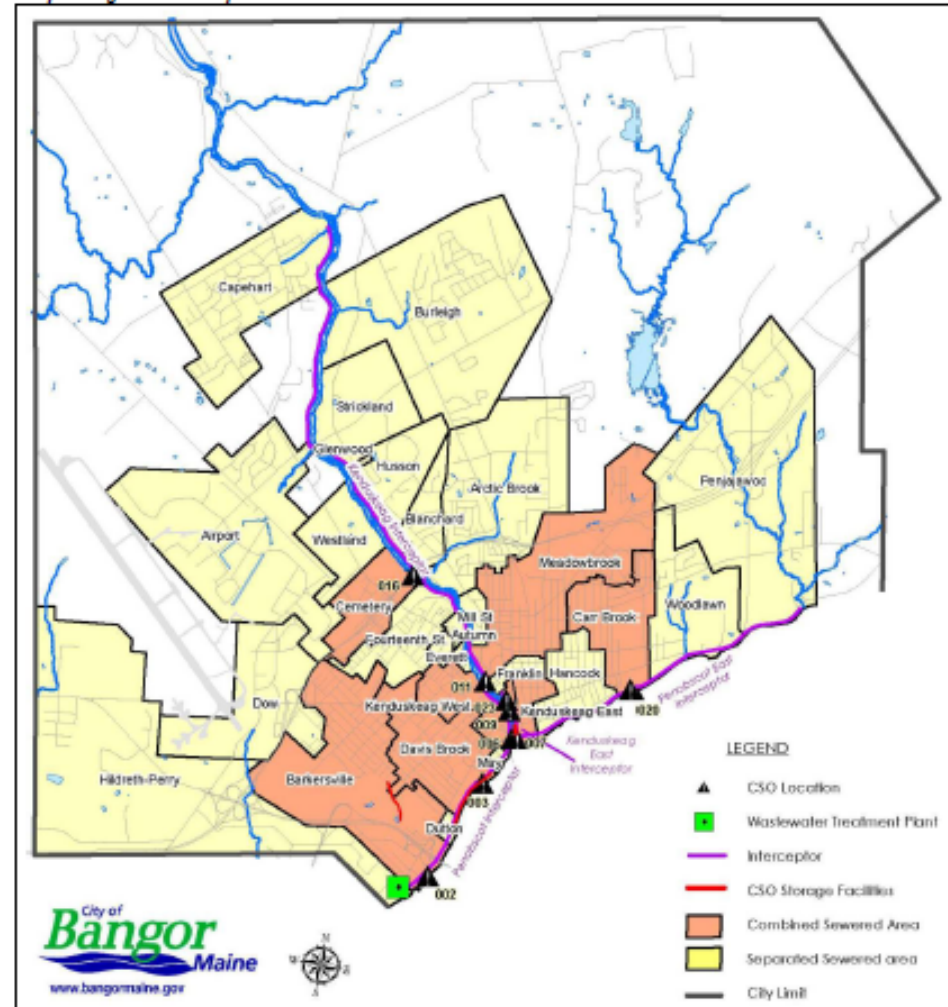
Community Setting

- Located on Penobscot River at confluence with Kenduskeag River
- Older “working” city with long history in lumber and trade
- Population:
 - 32,569 (2014)
 - High percentage of low income and elderly



Wastewater Collection System

- Service area: 33 mi²
- Population served:
 - 32,500 in Bangor
 - 8,000 in connected communities
- 150 miles of gravity sewer
- 4,000 ft. of force main
- 5 pump stations
- 8 siphons



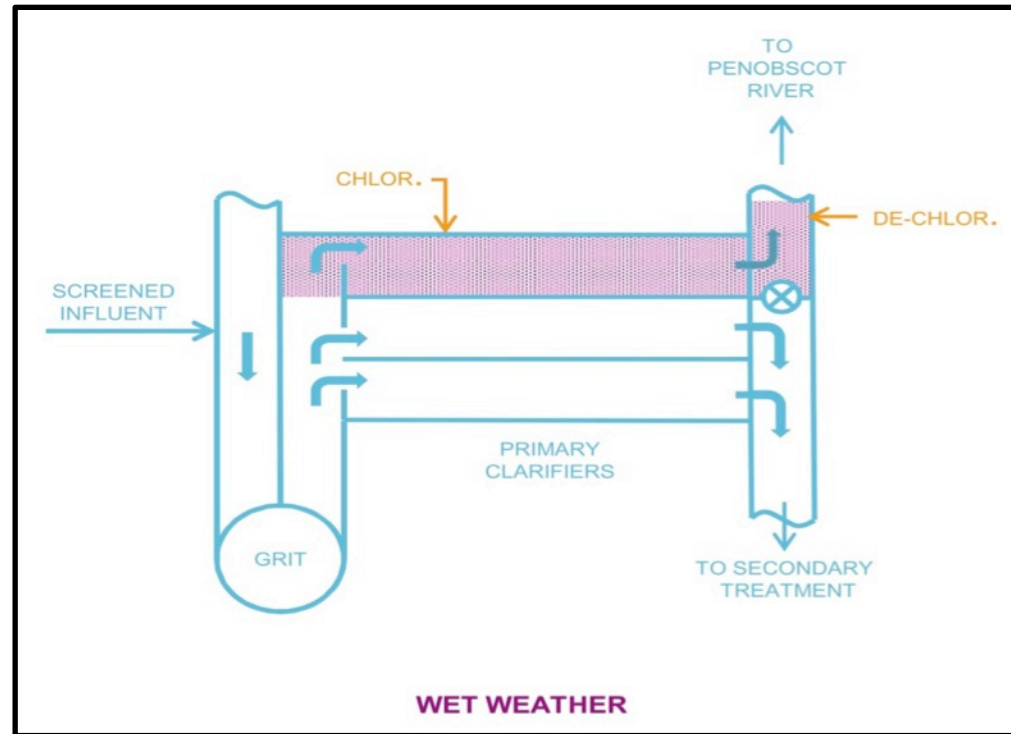
Wastewater Treatment Plant

- Treatment processes:
 - Screening
 - Grit removal
 - Primary sedimentation
 - Secondary treatment (Bio-tower/Aeration)
 - Seasonal disinfection
 - Gravity thickening
 - Belt filter press dewatering



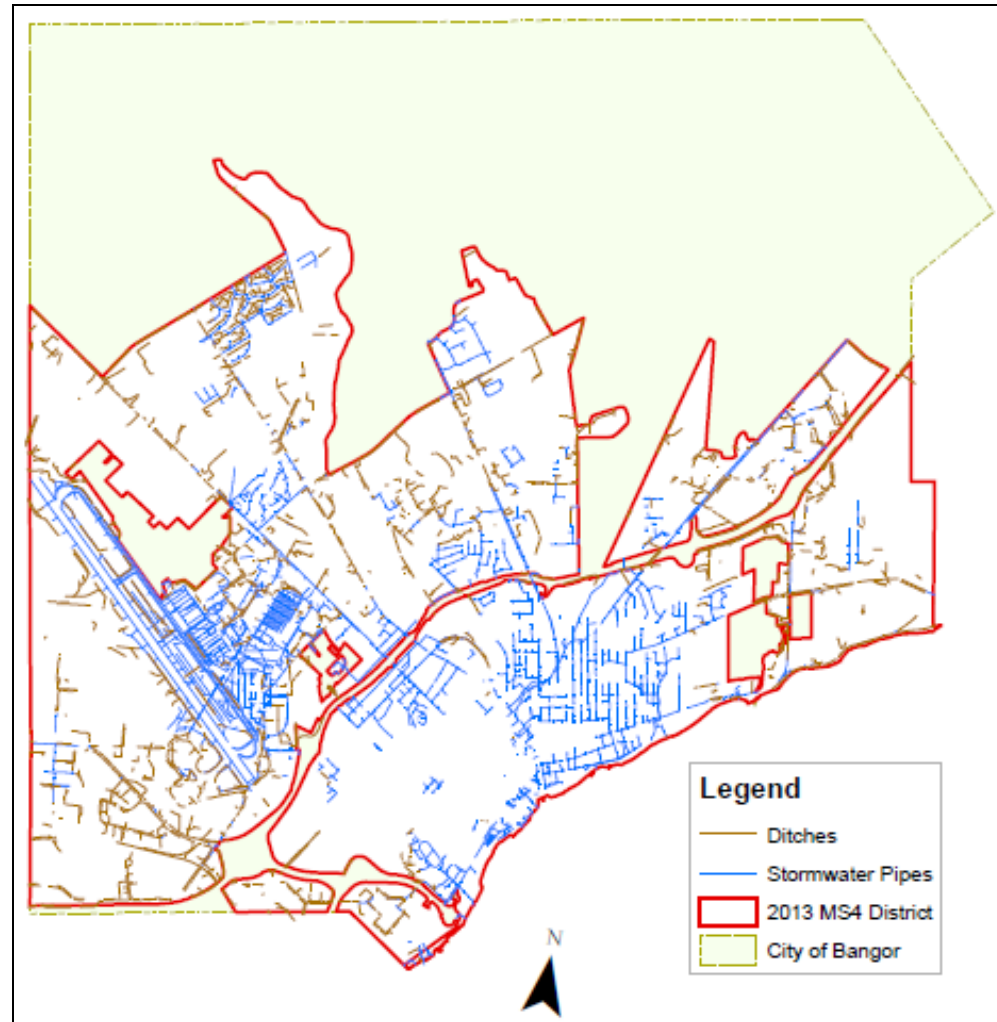
WWTP Excess Wet Weather Treatment

- Up to 30 mgd receives primary + secondary treatment
- Up to 43 mgd receives primary, only
- Separate seasonal disinfection
- Flow streams combine (single outfall) and discharge

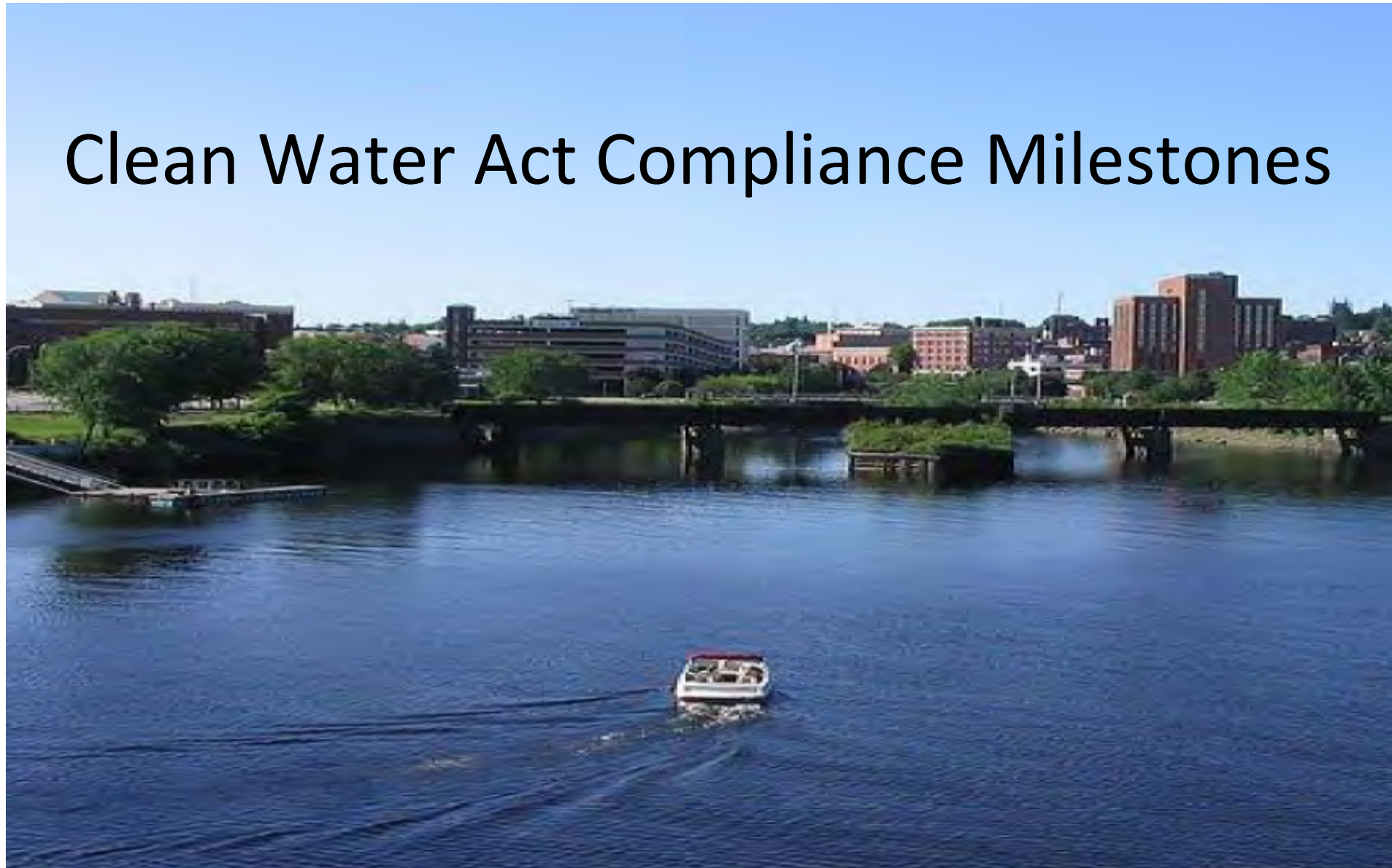


Stormwater System

- City operates a small MS4
- Combination of pipes and ditches
- BMPs implemented
- Stormwater utility in place



Clean Water Act Compliance Milestones



Clean Water Act Compliance Milestones

30-Year History Working With EPA & ME DEP on CWA Compliance

Date	Event
June 1987	CD with ME DEP (upgrade WWTP to secondary, initiate sewer rehab, abate 2 key CSOs)
June 1991	Superseding CD with EPA that calls for preparation of LTCP1
1992	WWTP upgrades substantially completed
1994	EPA accepts LTCP1
2009	City notifies EPA that all LTCP1 projects completed
April 2010	EPA will not terminate CD as there are still CSOs
April 2012	EPA issues 308 RFI (MS4, IDDE, Coll. Syst., and others)
Sept 2012	City submits LTCP2

Clean Water Act Compliance Milestones

Current Compliance Efforts

Date	Event
January 2013	EPA indicates new CD (not modified CD) will be issued
2013	Negotiation on new CD begins
2013-2015	City continues to meet Permit requirements
June 2014	IDDE and Stormwater Management Plan Finalized
December 2014	Submitted SSES Phase 2 SOW
August 26, 2015	CD Finalized and Filed in Court.

August 2015 Consent Decree



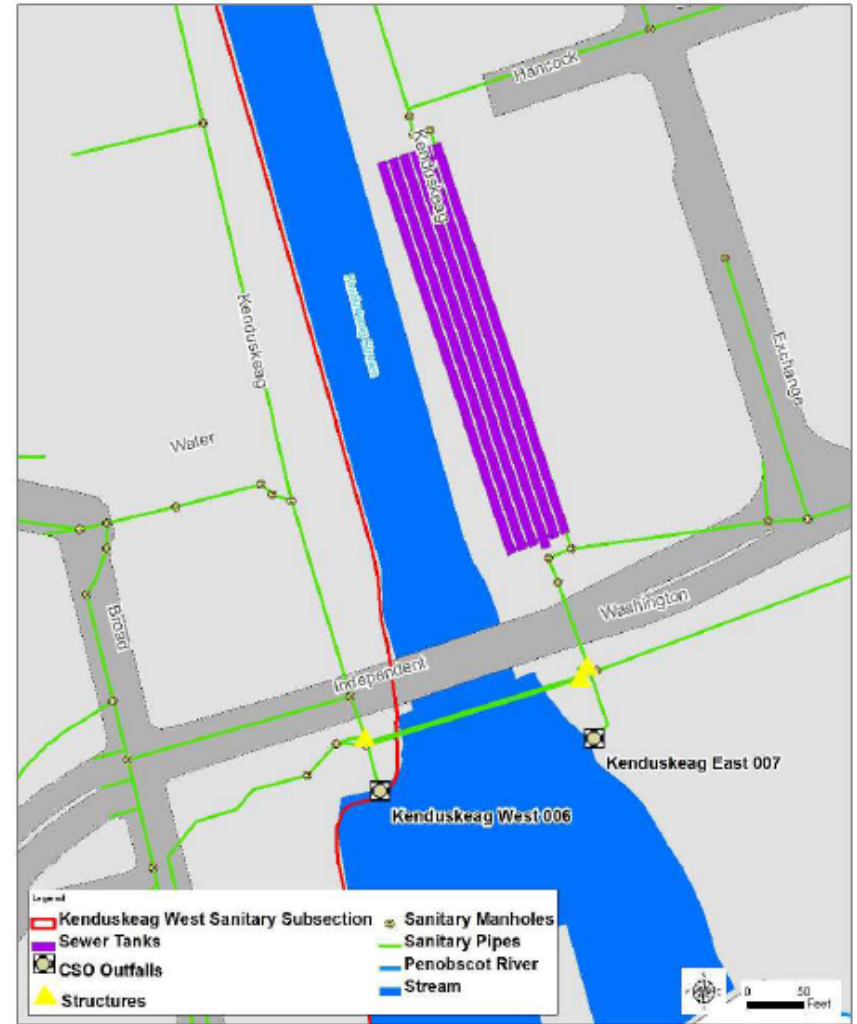
Consent Decree Remedial Measures

- CMOM
- Municipal Separate Storm Sewer (MS4)
- Combined sewer overflow controls



CMOM Program

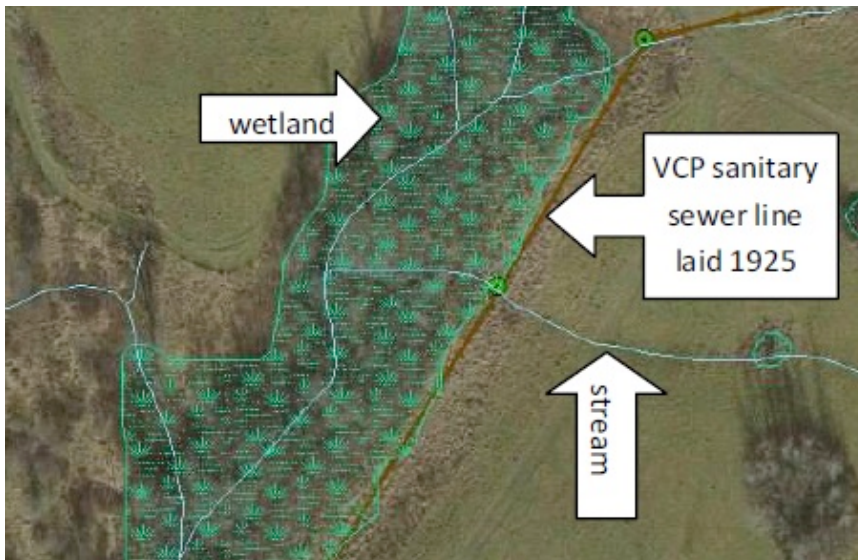
- GIS Deliverables
- Sewer System Asset Management and Sewer Maintenance Improvement Plan
- Sewer System Evaluation Survey (SSES)



Kenduskeag West CSO, from Bangor GIS

Municipal Separate Storm Sewer System (MS4)

- Implement approved 2013 – 2018 IDDE
 - Once implemented, IDDE requirements under the CD will “sunset”



Illicit Discharge Detection and Elimination Plan

City of Bangor, Maine

in compliance with the requirements of
Maine Pollutant Discharge Elimination System
MS4 Permit No. MER041026

June 26, 2014

Combined Sewer Overflow Controls

- Short-term projects
- Revised/updated Final Phase II LTCP



Affordability is THE KEY Issue



Total Wastewater System Costs and Needs

- Non-Consent Decree wastewater system needs
 - Non-IDDE control measures under MS4
 - WWTP and Pump Station O&M

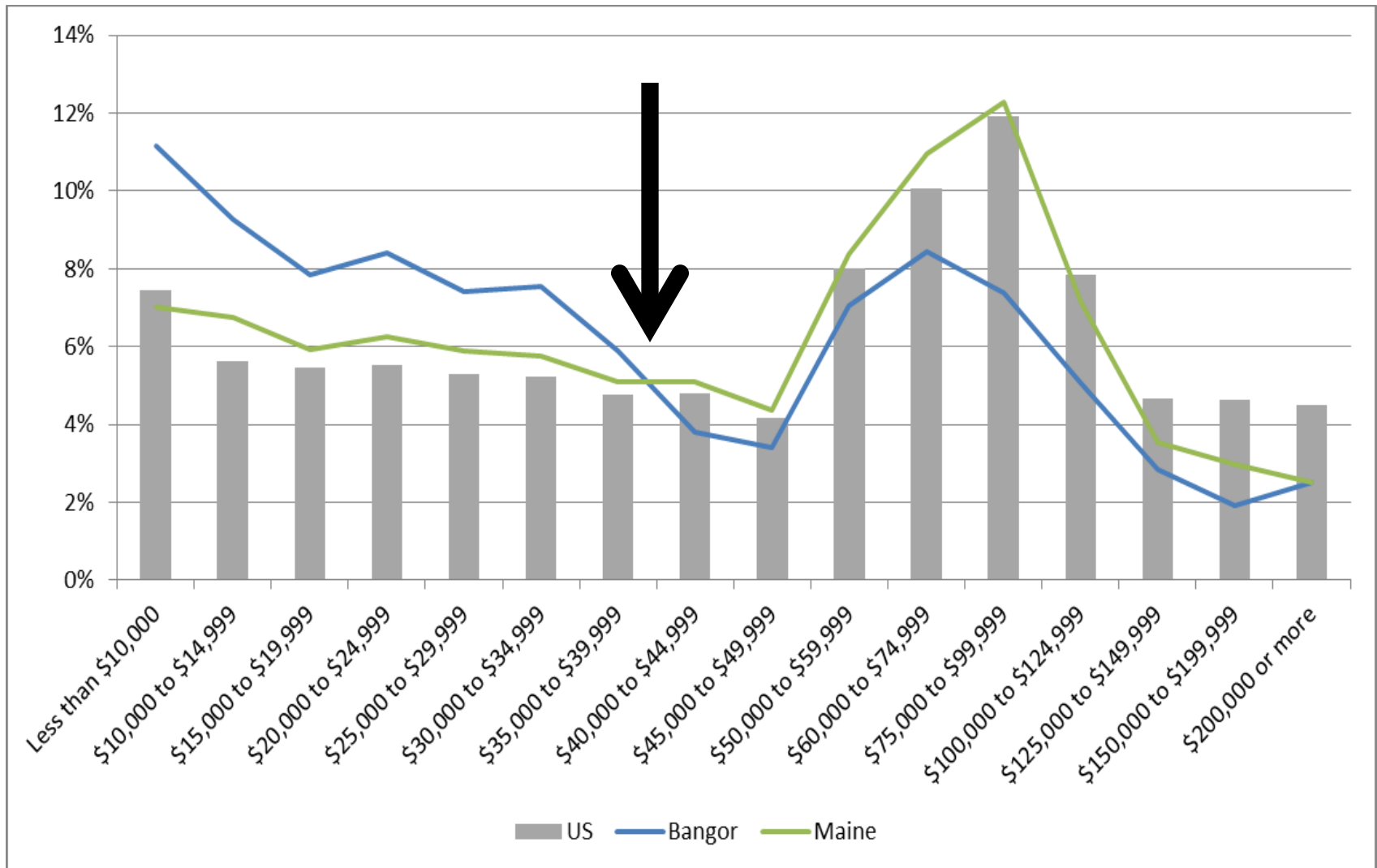


CD \$ + Non-CD \$ = CWA Compliance \$
How to Schedule and Pay for it All?

Financial Reality

- High percentage of low income households
- High number of elderly on fixed incomes
- Bangor MHI (2014) = \$36,013
- 16% of households below poverty line
- Household income below state and national averages

Percentage of Households with Incomes Below Threshold



Cost of Compliance

Impact on Households

- Impact on households assessed using Residential Indicator (RI)
 - $RI = \text{wastewater cost per household} / \text{median household income (MHI)}$
 - RI value of 2% is commonly used threshold for high impact
- Draft affordability assessment:
 - $RI = 3.8\%$ using City data
 - With conservative adjustment to increase households in multi-family units, $RI = 2.24\%$

Integrated Planning as the Logical Solution

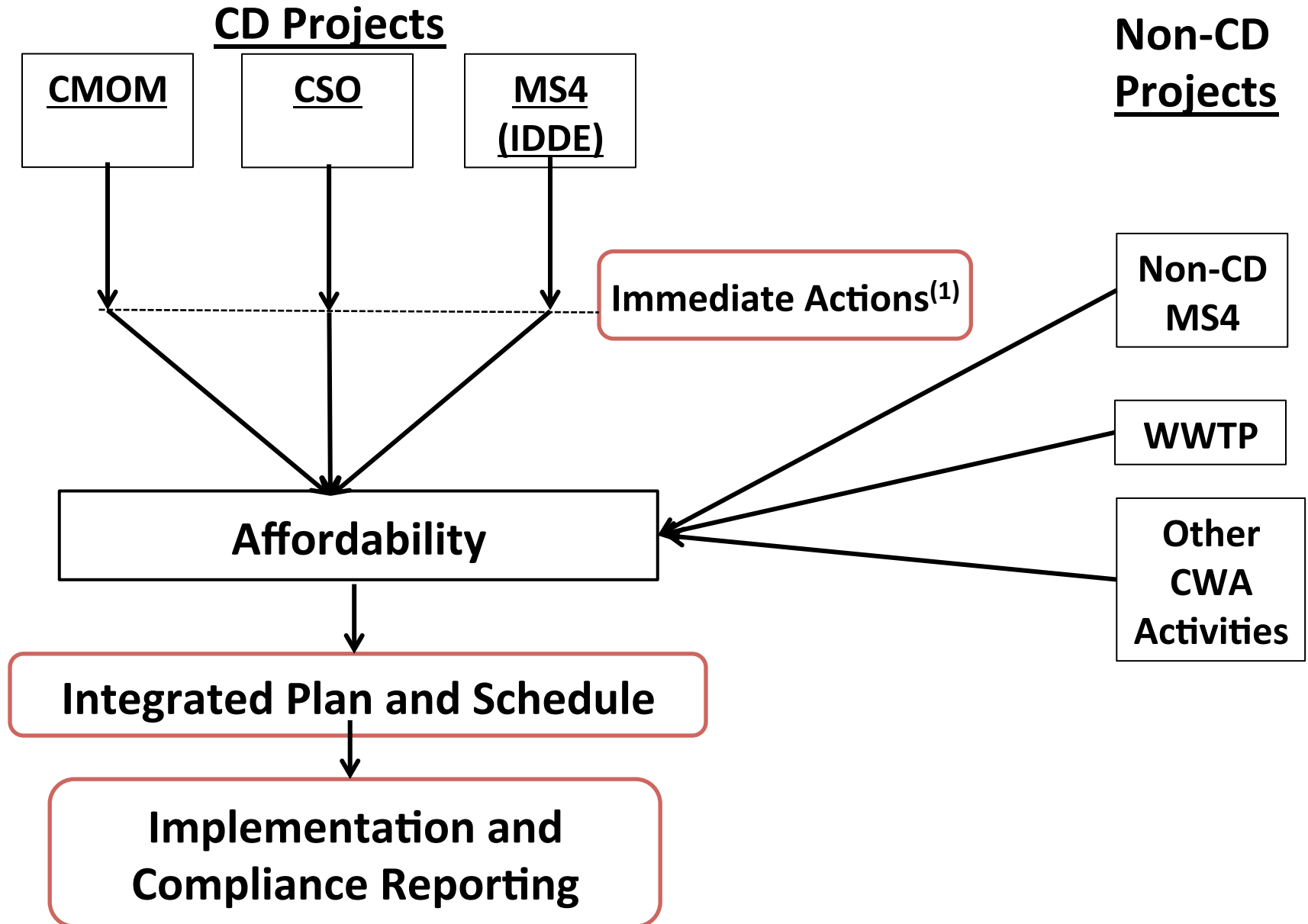


Integrated Planning Defined

“The Integrated Planning process is a comprehensive planning process that seeks to address all of a community’s CWA obligations while prioritizing those with the greatest human health and environmental consequences.”

U.S. EPA, Integrated Municipal Stormwater and Wastewater Planning FAQs, July 15, 2013

Bangor's Vision for Integrated Planning



Reality Check with EPA and DOJ

- EPA/DOJ not opposed to IP, but ...
 - If CD compliance schedule based on IP schedule, all projects in schedule subject to CD enforcement
 - Would subject non-CD MS4, WWTP, and other CWA activities to stipulated penalties
- Why would any agency want to add projects to CD and risk financial penalties?

Bangor did not, and said NO to Integrated Planning

Questions and Answers

