

MDC's Integrated Planning

Balancing What You are Required to do With What You Must do



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January 28, 2019



**CDM
Smith**

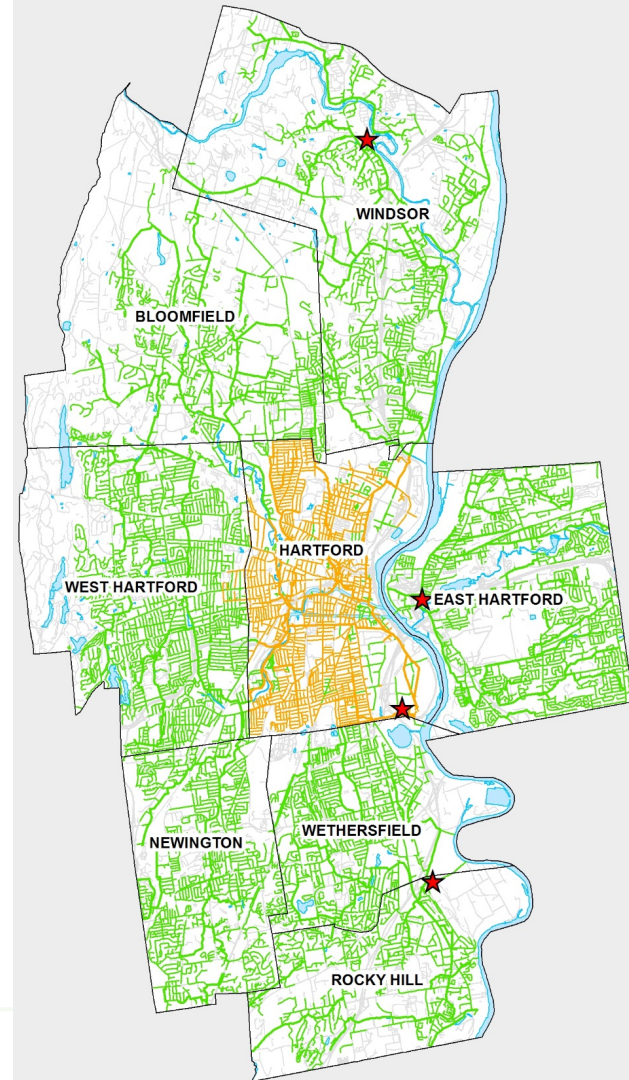
Agenda

- Background on MDC and the Clean Water Project (CWP)
- Summary of projects and accomplishments to date
- Explain the need for Integrated Planning
- Summary of MDC's CSO LTCP Update and Integrated Plan submission



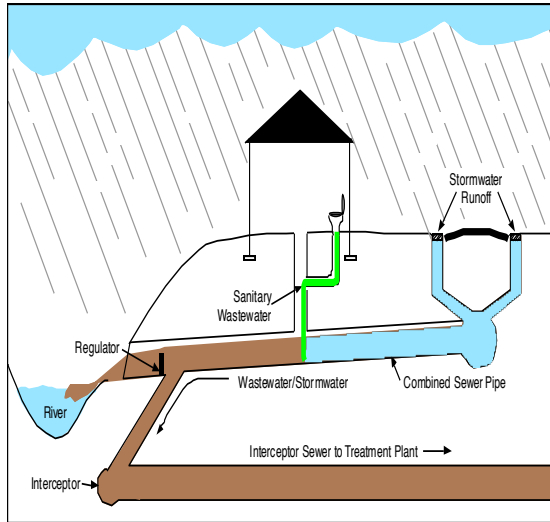
Background on MDC

- Nonprofit municipal corporation chartered in 1929
- Provides water and wastewater services
- Wastewater System
 - 4 water pollution control facilities (WPCFs)
 - 1,200 miles of sewers
 - ❖ 1,013 miles of separate sewers (green)
 - ❖ 187 miles of combined sewers (orange) located in Hartford and a small portion of West Hartford



Wastewater System Issues – CSOs and SSOs

- Separated sewers with 8 structural SSOs
- Combined sewers with 84 CSOs discharging 1 billion gallons during typical year pre CWP



Clean Water Project (CWP)



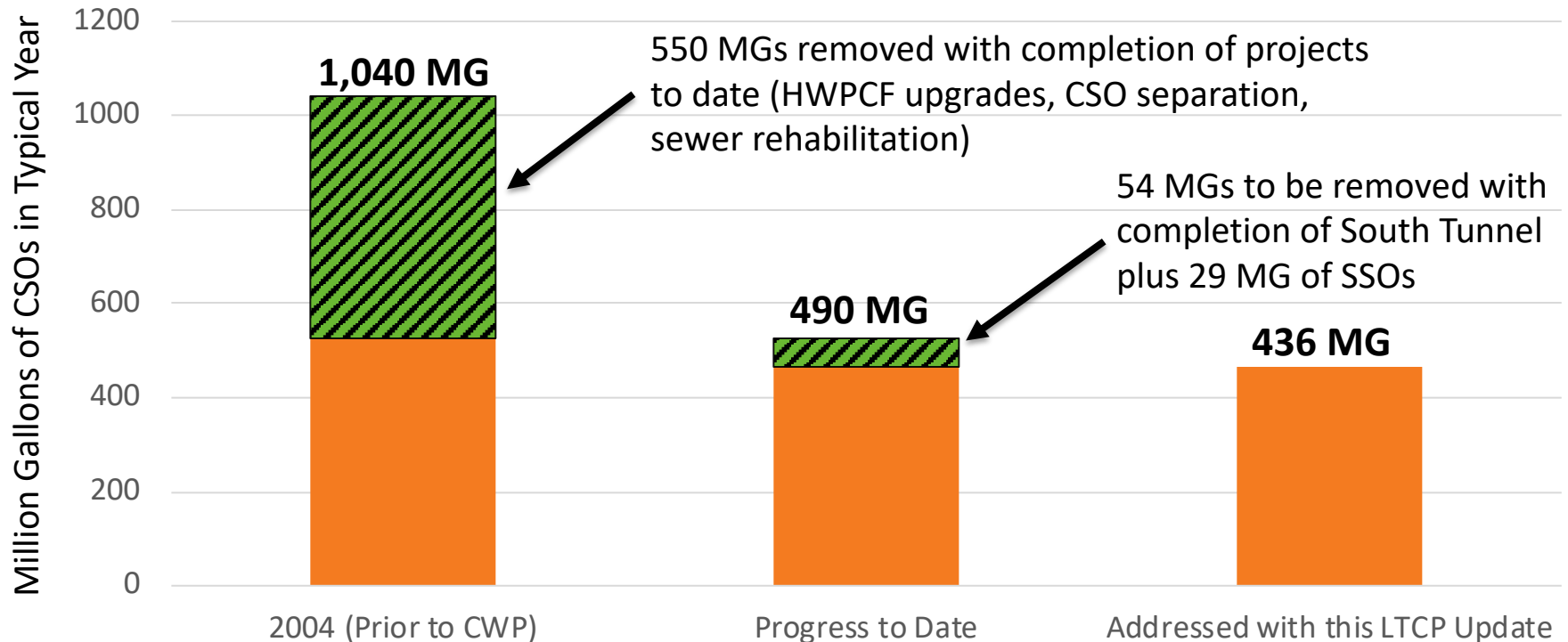
- The CWP is the MDC's response to:
 - 2006 **Consent Order** from CTDEEP for CSOs
 - ❖ Projects outlined in a Long-Term CSO Control Plan (CSO LTCP) report
 - 2006 **Consent Decree** from USEPA for SSOs
 - ❖ Projects outlined in a SSO Master Plan (separate from this CSO LTCP)
- Project Goals
 - Control CSOs to streams/ivers to 1-year storm
 - Eliminate CSO outfalls to Wethersfield Cove and North Branch Park River
 - Reduced Nitrogen discharged to the Connecticut River
 - Eliminate SSOs outside of Hartford to 25-year storm

Summary of Projects Completed to Date

- Sewer rehabilitation
- Sewer separation
- HWPCF Upgrade
- RHWPCF Upgrade
- SHCST (South Tunnel)
- Green Infrastructure



Accomplishments – Typical Year CSO Discharge



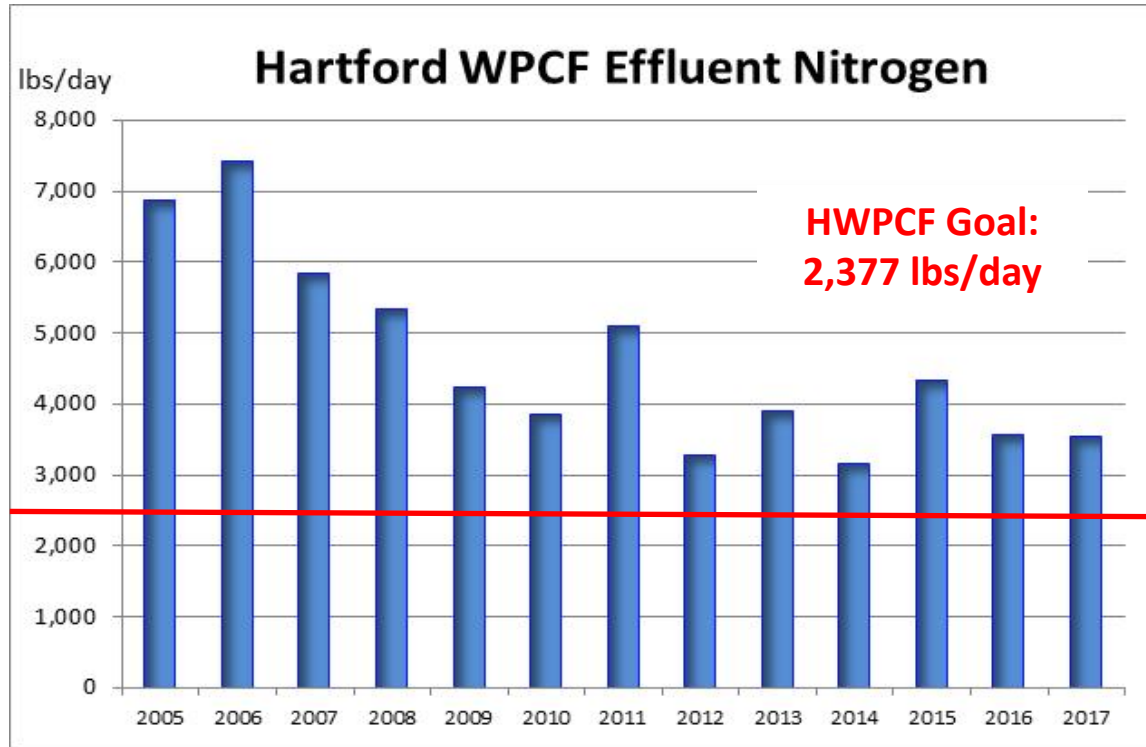
Save the Sound released a report in fall 2018 that Long Island Sound water quality is improving - <http://www.ctenvironment.org/save-the-sound/>

Accomplishments – SSO Reduction

- 4 of 8 SSOs closed with work completed to date
- Goff Brook SSO will be addressed in 2019
- Remaining 3 will be addressed with completion of South Tunnel in 2023
- CCTV inspected 92% of sewer system since 2006 (CMOM)
 - Remaining 8% is within off-road areas
- Rehabilitated 17% of sewer system



Accomplishments – Nitrogen Reduction

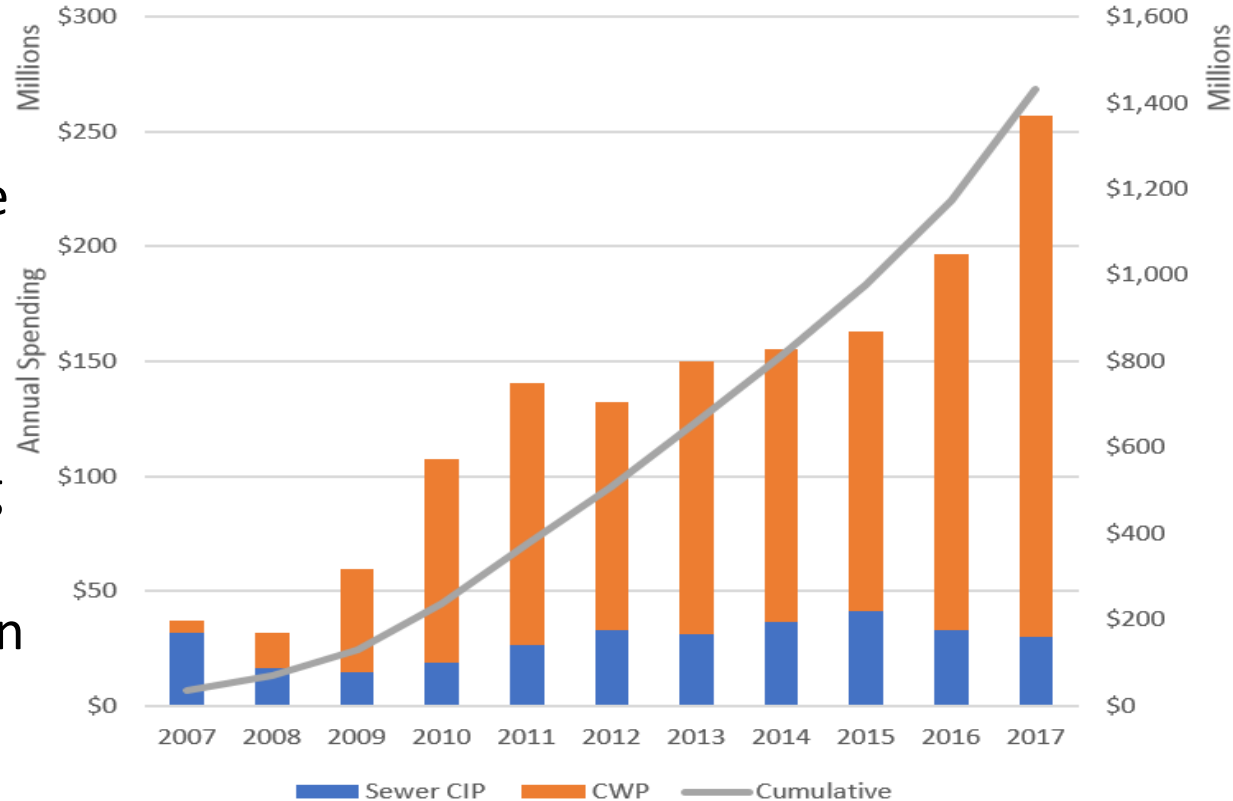


The HWPCF has eliminated nearly 1,000,000 pounds of Nitrogen per year from the Connecticut River since 2009

Why Integrated Planning?

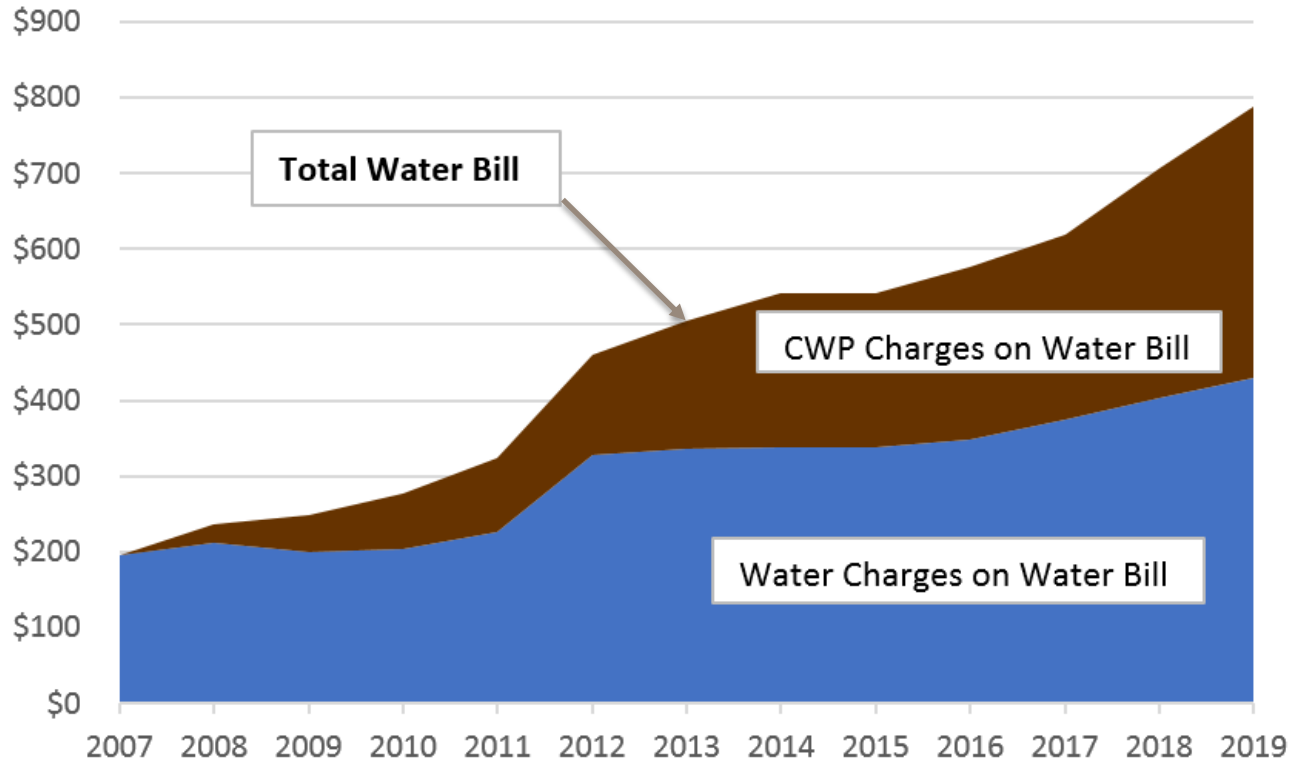
- Spending rate over the last decade is not sustainable
- Goal = Control annual spending by extending CWP schedule with 40-year Integrated Plan

CIP Sewer and Clean Water Project Expenditures



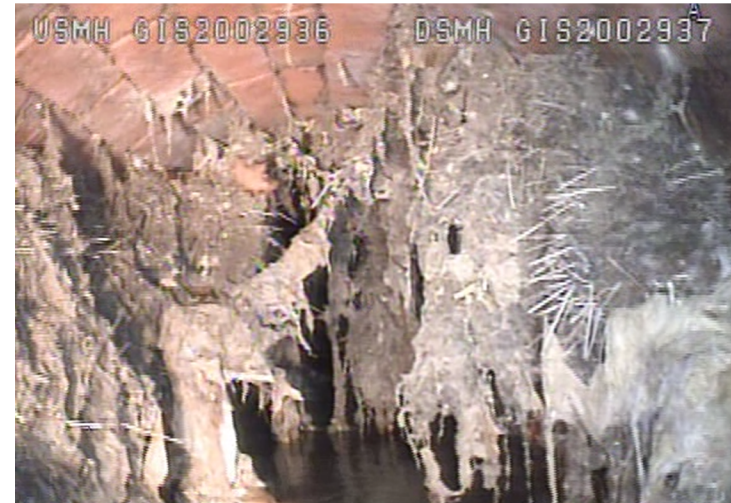
Average Annual MDC Customer Water Bill

- Water bill in 2007 was \$195
- Water bill has **quadrupled** in 12 years to \$788



- Excludes general sewer operations/debt that is paid through Ad Valorem

Why Integrated Planning?



CMOM Program from EPA required inspection of sewers has identified \$450M in additional repairs needed

Why Integrated Planning?



Blue Hills Avenue Hartford
June 2018



Asylum Avenue West Hartford
August 2018

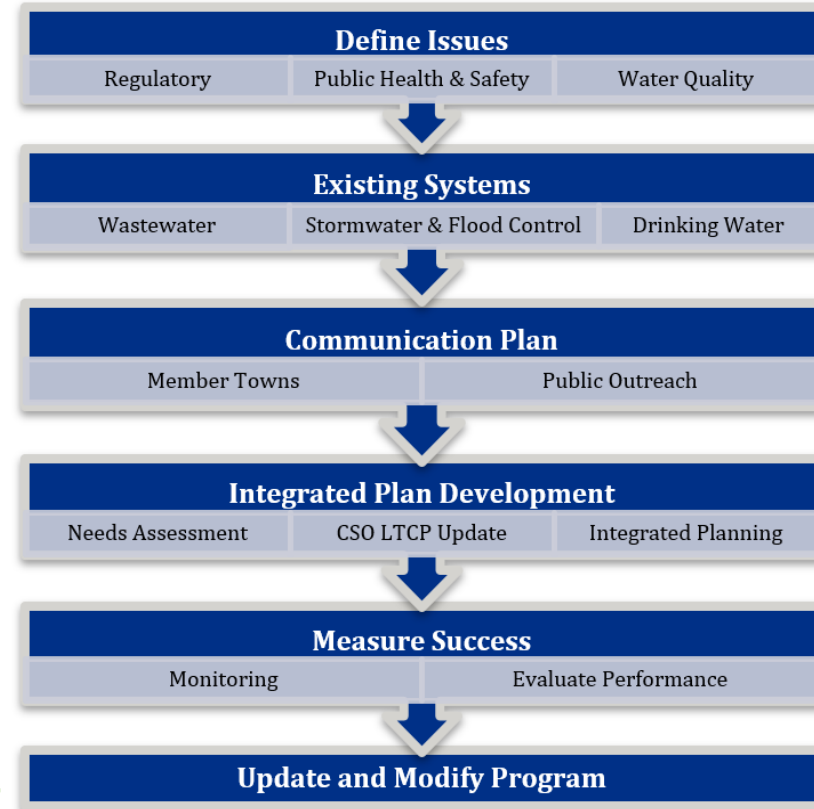


Capen Street Hartford
September 2018

- In 2017, MDC performed 17 emergency repairs at a cost of about \$3.5M
- In 2018, MDC performed 13 emergency repairs at a cost of about \$5.3M

Integrated Planning Framework

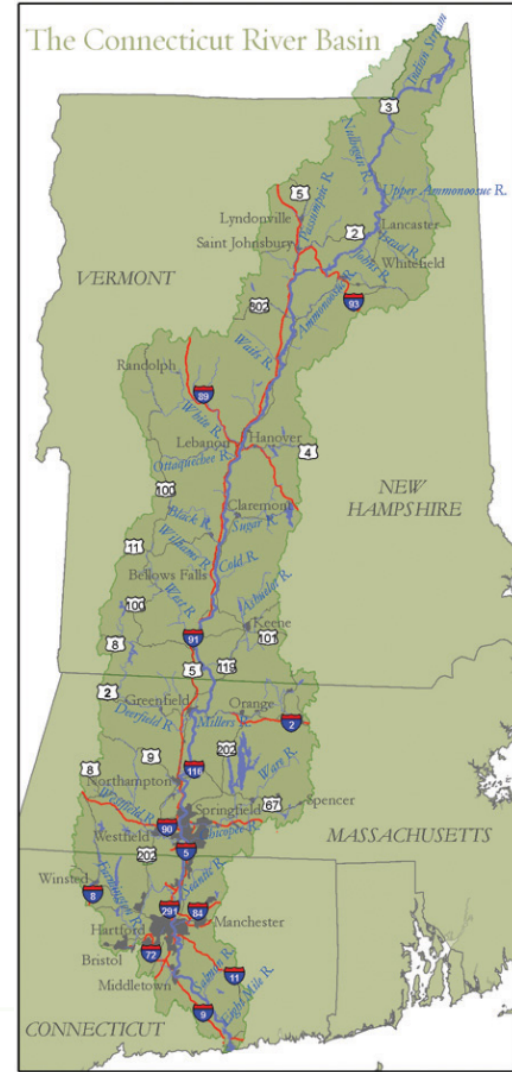
- EPA guidance from 2012 allows for Integrated Planning
 - CSO Consent Order
 - SSO Consent Decree
 - NPDES permit compliance
 - **CMOM investigations/repair**
 - Stormwater (i.e., MS4)
- Consider affordability analysis
 - 2 percent of median household income (MHI) is considered high burden by EPA
 - Hartford MHI is about \$32k



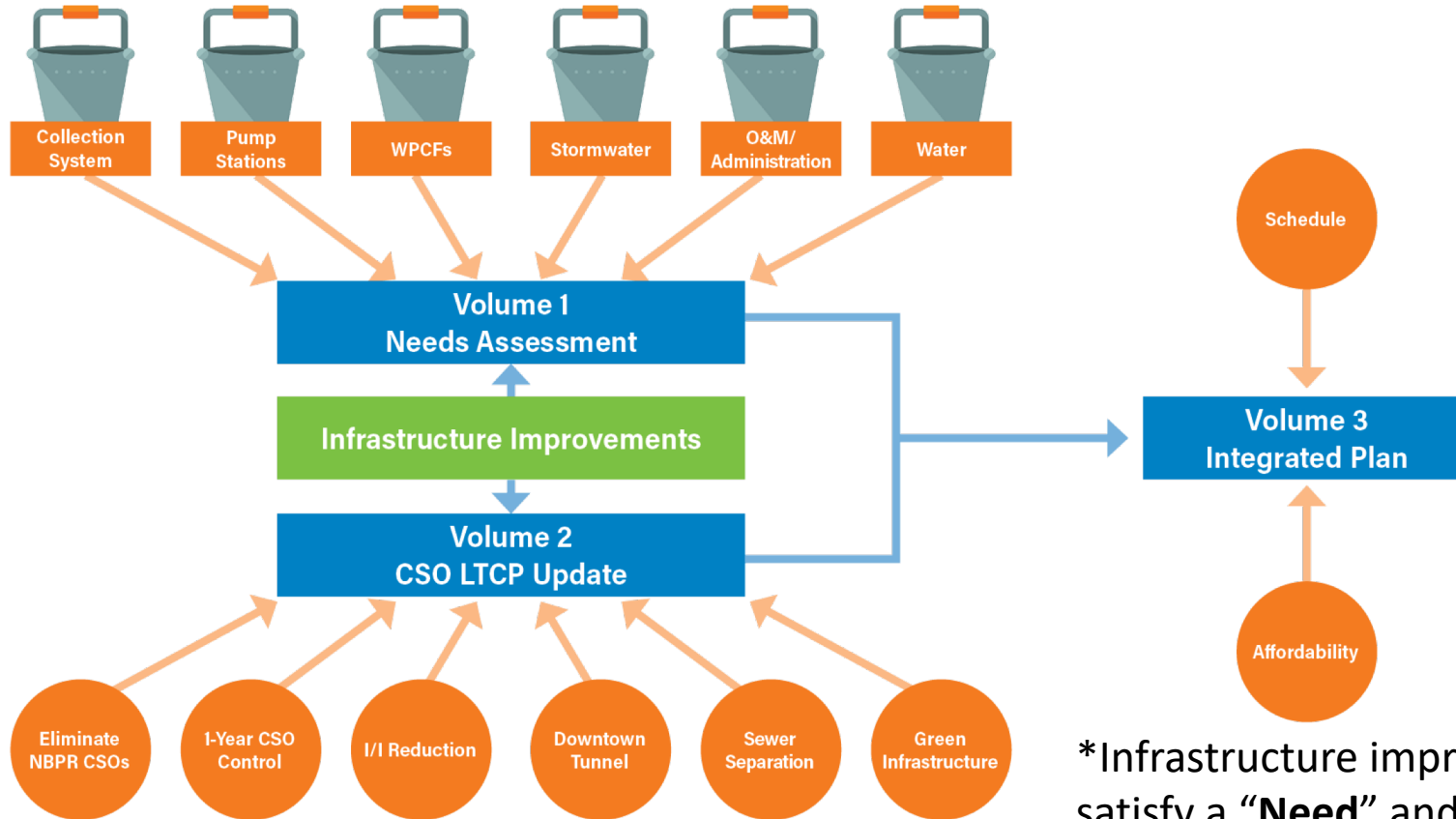
Water Quality

- LTCP report section on water quality
 - Impairments, uses, downstream/upstream, etc.
- Met with member towns to discuss stormwater needs/issues (MS4, TMDLs, flood control system)
- Knee-of-the-Curve analysis
 - Knee at 3- to 6-month storm
 - 1-year storm not cost-effective
- Current regulatory requirements
 - Elimination of CSOs to sensitive waterbodies
 - Control remaining CSOs to 1-year storm
 - MDC committed to meeting these requirements
- CT River basin may want to consider comprehensive study to define long-term cost-effective goals/needs

*Map from Connecticut River Conservancy website and prepared by the Trust for Public Land



MDC Integrated Planning Approach



*Infrastructure improvements that satisfy a **“Need”** and accomplish **CSO reduction** ranked high

Projection of Existing System Needs (2018 \$s)

- Wastewater needs

- 1,200 mile collection system - \$564M
- 4 Water Pollution Control Facilities - \$168M
- 77 pump stations - \$50M
- Combined water/sewer projects - \$324M

\$1.11B

- Drinking water needs

- 1,500 mile water distribution system - \$1,471M
- 2 Water Treatment Plants - \$672M
- Watershed/dams/hydro - \$119M
- 18 pump stations - \$36M
- 26 storage tanks - \$59M
- Combined water/sewer projects - \$324M

\$2.68B

- Stormwater needs

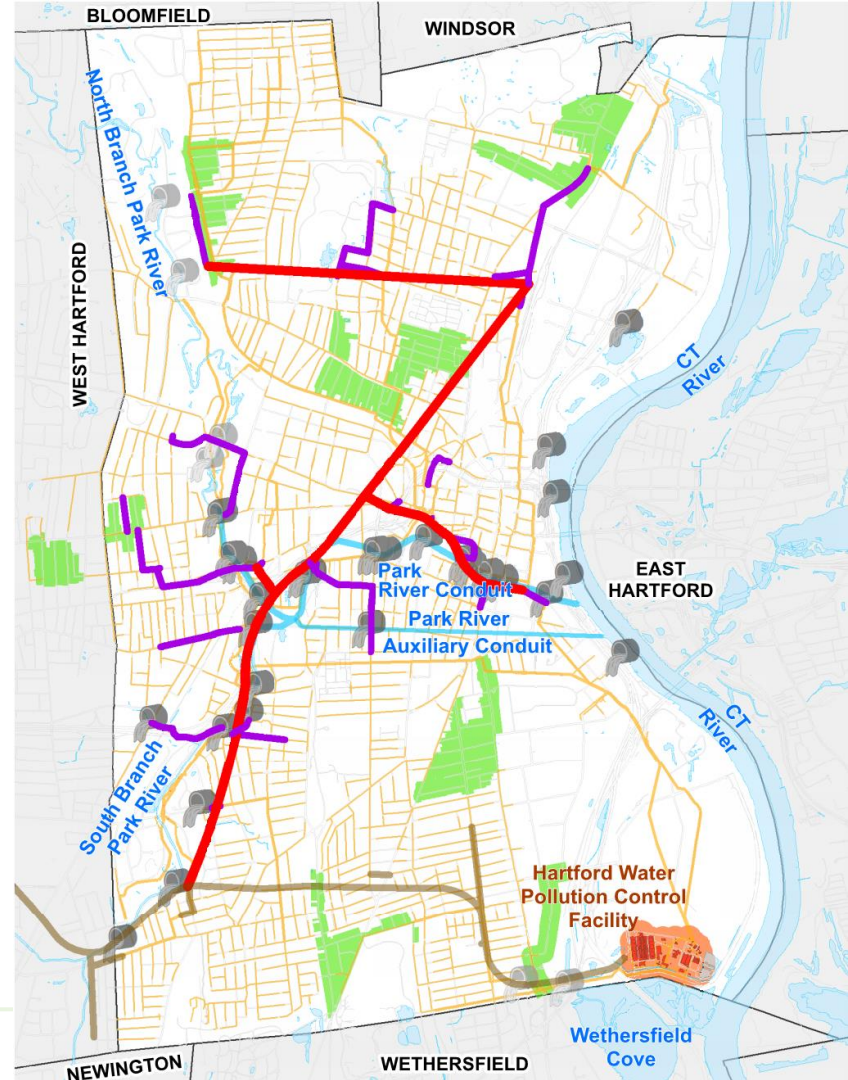
- System improvements - \$193M
- MS4 implementation - \$153M
- Flood control - \$393M

\$0.74B

\$4.5B!!

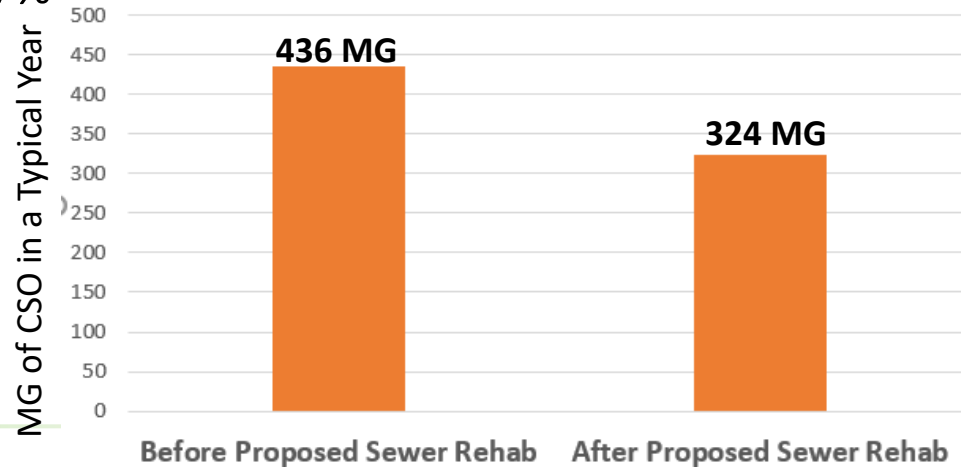
Remaining work from 2014 LTCP

- 2029: North Tunnel online
 - Eliminate CSOs to North Branch Park River
 - Capture remaining CSOs up to and including 1-year storm
- About **\$800M remaining**

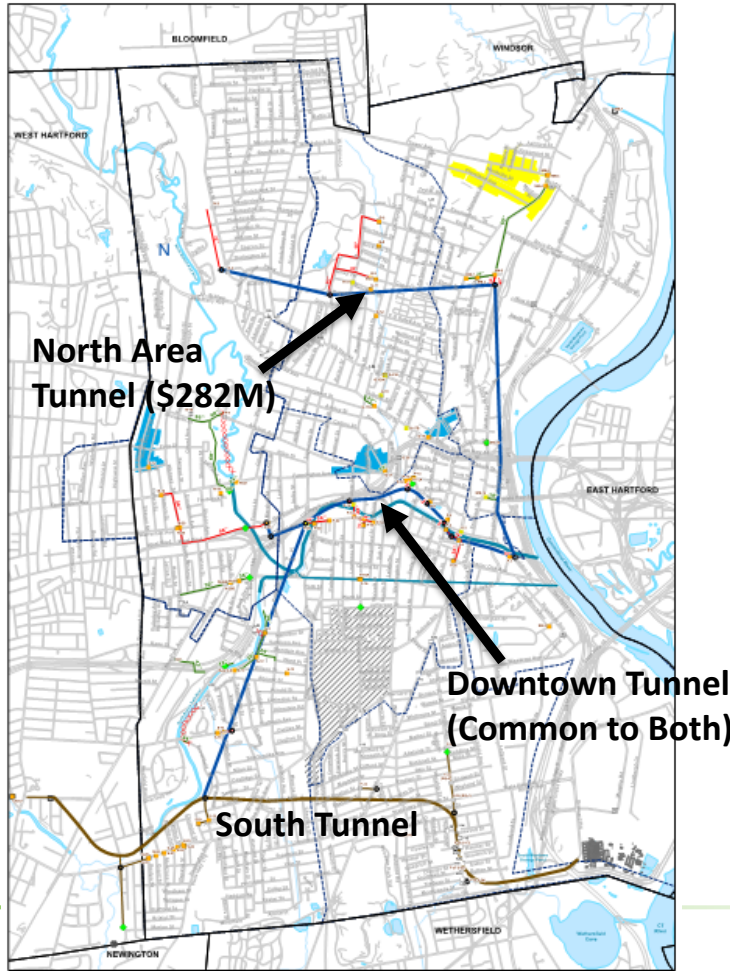


Baseline Assumption Address Failing Infrastructure

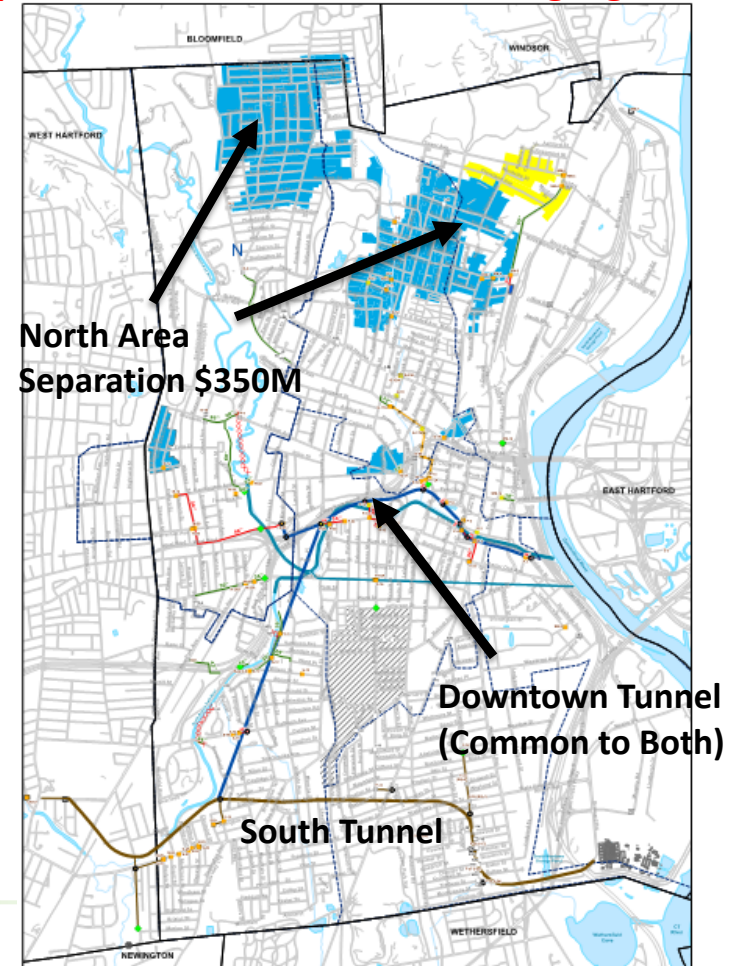
- 10% I/I removal (sewer rehabilitation) and interceptor cleaning program at a cost of about \$400M in HWPCF sewershed
 - Rehab of 33% of sewer pipe -> maintain 50 year average pipe age
 - Rehab of 67% of sewer pipe in Hartford -> reduce pipe age from 74 to 39
 - Reduce CSOs in typical year by 25%
 - Reduce CSOs in 1-year storm by 17%



**Current Plan (Status Quo) over 14 years:
North Area Tunnel**



**Proposed Integrated Plan over 40 years:
Separation in North/Address Aging Sewers**



Categories, Criteria and Effective Weights

Category and Criteria	Category Weight	Criteria Weight	Effective Weight
Environmental <ul style="list-style-type: none"> ▪ Water Quality ▪ CSO and SSO Reduction ▪ Public Health and Safety 	20%	<ul style="list-style-type: none"> ▪ 25% ▪ 50% ▪ 25% 	<ul style="list-style-type: none"> ▪ 5% ▪ 10% ▪ 5%
Regulatory <ul style="list-style-type: none"> ▪ CO/CD Compliance ▪ NPDES Compliance ▪ MS4 Compliance 	30%	<ul style="list-style-type: none"> ▪ 40% ▪ 50% ▪ 10% 	<ul style="list-style-type: none"> ▪ 12% ▪ 15% ▪ 3%
Infrastructure <ul style="list-style-type: none"> ▪ O&M Consideration ▪ Asset Renewal ▪ I/I Reduction ▪ Project Integration 	30%	<ul style="list-style-type: none"> ▪ 33% ▪ 33% ▪ 17% ▪ 17% 	<ul style="list-style-type: none"> ▪ 10% ▪ 10% ▪ 5% ▪ 5%
Asset Management <ul style="list-style-type: none"> ▪ Consequence of Failure ▪ Probability of Failure 	10%	<ul style="list-style-type: none"> ▪ 50% ▪ 50% 	<ul style="list-style-type: none"> ▪ 5% ▪ 5%
Probable Construction Cost <ul style="list-style-type: none"> ▪ Present Value of Project ▪ Cost per Gallon Removed 	10%	<ul style="list-style-type: none"> ▪ 50% ▪ 50% 	<ul style="list-style-type: none"> ▪ 5% ▪ 5%

Financial Considerations/Affordability Analysis

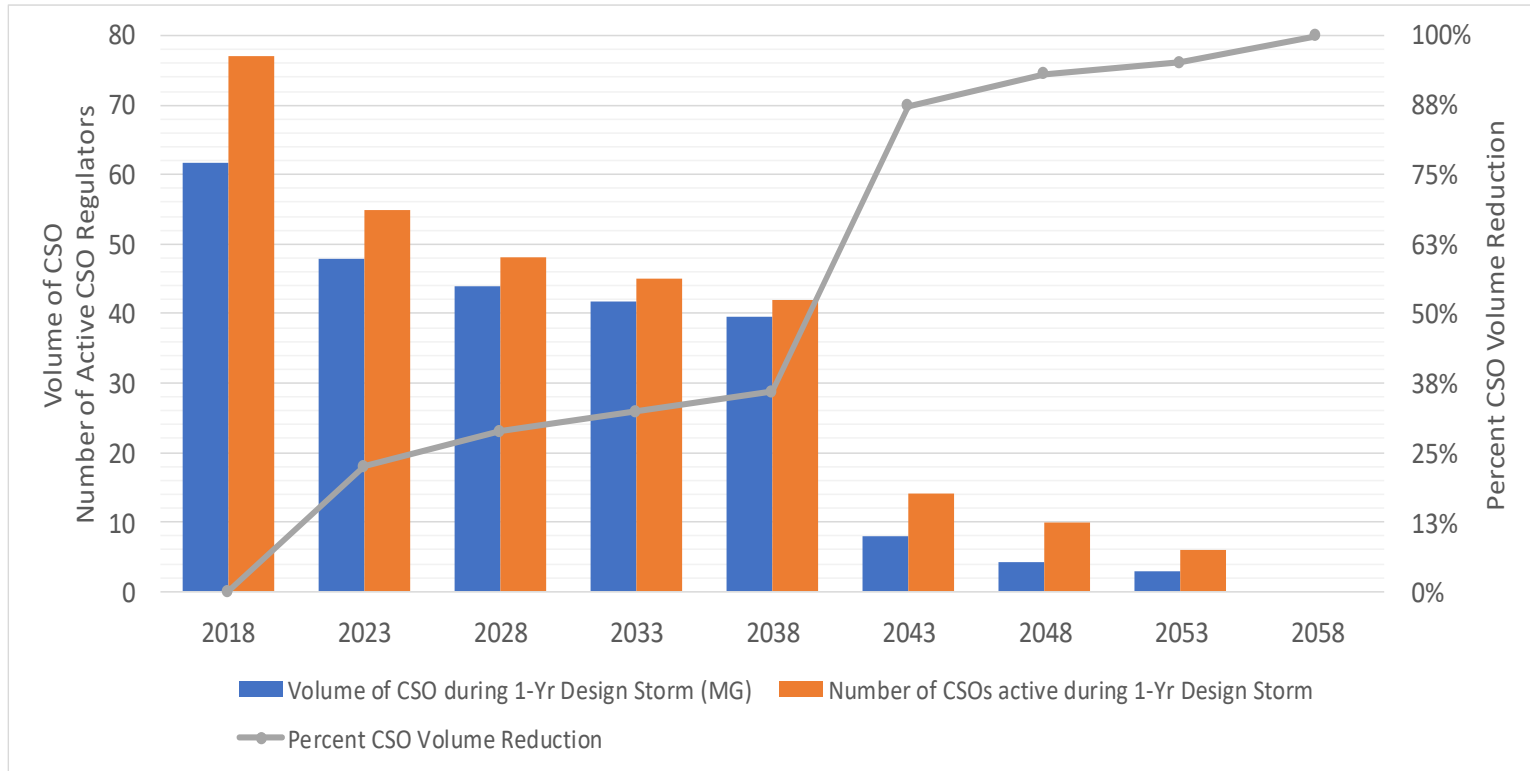
- Calculated average sewer cost for residential customer
 - Clean Water Project Charge on water bill based on consumption
 - Property tax payment for MDC assessment (Ad Valorem)
- Goal - Stabilize Ad Valorem for Member Town tax purposes
- Goal – Customer pays on average equal to or less than prior plan
- Assumed CT DEEP Clean Water Fund grants/loan will continue
- Compared multiple alternatives
- Maintained Hartford under 2% median household income
- Resulted in proposed 40 year plan

Proposed Implementation Schedule

- 160 projects identified, scored and ranked
- Rankings came back in groupings - schedule required logic/magic
- No more than 4 dig projects at once
 - 2 separation and 2 trunk sewer projects
- No more than 4 lining projects at once
 - 2 small diameter and 2 large diameter
- Logical project layout coupled with affordability considerations resulted in **40-year schedule**
- **\$8.4B** with escalation for **sewer**
- **\$6.6B** with escalation for **water**

Project Name	Opinion of Probable Cost ¹	2019	2020	2021	2022	2023	2024	2025	2026	2027
G-21 Sewer Separation	\$4.5					\$0.2	\$0.3	\$2.4	\$1.6	
NNBI Replacement/Relocation Project	\$37.5	\$0.0	\$0.0	\$0.0	\$8.0	\$15.0	\$14.5			
N-12 Sewer Separation and CMOM	\$4.4	\$0.0	\$0.0	\$0.0	\$1.0	\$2.0	\$1.4			
Kane Brook (S-9 and S-13)	\$30.9	\$0.0	\$8.0	\$10.0	\$12.9					
G-19 Sewer Separation	\$2.5									\$0.2
OSBI Replacement and Pope Park Pipe	\$11.3					\$0.5	\$0.6	\$6.2	\$4.0	
Park Street Phase I, II, and III Improvements	\$23.9							\$1.0	\$5.0	\$9.0
Tower Ave Area Sewer Rehabilitation	\$3.4	\$0.4	\$3.0							
G-10/12 Sewer Separation and CMOM (80/20)	\$7.4									
Collection System Sewer Gate Replacement	\$5.8		\$0.6	\$5.2						
Granby 7 Sewer Separation and CMOM (80/20)	\$13.6	\$0.5	\$0.5	\$0.4	\$2.4	\$5.0	\$4.8			
Granby 9 Sewer Separation and CMOM (80/20)	\$11.5							\$0.4	\$0.4	\$0.4
Granby 10 Sewer Separation and CMOM (80/20)	\$16.6									
Granby 3A Sewer Separation and CMOM (80/20)	\$12.7									
Granby 3B Sewer Separation and CMOM (80/20)	\$12.6									
G-9/11/23 Sewer Separation and CMOM (80/20)	\$10.6									
Granby 8 Sewer Separation and CMOM (80/20)	\$11.5				\$0.3	\$0.4	\$0.4	\$4.4	\$3.0	\$3.0
Granby 6 Sewer Separation and CMOM (80/20)	\$14.6									
Northeast Interceptor (NEI) Replacement	\$18.6									
HAI Improvements	\$22.7									\$0.7

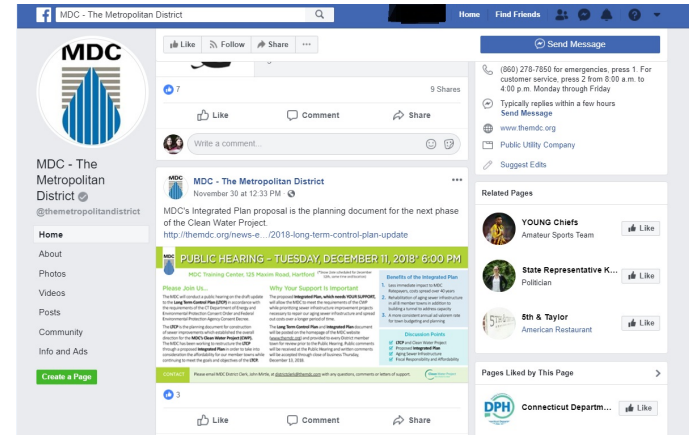
CSO Reduction with Recommended Plan



- Steady CSO reduction progress over proposed implementation schedule
- Downtown Tunnel has largest CSO reduction benefit

Outreach, Outreach, Outreach

- 17 workshops with CTDEEP
- 6 MDC Board presentations – open to public
- Town Council presentations – open to public
- Several groups (senior centers, rotary club, Bloomfield CEEC, neighborhood groups)
- Newspaper advertisements, mailings, social media, bill insert and press releases
- DPW/Engineering staff
- MDC consumer advocate
- Public hearing



PUBLIC HEARING – TUESDAY, DECEMBER 11, 2018* 6:00 PM

MDC Training Center, 125 Maxim Road, Hartford (*Snow Date scheduled for December 12th, same time and location)

Please Join Us...

The MDC will conduct a public hearing on the draft update to the **Long Term Control Plan (LTCP)** in accordance with the requirements of the CT Department of Energy and Environmental Protection Consent Order and Federal Environmental Protection Agency Consent Decree.

The **LTCP** is the planning document for construction of sewer improvements which established the overall direction for the **MDC's Clean Water Project (CWP)**. The MDC has been working to restructure the **LTCP** through a proposed **Integrated Plan** in order to take into consideration the affordability for our member towns while continuing to meet the goals and objectives of the **LTCP**.

Why Your Support Is Important

The proposed **Integrated Plan**, which needs **YOUR SUPPORT**, will allow the MDC to meet the requirements of the CWP while prioritizing sewer infrastructure improvement projects necessary to repair our aging sewer infrastructure and spread out costs over a longer period of time.

The **Long Term Control Plan** and **Integrated Plan** document will be posted on the homepage of the MDC website (www.themdc.org) and provided to every District member town for review prior to the Public Hearing. Public comments will be received at the Public Hearing and written comments will be accepted through close of business Thursday, December 13, 2018.

Benefits of the Integrated Plan

1. Less immediate impact to MDC Ratepayers, costs spread over 40 years
2. Rehabilitation of aging sewer infrastructure in all 8 member towns in addition to building a tunnel to address capacity
3. A more consistent annual ad valorem rate for town budgeting and planning

Discussion Points

- ✓ LTCP and Clean Water Project
- ✓ Proposed **Integrated Plan**
- ✓ Aging Sewer Infrastructure
- ✓ Fiscal Responsibility and Affordability

CONTACT

Please email MDC District Clerk, John Mirtle, at districtclerk@themdc.com with any questions, comments or letters of support.



Benefits of Integrated Plan

- Prioritize infrastructure renewal
- Projects that address an infrastructure need **and** water quality benefit prioritized
- Slow down/control pace of spending
- Meets the objectives of CTDEEP Consent Order



Thank you!

Questions??