The Metropolitan District

West Hartford Town Council Presentation
April 27, 2016

TOPICS

- TRANSPARENCY AND SENATE BILL 422
- WATER SUPPLY, SAFE YIELD AND DROUGHT
- MDC HIGH VOLUME USER / INDUSTRIAL RATES
- COST OF SERVICE / AD VALOREM

TRANSPARENCY & SENATE BILL 422

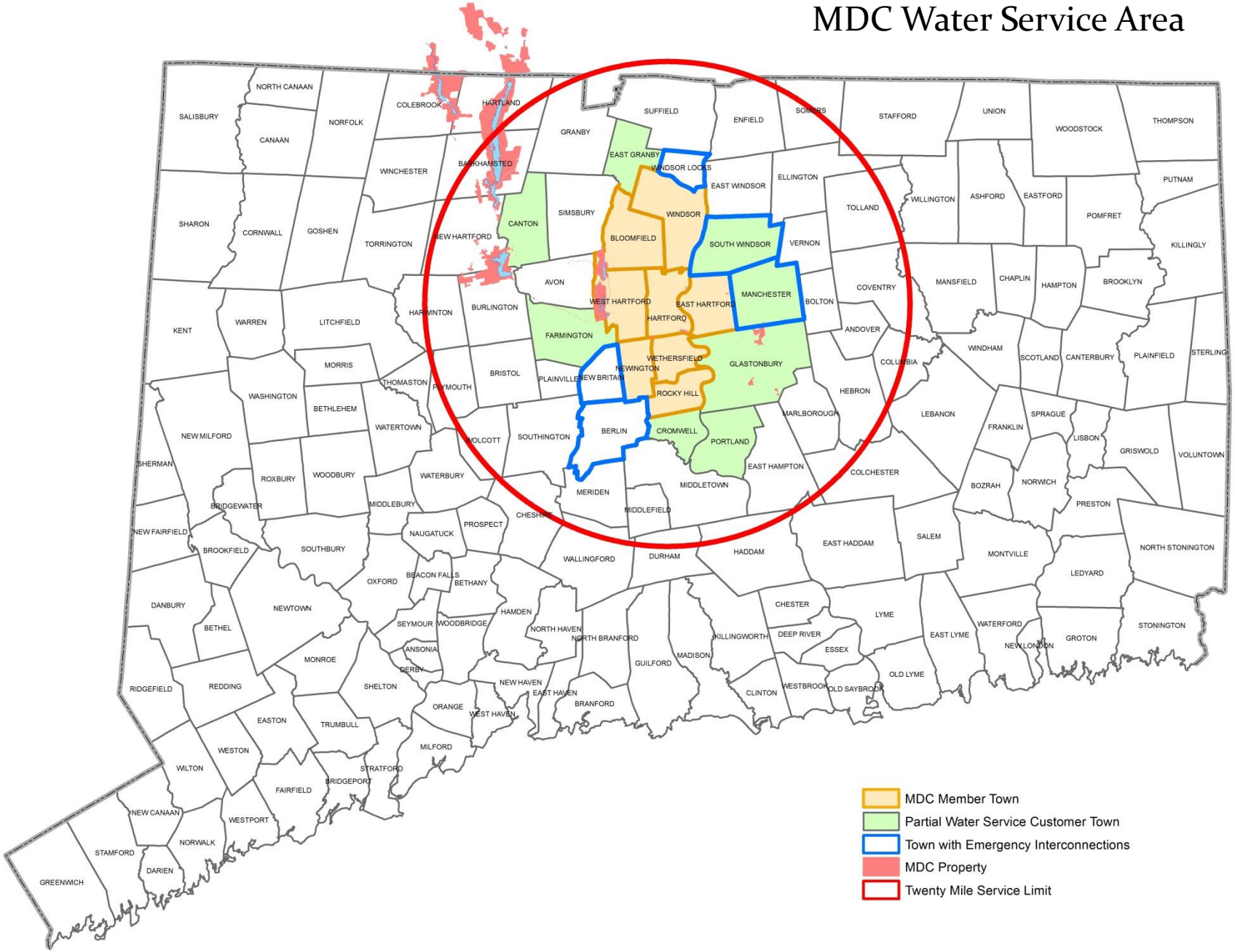
- Senate Bill 422 Chronology
  - March 11, 2016 - Public Hearing on Raised Senate Bill 422 in Legislative Planning and Development Committee.
  - March 18, 2016 - Planning and Development Committee passes Senate Bill 422 out of committee with substitute language.
  - April 19, 2016 – Senate passes Senate Bill 422 with a strike-all amendment LCO # 4193.

ACTIVE WATER SUPPLY SOURCES

- Nepaug Reservoir
  - 9.5 BG
  - completed in 1917
- Barkhamsted Reservoir
  - 30.3 BG
  - completed in 1940

These reservoirs provide drinking water to a population of approximately 400,000 people

MDC Water Service Area

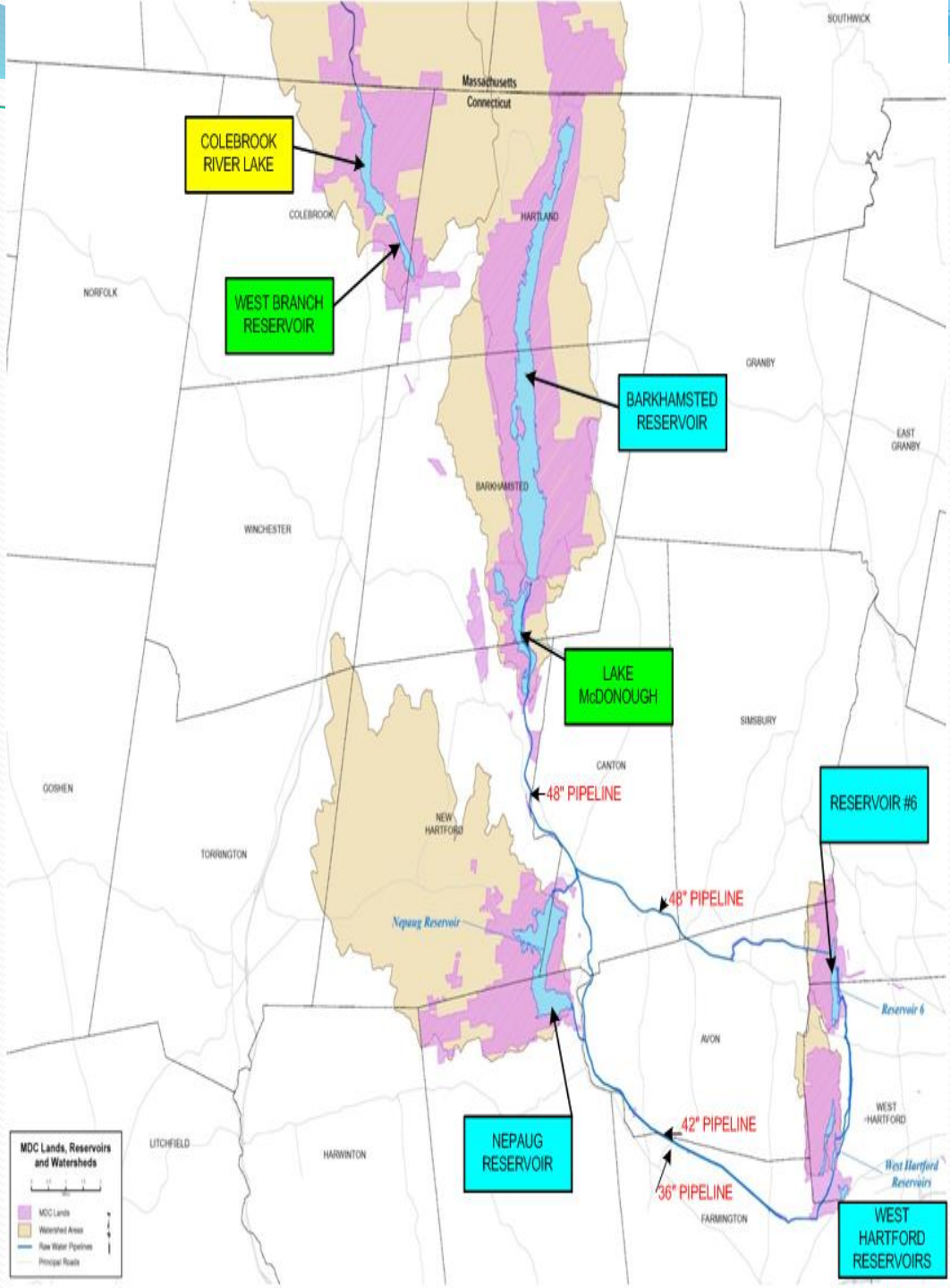


The FARMINGTON RIVER WATERSHED has a DRAINAGE AREA of 609 SQUARE MILES.

BARKHAMSTED RESERVOIR
Watershed is 53.8 square miles
(8.8% of River watershed).
NEPAUG RESERVOIR
Watershed is 31.9 square miles (5.2 % of River watershed).
MDC DRINKING WATER RESERVOIRS TOTAL

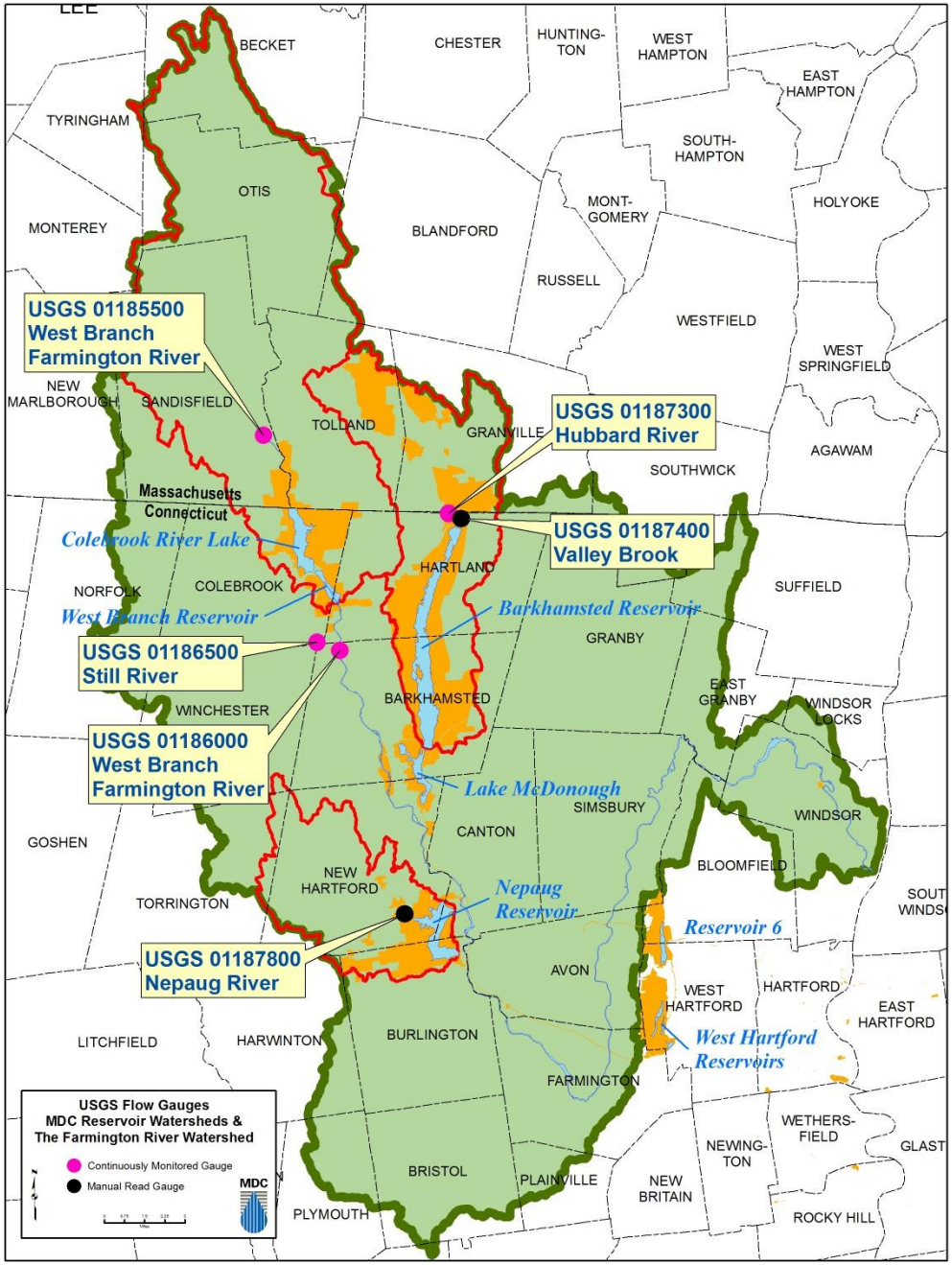
- MDC Watershed 85.7 square miles
- (14 % OF TOTAL FARMINGTON RIVER watershed)

- MDC Reservoirs Are All Rated Class Aa.
- Lake McDonough Is Rated Class A.
- The Farmington River Mainstem Is Rated Class B
- Under Connecticut Law "Class B" Waters Cannot Be Used For Drinking Water Supply
- Designation Of West Branch And Colebrook River Lake As "Potential Drinking Water" Sources Protects The West Branch From Future Industrial And Wastewater Discharges.
- The MDC does not make any withdrawals directly from The Farmington River



WATER SAFE YIELD

- **Is there enough water supply to safely serve the Niagara bottling plant in Bloomfield without affecting the remaining customers served by the MDC?**
- The CT DPH approved "SAFE YIELD" for the Barkhamsted/Nepaug Reservoir System is 77.1 MGD
- The MDC uses a more conservative approach (1960s drought) than the 1-in-100 year drought analysis required of all water companies by the CT DPH.
- Safe Yield using the CT DPH guidelines would be 83.9 MGD for Barkhamsted and Nepaug reservoirs.
- Safe yield calculation was developed and approved in 1996.DPH, DEEP, OPM and PURA reviewed and approved the water supply plan in 2003 and 2012.
- Industrial use has dropped from 17 MGD in the 1980s to 2 MGD, a reduction of 15 MGD as a result of conservation but also due to the loss of industry in the region.



MDC uses the 1960's drought to calculate its safe yield as it is the worst on record in CT, with a 16 inch rainfall deficit.

Stream flow gages serve as real stream flow data confirmation that the safe yield calculations based on the drought of 1965 are still valid today.

1960s DROUGHT

YEAR	Average Daily Production (MGD)	Total Annual Precipitation Nepaug Reservoir (inches)	Precipitation Deficit (100 YR AVG 47" per year)	Reservoir Levels		
				Percent Capacity End of Year (Barkhamsted + Nepaug)	Volume in Storage End of Year (Billion Gallons)	Days Supply at Average Daily Demand (Days)
1965**	49.11	31.34	-15.66	42.0	16.7	340
2001	58.94	42.99	-4.01	77.8	30.9	525
2015	49.60	41.31	-5.69	87.9	35.0	705

**Safe yield of 77.1 MGD is based on the extreme drought event of 1965

WHY THE 1960S DROUGHT IS STILL APPROPRIATE

- MDC's reservoirs are LARGE, Multi-Year Reservoirs.
- Larger reservoirs have sufficient storage to carry them through short term droughts (less than 1 year).
- Large reservoirs with storage ratios greater than 150 MG per Square mile are insensitive to short term droughts and have sufficient storage to last through multi year droughts such as 1960s.
- Historic Drought of Record for Connecticut.
- Almost 16-inch rainfall deficit.
- More Severe than 100 year drought.
- MDC's analysis uses real stream flow gage data which is monitored for changes.

DROUGHT

- **What happens if there is a drought?**
  - CT DPH developed and published standards – which the MDC follows.
  - All public water supply utilities currently maintain water supply plans with drought contingency protocols reviewed and approved by the State of CT's DPH, DEEP, PURA and OPM.
  - The large Barkhamsted and Nepaug Reservoirs are able to withstand both short and longer multi-year drought. The addition of Niagara to the MDC's customer base (1.8MGD) would have no significant impact on drought contingency planning.

DROUGHT

- **Why aren't residents given priority over businesses in a drought?**
  - A mandatory restriction on public water for commercial entities so residential customers can wash their cars and water their lawns would effectively halt all commercial activity in the state, closing restaurants, manufacturing facilities, hospitals and alike. The effect on employees and the resultant loss of tax revenue would be catastrophic.
  - CT DPH already has the discretion to prioritize water customers in the event of an emergency under existing law.
  - ***As to residential use, the MDC's drought contingency plan does not include ANY restrictions on the use of water for drinking and sanitary purposes under any circumstances.***
  - Historically, any time the MDC has requested a water use restriction in the last 50 years, it has been voluntary, including the severe drought of the 1960s.
  - In fact, actual data recorded at the MDC's Nepaug Reservoir over the last 100 years has shown that the annual precipitation has ***increased*** by almost 10% over that time period.

WATER SALES IN THE MDC'S EXCLUSIVE SERVICE AREAS AND SALES OF EXCESS WATER

- **Why did the MDC sign a contract or "deal" with Niagara with no public input?**
  - There is no contract with Niagara. The MDC does not have contracts with any of its customers within its exclusive service area. The MDC does have contracts for sale of excess water to customers outside of its exclusive service area.
  - Examples outside of service area:
    - Portland
    - Unionville

CAPACITY ANALYSIS

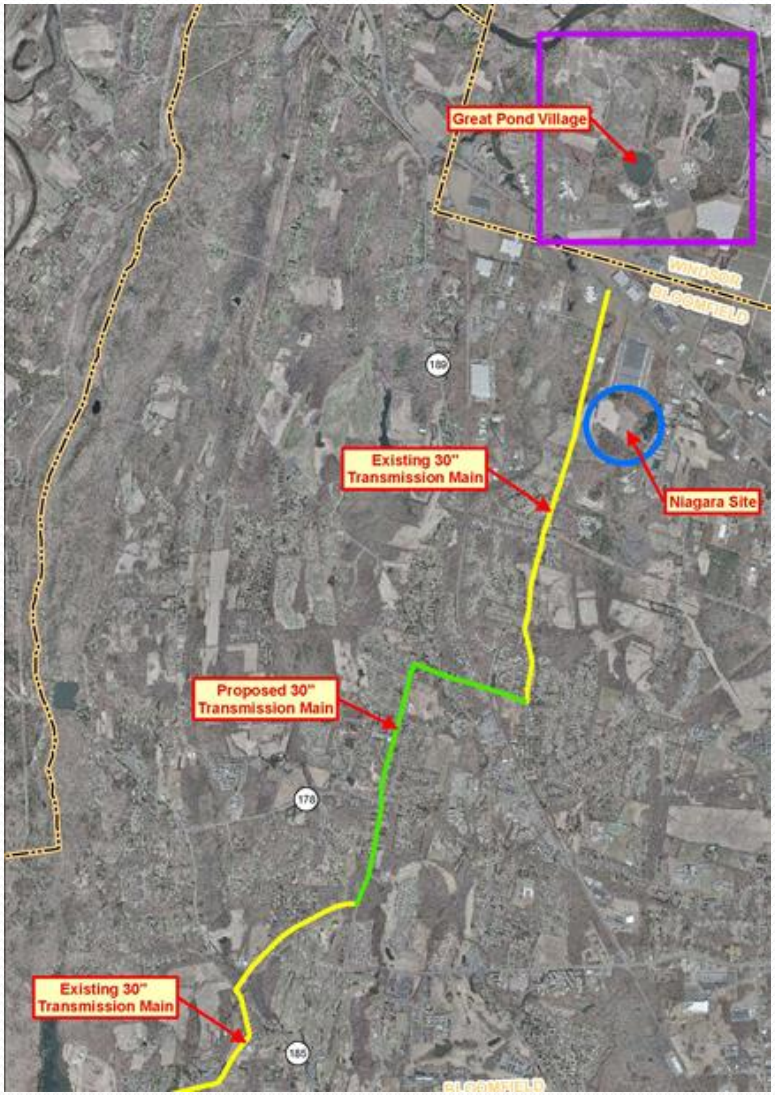
- For new developments, MDC requires a capacity analysis to review proposals to work through each project stage: Planning, Design and Construction. Many developments large and small never actually materialize.

- The process was created to ensure the MDC's protection and preservation of a safe and adequate water supply for our towns, such as West Hartford, and is initiated with a capacity analysis request from the Developer.

- Capacity Analysis procedure is strictly an engineering and analytical exercise to determine whether or not capacity exists within our system.

- The MDC does not have the authority to deny any development of water capacity if it is available.

CAPACITY ANALYSIS – BLOOMFIELD TRANSMISSION MAIN



- Phases I & II built in 1984 & 1985
- Work expedited due to town drainage and paving projects
- Planned phase III delayed
- Need returned with Great Pond Development in 2010
  - Multi-use residential/ commercial retail with 4,000 residential units to use an estimated 1.5 mgd per day water consumption
  - Phase 1 construction start late summer 2016
- Needed for storage tank development in service area

INDUSTRIAL RATES

- **What is the MDC's industrial rate?**
  - The MDC industrial rate is open to **ANY** customer that uses more than 500,000 gallons per day from a single meter, averaged over billing period.
  - **ALL** customers pay the rate of $2.66 per CCF for the first 500,000 gallons per day
  - After 500,000 gallons per day, an industrial rate of $2.16 per CCF applies.
  - The 500,000 gallon per day limit designated to incentivize development of large customers.
  - All of the major water utilities in Connecticut have an industrial rate for large volume users
  - MDC does not sign contracts for supply of water to customers in its service area
  - Only contracts are with other water utilities to provide water and hold water in reserve for future use

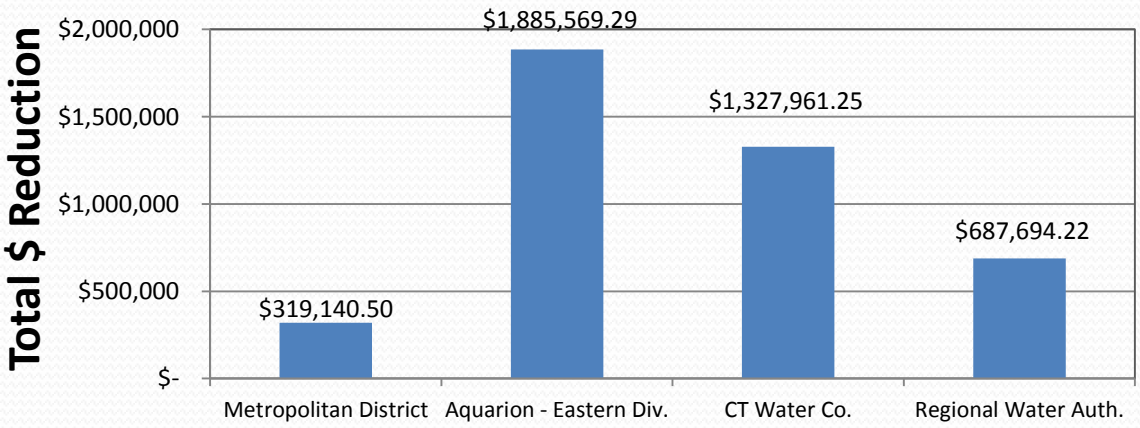
Comparison of Industrial Water Rates

Every other large water system in CT (30,000 or more services) has a reduced water rate

	Standard Residential Rate $/CCF	Reduced Rate $/CCF	Reduction at 450,000 GPD $ per year	Reduction at 900,000 GPD $ per year	Reduction at 1,350,000 GPD $ per year	Reduction at 1,800,000 GPD $ per year
Metropolitan District	$ 2.66	$ 2.16	$ -	$ 99,570.31	$ 209,355.47	$ 319,140.50
Aquarion - Eastern Div.	$ 4.23	$ 2.08	$ 468,682.06	$ 940,977.80	$ 1,413,273.55	$ 1,885,569.29
CT Water Co.	$ 5.92	$ 4.40	$ 331,990.31	$ 663,980.62	$ 995,970.94	$ 1,327,961.25
Regional Water Auth.	$ 3.68	$ 2.90	$ 171,923.55	$ 343,847.11	$ 515,770.66	$ 687,694.22

Other Water Utilities with Reduced Rates

- New Britain Water Dept.
- Groton Utilities
- Jewett City Water Co.
- Southington Water Dept.
- Torrington Water Co.
- Watertown Fire District
- Winsted Water Works
- Cromwell Fire District



INDUSTRIAL WATER RATES IN OTHER REGIONS

SPRINGFIELD WATER AND SEWER COMMISSION

Water Rates for Fiscal Year 2016	
Residential	$2.78 per 100 cubic feet
Commercial	$2.78 per 100 cubic feet
Industrial	$2.07 per 100 cubic feet
Municipal	$2.07 per 100 cubic feet

Water
CITY OF PHILADELPHIA
LIFE LIBERTY AND YOU™

Monthly Water Usage	Charge Per Mcf
First 2 Mcf (0 to 2 Mcf)	$39.05
Next 98 Mcf (2.1 to 100 Mcf)	31.54
Next 1,900 Mcf (100.1 to 2,000 Mcf)	28.95
Over 2,000 Mcf	21.98

PROVIDENCE WATER

Residential rate: $3.044 per HCF.

Commercial rate: $2.901 per HCF.

Industrial rate: $2.848 per HCF.

THE CITY OF COLUMBUS
ANDREW J. GINTHER, MAYOR

Commercial	WMIC ZQIC
First 15 CCF PER MO	3.340
Next 235 CCF PER MO	2.870
Next 1,750 CCF PER MO	2.230
Next 8,000 CCF PER MO	2.100
Next 10,000 CCF PER MO	1.850
Balance of CCFs PER MO	1.820

Portland Water District
Portland, ME

For the first	100 cubic feet	included in minimum charge
For the next	2,900 cubic feet	2.19 per 100 cubic feet
For the next	7,000 cubic feet	1.81 per 100 cubic feet
For the next	40,000 cubic feet	1.60 per 100 cubic feet
In excess of	50,000 cubic feet	0.90 per 100 cubic feet

Bangor Water District
[Home] [Contact Us] [Links]

The **quarterly** minimum bill is $36.45 (5/8" meter) based on 9 hundred cubic feet (HCF) minimum

For usage over 9 HCF, HCF is billed at $2.44 per HCF up to 210 HCF

Usage between 210 HCF and 15,000 HCF is billed at $2.14 per HCF

TY OF IN

Indianapolis

Monthly Consumption			Rate per CCF
First	15 CCF		$3.072
Next	185 CCF		2.967
Next	800 CCF		2.701
Next	4,000 CCF		1.828
Over	5,000 CCF		1.393

PGH2O
Pittsburgh Water and Sewer Authority

Account Classification	Water Allocation	Sewer Allocation	Total Combined Rate
Residential Property	$5.66	$3.99	$9.65
Commercial Property	$5.52	$3.89	$9.41
Industrial Property	$5.05	$3.56	$8.61
Health or Education Property	$8.18	$5.76	$13.94
Fire Systems (use other than reported fire – Rule 304.9)	$5.27	$3.71	$8.98

City of St. Louis Water Division

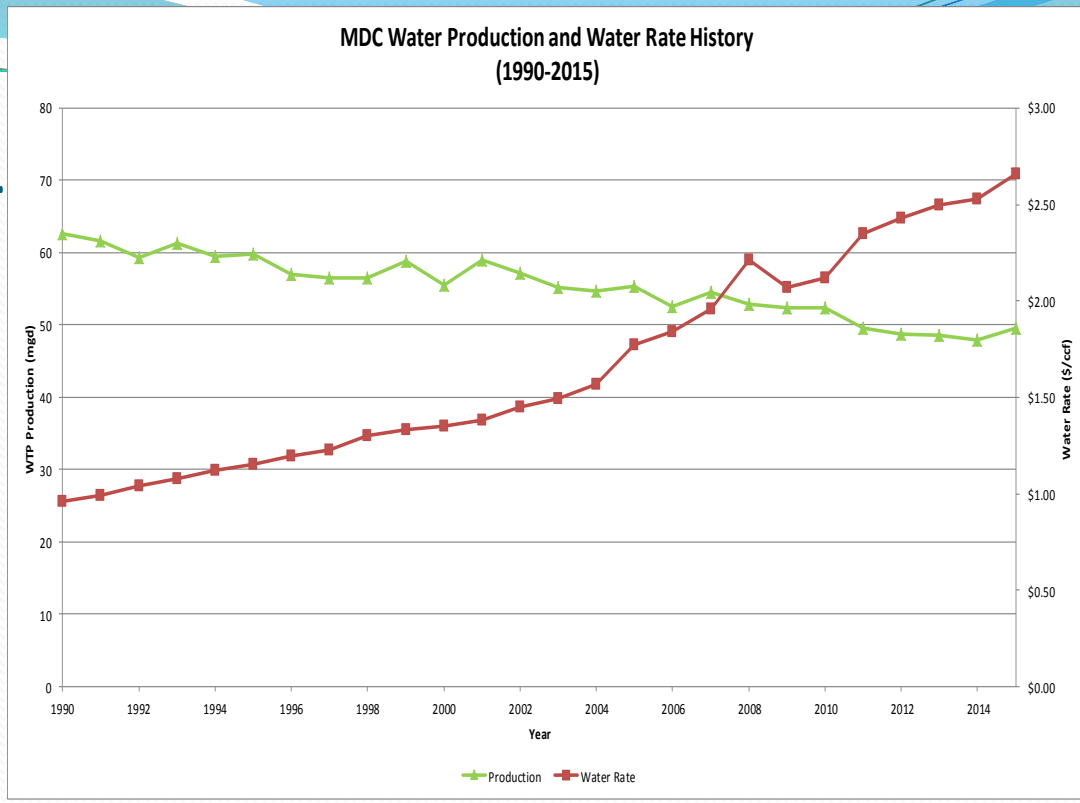
- For the first 25,000 cubic feet per billing, $1.77 per 100 cubic feet of water
- For the next 1,975,000 cubic feet per billing, $1.38 per 100 cubic feet of water
- Over 2,000,000 cubic feet per billing, $1.04 per 100 cubic feet of water

Milwaukee Water Works
Safe, Abundant Drinking Water.

Water Usage in Ccf	Milwaukee non-residential
First 5,000	$1.99
Next 15,000	$1.28
Over 20,000	$1.15

WATER RATE EFFECT

- Declining demand
- Fixed costs to operate
- Spread cost over smaller base



- If Niagara utilized 1.8 MGD for 2016
  Decrease water rate by $0.10 per CCF
- $10 per average residential customer

$100's for small businesses, restaurants

$1,000's to $10,000's for hospitals, towns, housing auth.

Comparable effect on Clean Water Project Charge

MDC SERVICE COST – PER ANNUM

- How much does it cost a West Hartford single family residence for a year of service from the MDC?
  - An average West Hartford single family homeowner will incur costs as follows (based upon 2016 Adopted Rate Structure):

MDC Water Service (120 ccfs per year)	$ 480.96
MDC Sewer Service (Ad Valorem)	$ 318.83
MDC Clean Water Project Charge (120 ccfs)	$ 390.00
Total MDC Charges per year	$1,189.79

MDC WATER UTILITY FUND

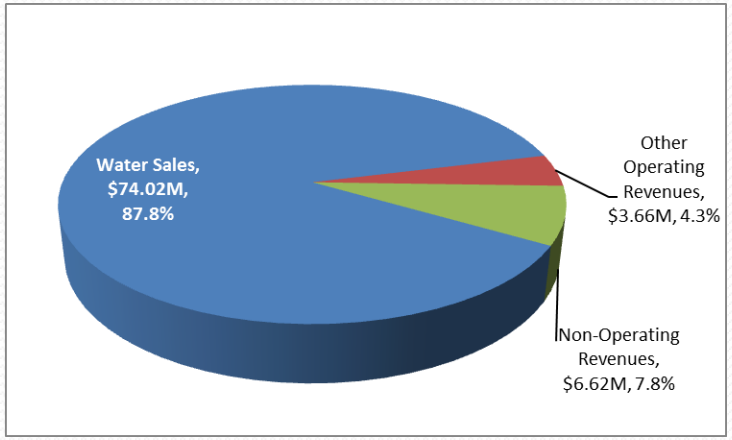
Water Utility Revenues

- Uniform rate structure - $74.0M
  - Water Use Charge – volumetric charge based upon consumption (73% of water sales)
  - Customer Service Charge – fixed quarterly charge based upon meter service size (27% of water sales)

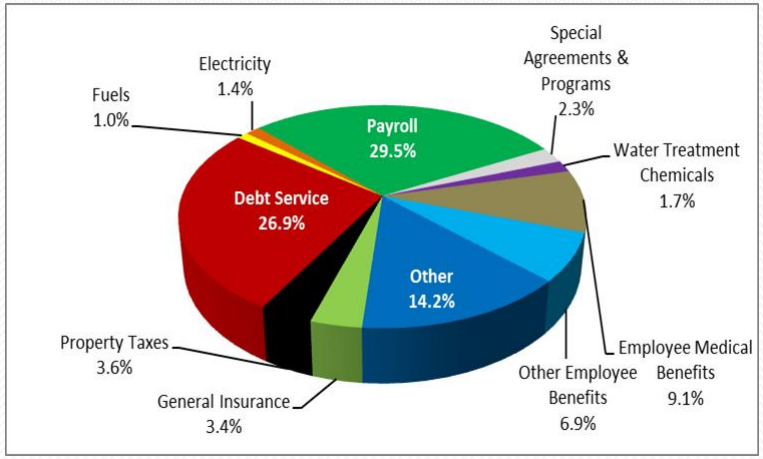
Water Utility Operating Expenses

- Infrastructure driven (Fixed Costs)
  - As of December 31, 2014 $634.0M in capital assets
  - Debt Service accounts for 26.9% of operating budget
  - Continued capital investment required to maintain service level
- Significant requirement of human capital to support, maintain, and repair water system
  - Payroll and benefits account for 45.5% of operating budget
    - Majority of employees subject to collective bargaining unit agreements

2016 Adopted Operating Revenues



2016 Adopted Operating Expenses



MDC SEWER FUND – AD VALOREM

MDC Compiled Charter Section 3-13 Tax: Amount, Apportionment and Collection

"The total amount of such tax shall be at least sufficient to pay the net estimated expenses and current charges of the district for the ensuing year and the same shall be divided among the town in the proportion provided for which the total revenue received yearly from direct taxation in each town, including that received by all taxing districts therein, and including also that which would have been received from all property exempted from taxation under the provisions of any special act or by town vote……, as averaged for the three fiscal years next preceding is to the total revenue so determined at such time as averaged in all the towns in the district."

MDC SEWER FUND – AD VALOREM

- "including also that which would have been received from all property exempted from taxation under the provisions of any special act, or by town vote…"
- Payment in Lieu of Taxes (PILOT)
  - Not created by either a Special Act nor by town vote
  - Based upon current MDC Charter, not a variable in determining allocation of Ad Valorem tax within Member Towns
- Tax Abatements approved by Member Towns
  - A variable in determining allocation of Ad Valorem tax within Member Towns