



# **FY2018** ANNUAL REPORT

*Laying the Groundwork*





Cobble Mountain Reservoir, Granville, MA

*Integrity · Environment · Vision · Accountability*

# Table of Contents

Message from the Commissioners.....	2
Message from the Executive Director.....	3
Water System Map .....	4
Wastewater System Map .....	5
Watershed Protection .....	6-7
Watershed Lands Map .....	8
Water Supply and Consumption .....	9
Drinking Water Treatment.....	10-11
Wastewater Collection & Treatment .....	12-15
Field Services.....	16-17
Infrastructure Renewal .....	18-21
Technology Infrastructure.....	22
Education and Community.....	23
Customer Service .....	24
Awards & Achievements .....	25
Financial Report .....	26-28

## Mission Statement

*Our mission is to provide an uninterrupted supply of the highest quality water to our customers, to collect and treat wastewater, and to return clean water to the environment.*

**While fulfilling our mission, we strive to:**

- Conserve and protect our reliable, high-quality water supply for present and future generations
- Meet or surpass public health standards, environmental standards, and support fire protection
- Operate, maintain, improve and manage our water and wastewater infrastructure in a cost-efficient manner
- Manage finances to support Commission needs and maintain reasonable water and wastewater rates
- Maintain a safe and professional workforce
- Understand and respond to customers' expectations for service

## Message From the Commissioners

As Commissioners, our role is to steward ratepayer funds and oversee projects carried out by and on behalf of the Springfield Water and Sewer Commission (Commission). Our constant aim is to ensure the delivery of the highest quality water and sewer service to our customers at affordable rates. This includes not just the customers of today, but also of the customers of the future.

In Fiscal Year 2018 (FY18), the Commission continued to advance a portfolio of projects and initiatives that maintain and improve reliable and efficient operations, and lay the groundwork for a more modernized and resilient system for the future. As part of its central mission, the Commission also delivered 9.7 billion gallons of drinking water, and cleaned over 13.3 billion gallons of wastewater for return to the environment in FY18. The Board of Commissioners is proud to present this report on the major projects, initiatives, and work program undertaken between July 2017 and June 2018 that provided these essential services.

Behind every project undertaken in FY18 was careful assessment, prioritization and planning. The Commission

is committed to developing the most cost-effective solutions possible to the many challenges it faces. One example of such a solution is the York Street Pump Station and Connecticut River Crossing Project, for which planning significantly advanced in FY18. Two aging pipes bringing wastewater from the city are nearing the end of their useful life and have no redundancy. Three new additional lines will provide redundancy and expanded capacity, while a new pump station will transport up to 30 million more gallons/day, reducing the amount of combined sewer overflows into the river. At the same time, the existing 1940s pump station will be repurposed for flood control, making the project touch on resiliency, regulatory compliance, infrastructure renewal, and system redundancy all at once.

Similar progress occurred on the drinking water side of our system, with phase II of the West Parish Filters Water Treatment Plant Facilities Plan getting underway in FY18. The plan includes an array of technical evaluations to develop the most cost-effective strategy for performing needed improvements to the water system. The Commission

is also looking ahead in its watershed, utilizing new forestry science and principals to adjust future land management practices to protect water quality in a changing climate.

The work of maintaining and renewing a multi-faceted regional water system will never be fully complete, but the level of planning, preparation, and strategic investment as highlighted in this FY18 report is critical groundwork for the significant upgrades our system will need to carry on through the 21st

century. We are proud to share our progress from the past fiscal year, and affirm our continuing commitment to maintaining affordable rates and overseeing forward-looking and responsible stewardship of our critically important water and wastewater systems.

***If you have any questions about the content of this report, please contact the Commission at 413-452-1300.***



*From left to right: Commissioner William Leonard, Commissioner Dan Rodriguez, and FY18 Commission Chairwoman Vanessa Otero.*



## Message From the Executive Director



I am proud to present this Annual Report outlining all the progress, initiatives, and projects undertaken and completed in Fiscal Year 2018. As always, providing high-quality and reliable water and sewer services to our customers remained our dedicated focus, while the work behind the scenes to make the water flow continued to progress in ever-changing ways.

Throughout FY18 we undertook many initiatives to optimize the performance of our water and wastewater systems, while also advancing detailed long-term planning in order to make

effective and affordable infrastructure investments that are sustainable. This report contains numerous examples of these efforts, including plans for upgrades at our water treatment plant, the revision of forestry management approaches in our watershed, and preparations for a new 20-year operating contract for our wastewater treatment plant.

All this work is being undertaken in the context of rapid change and challenge in the water industry. As regulations and scientific advancements continue to drive the need for updated approaches to delivering clean water, climate change also presents new challenges in terms of infrastructure resiliency and protecting environmental water quality. It is clear that delivering high-quality water and wastewater service through the 21st century will require new thinking, partnership, innovation, and communication.

Even as we embark on designing and engineering new, modern ways to deliver a vital necessity into the future, we recognize that it is still easy to take clean, safe water for granted, especially when the infrastructure delivering it remains largely hidden and unseen. That is why outreach and education were also a focus of ours in FY18. In the

fall we invited Mayor Sarno and representatives from some of Springfield's cornerstone businesses and institutions to our reservoir to showcase how high-quality water is the source of so much activity in the region. In the spring, we hosted an exchange with major regional healthcare facilities to increase communication between their sector and ours, since healthcare depends on clean, reliable water service. We also invited area legislators to our facilities to give them a perspective of our work as they consider water-related legislation. And we continued to build important partnerships with state and federal agencies so that the voice of the second-largest water system in the state is heard.

Activities in FY19 will build on FY18's success, and bring continued value and stability to our customers. I am honored to serve our 250,000 customers alongside the Commissioners and all Commission staff at this exciting, challenging, and promising time in the water industry.

A handwritten signature in black ink, reading 'Joshua D. Schimmel'.

*Executive Director Joshua D. Schimmel*

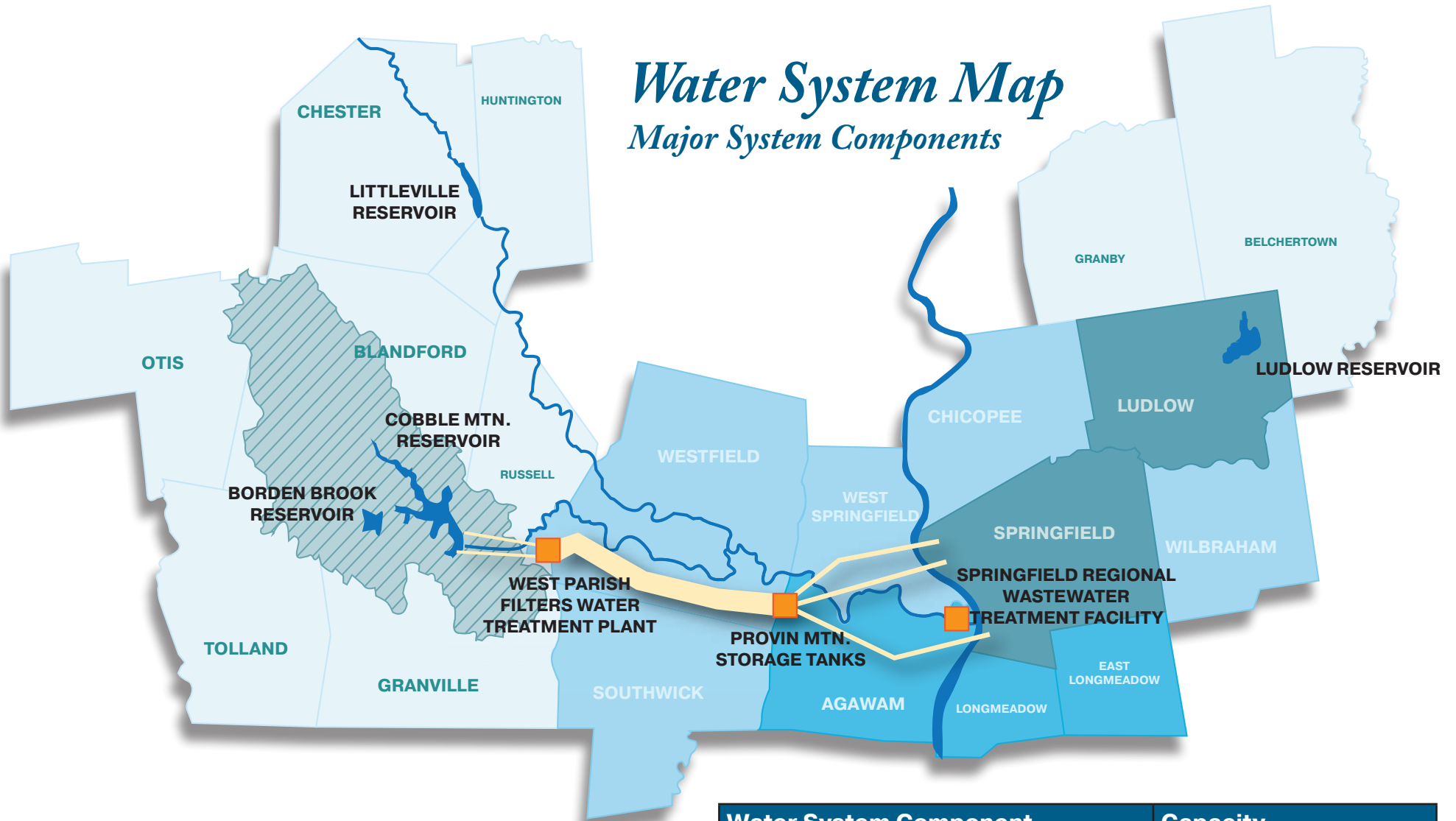


**Top:** Speaking at the Imagine a Day Without Water media event, October 2017.

**Bottom:** Speaking to the media about a new nitrogen sampling program on the Connecticut River, June 2018.

# Water System Map

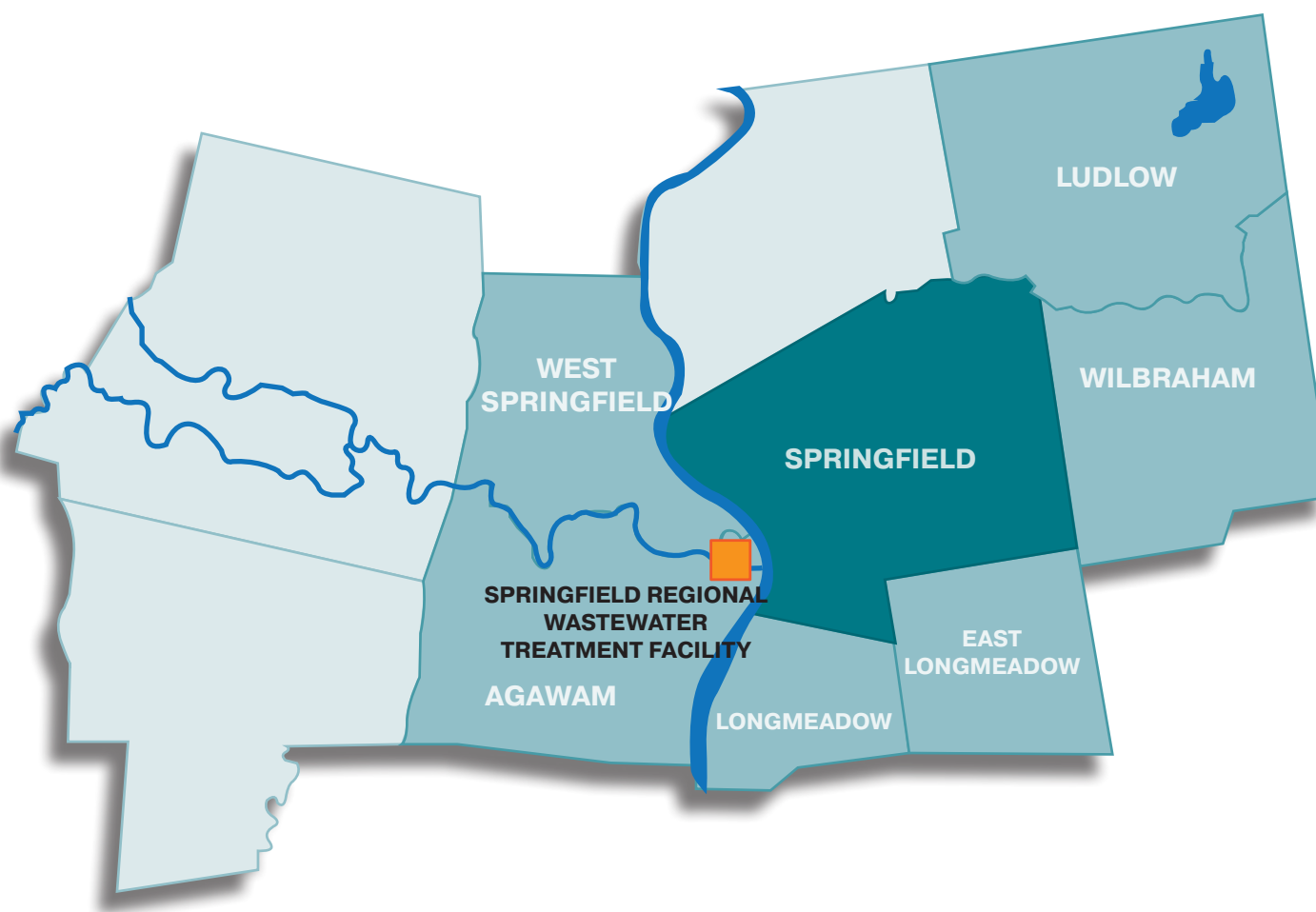
## Major System Components





<span style="display:inline-block; width:15px; height:15px; background-color:darkblue;"></span>	<b>Retail Water Communities</b>
<span style="display:inline-block; width:15px; height:15px; background-color:mediumblue;"></span>	<b>Wholesale Water Communities</b>
<span style="display:inline-block; width:15px; height:15px; background-color:lightblue;"></span>	<b>Peak Emergency Water Communities</b>

Water System Component	Capacity
Cobble Mountain Reservoir	22 Billion Gallons
Springfield Water Distribution System	500 Miles of Pipe
Ludlow Water Distribution System	80 Miles of Pipe
Borden Brook Reservoir	2 Billion Gallon Capacity
Ludlow Reservoir (Standby System)	2.2 Billion Gallon Capacity
Provin Mountain Storage Tanks	60 Million Gallon Capacity
West Parish Filters Water Treatment Plant	100 Million Gallons/Day

## *Wastewater Service Communities*



	<b>Retail Wastewater Communities</b>
	<b>Wholesale Wastewater Communities</b>

<b>Wastewater System Component</b>	<b>Capacity</b>
Springfield Regional Wastewater Treatment Facility	67 Million Gallons/Day
Sewer Collection System (Springfield)	471 Miles of Pipe

# Watershed Protection

## Watershed Overview

The thousands of forest acres surrounding Cobble Mountain, Borden Brook, and Ludlow Reservoirs are a key component to maintaining water quality. Though water treatment technology has advanced significantly since the reservoirs were constructed in the late 19th and early 20th centuries, the value of these forested acres in helping produce safe, high-quality water has remained constant and cost-effective. Forest land helps provide a natural buffer from potential contamination sources such as road runoff, agricultural operations, or

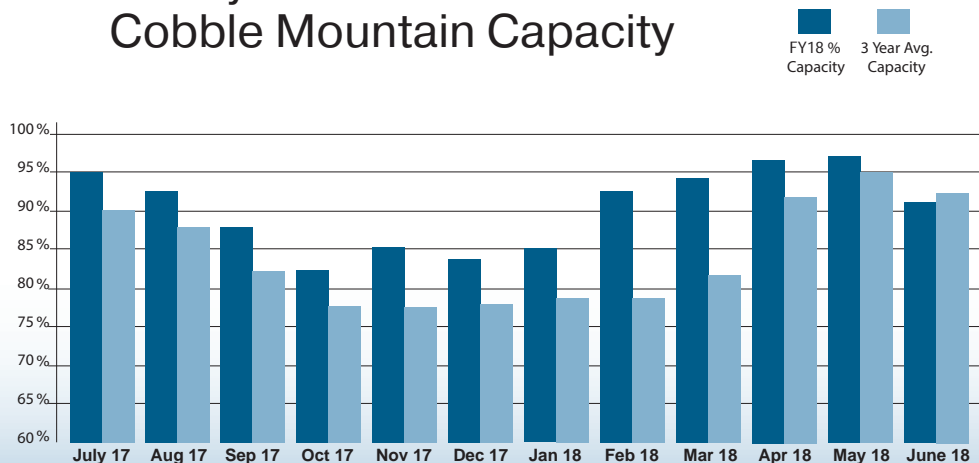
septic waste. It also captures, filters, stores, and releases rain water in a sustainable manner that keeps the reservoirs' supplies plentiful in most conditions.

Borden Brook and Cobble Mountain Reservoirs are located in the Little River watershed, which is comprised of approximately 31,000 acres (48.5 square miles). A watershed is essentially a catchment area that channels rain or snow, rivers, streams, and springs to an outlet point. Water from the Little River watershed collects in the reservoirs before flowing on to the Intake Reservoir and West Par-

ish Filters Water Treatment Plant in Westfield. In FY18 Cobble Mountain reservoir rebounded from the drought of 2016, with capacity levels ranging from 83 - 96%.

Approximately 49% of the forest land in the Little River Watershed is owned by the Commission and therefore protected from development. An additional 9% is protected by public or non-profit land protection organizations. An active land acquisition program is in place as land protection is the best approach to reduce the water supply's susceptibility to contamination. The Commission also actively manages the forest land it already owns to promote forest health and resiliency, maintain watershed access and infrastructure, and prevent encroachment and threats of contamination.

## July 2017 - June 2018 Cobble Mountain Capacity



*Above: A barred owl as encountered by the Commission's staff land steward.*

## Land Acquisition Program

In FY18 the Commission purchased 181 acres of forestland in Blandford that will provide additional water supply protection. The Commission also developed a land protection prioritization process using Geographic Information System (GIS) mapping. Parcels are prioritized based on their "Zone A" acreage (land within 400 feet of a

### Little River Watershed Land Protection

Land Protected by the Commission	49%
"Zone A" Land (within 400 feet of water) Protected by the Commission	61%
Land Protected by the Commission, State, and Non-Profit Agencies	58%





waterbody), their role in the watershed ecosystem, and the receptiveness to sale by landowners.

With new scientific knowledge advancing forest management concepts, and a changing climate signaling future challenges, the Commission has been proactively reviewing and updating its forest management program through a series of new forest stewardship plans. In FY18 the Commission contracted with a consulting forester to develop a *Watershed Forest Vision* that will serve as a framework for these plans. An assessment of 1,250 acres west of Cobble Mountain Reservoir

was also completed, and included a new stand-level plantation assessment protocol that will be used to evaluate plantation conditions across all Commission properties. The consulting forester also closely monitored a gypsy moth outbreak in the Ludlow Reservoir watershed, and assisted the Commission in developing a management response that includes selective logging.

### Land Management and Monitoring

The Commission created and filled a new land steward position in FY18 to monitor and manage Commission-owned forest land. The steward conducts boundary maintenance, wildlife and invasive species monitoring, and culvert assessments on approximately 18,000 acres of Commission-owned land. The steward also collects and updates watershed assets in GIS and in the Commission's electronic work order system, ultimately improving watershed project prioritization and implementation.

Commission staff regularly maintain grounds, access roads, gates, and culverts on watershed property. In FY18 watershed crews partnered with the Town of Granville to rehabilitate a portion of Cobble Mountain Road.

Crews also rehabilitated Commission roads and drainage on Pudding Hill Road, Borden Brook Perimeter Road, and Powerhouse Road. In addition, watershed crews utilized equipment from the Field Services department to cost-effectively repair a gravel road north of the Ludlow Reservoir.

### Ludlow Reservoir

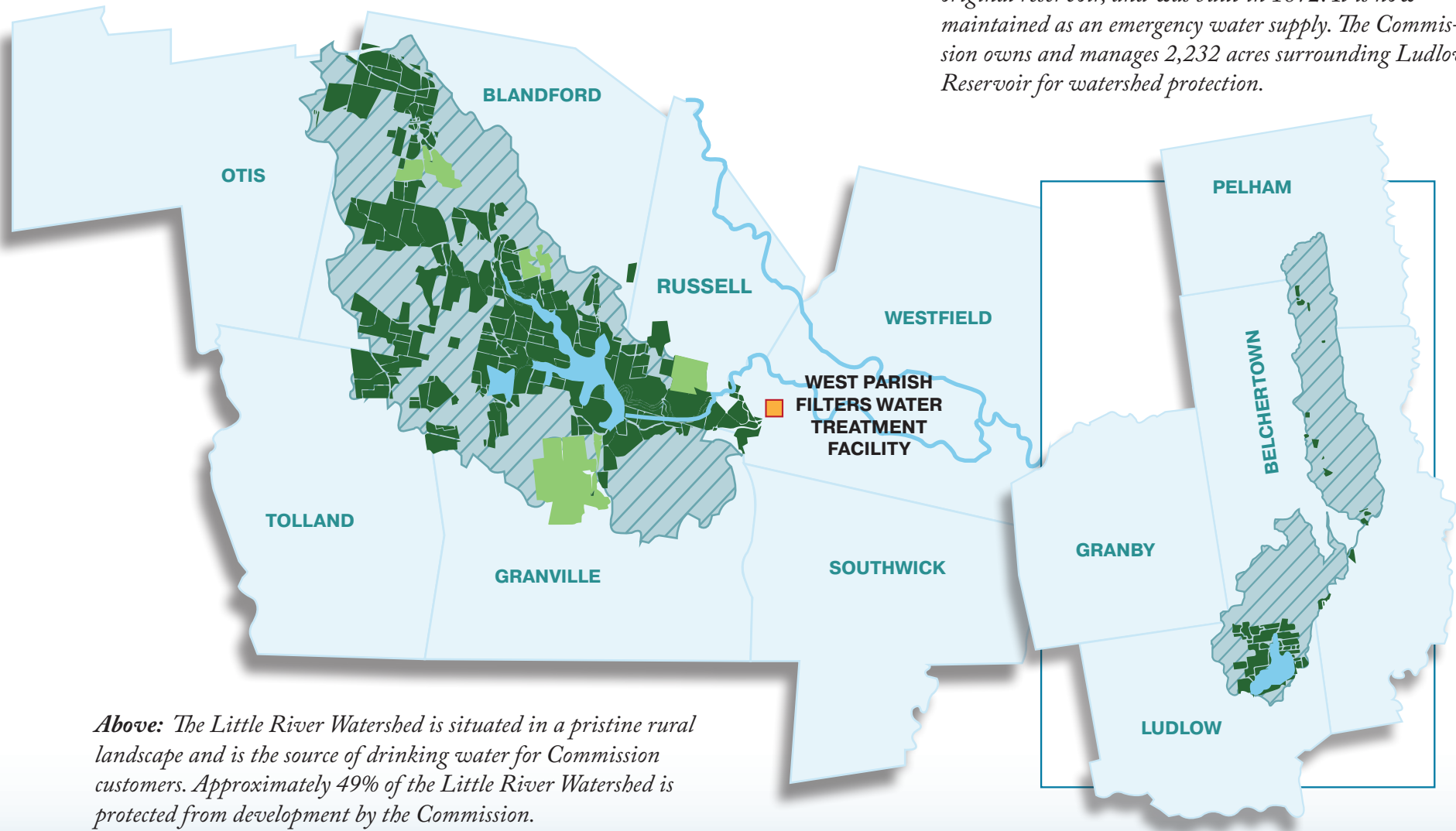
Ludlow Reservoir was developed in 1872 and remains in service today as an emergency water supply. The Commission owns and manages 2,232 acres of surrounding watershed land primarily to protect water quality, but also to enable recreational use. There were 24,653 of visitors to Ludlow Reservoir in FY18, most for walking or running along the paved recreational trail, or for fishing.



*At left, top: Visitors enjoy the recreational trail at Ludlow Reservoir.*

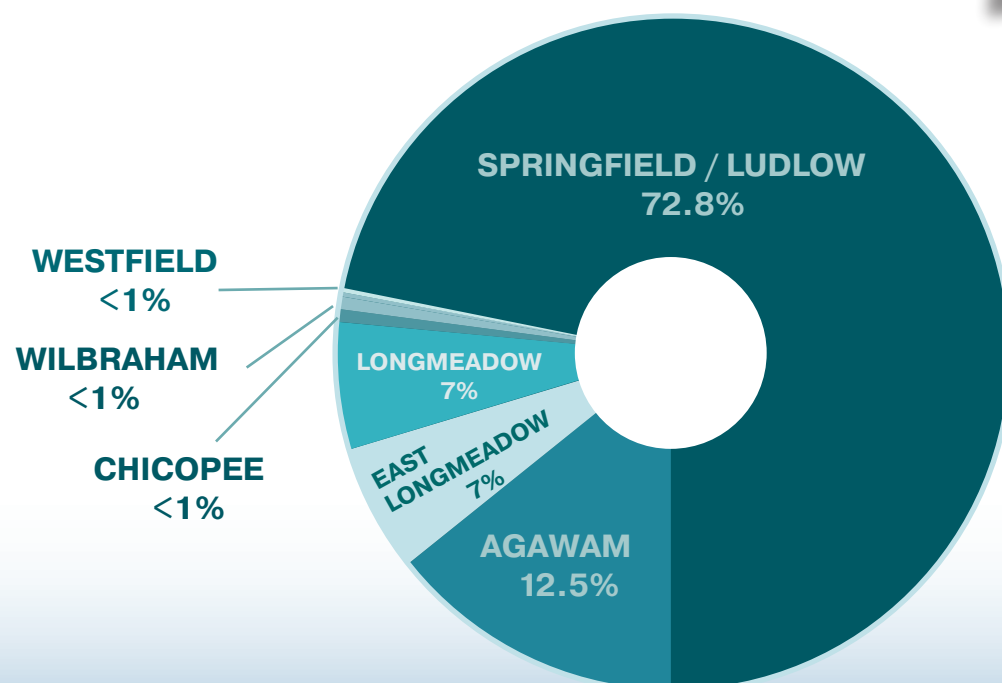
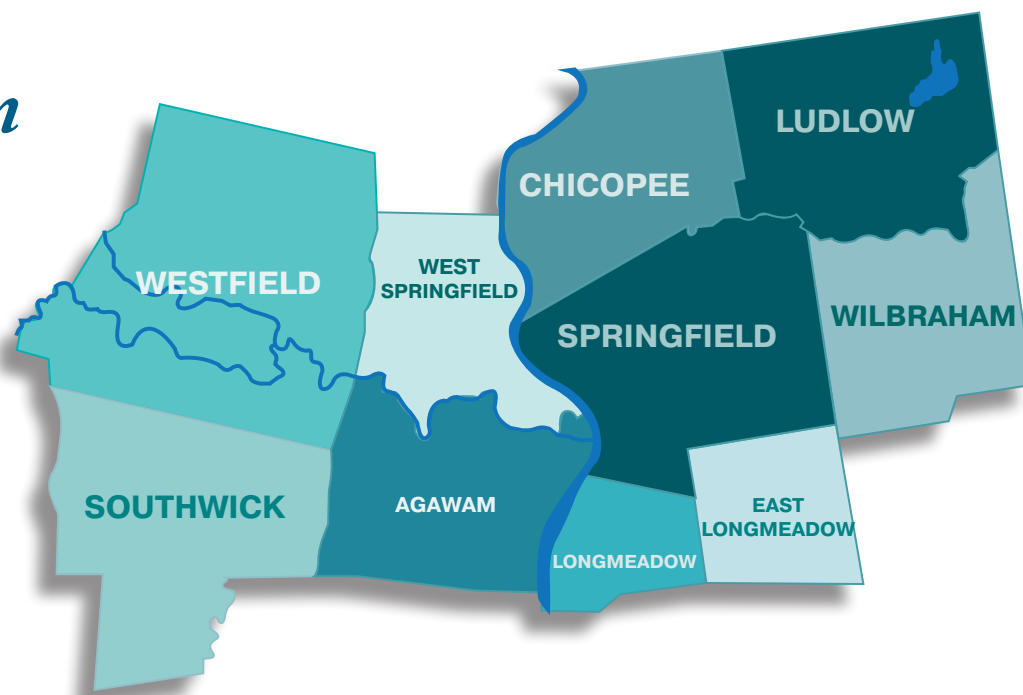
*At left, bottom: Ludlow Reservoir in summer.*

## Watershed Lands Map



# Water Supply & Consumption

Cobble Mountain Reservoir was built in the 1930s for what was then the rapidly growing City of Springfield. Today the Commission draws water from Cobble Mountain Reservoir to serve an expanded area in the lower Pioneer Valley, serving 250,000 people every day. In addition to delivering drinking water to retail customers in Springfield and Ludlow (and in small areas of Chicopee and Wilbraham), the Commission also sells wholesale water to the communities of Agawam, Longmeadow, and East Longmeadow. Public water systems in Southwick, Westfield, West Springfield, Chicopee, and Wilbraham also rely on the Commission for partial, peak, or emergency water supply. In FY18, Commission customers consumed or used approximately 9.8 billion gallons of water.



FY18 Water Consumption By Town (Gallons)		
	Agawam	1,183,058,000
	East Longmeadow	657,944,000
	Longmeadow	677,285,000
	Southwick	22,403,000
	West Springfield	0
	Westfield	1,561,000
	Wilbraham	14,169,000
	Chicopee	17,277,000
	Springfield/Ludlow	7,200,128,000
	Total Consumed	9,773,825,000



# Drinking Water Treatment

All tap water consumed by the 250,000 customers in the lower Pioneer Valley is treated by West Parish Filters Water Treatment Plant, located approximately 20 miles west of Springfield in the hills of Westfield. Water treatment protects public health by removing potentially dangerous pathogens and contaminants that can enter water in the environment. Some of the methods and processes performed at West Parish Filters, such as chlorination, have been utilized for over 100 years and are credited with virtually eliminating waterborne disease in the developed world. For that reason, water treatment is one of the most essential public services provided by the Commission.

Originally built in 1909, West Parish Filters has undergone numerous modernization upgrades, the most significant being the construction of a new rapid sands filtration facility in 1974. Sections of the older plant, most notably slow sand filter chambers built in the 1920s, are still in use today. Slow sand and rapid sand filters remove pollutants, impurities, and particles.

After filtration in the slow or rapid sand filters, the pH of the water is adjusted and corrosion inhibitors are added to protect against the leaching of lead

and copper in home plumbing. Chlorine is then applied to remove the presence of any pathogens (such as *E. coli*, cholera, etc.), a process known as “disinfection.” After disinfection, the treated water flows on into the transmission and distribution systems for use by customers. The Commission spends approximately \$38 million annually on water treatment-related operations.

## Water Treatment Upgrades

As technology, scientific knowledge, environmental conditions, and water regulations evolve, water treatment must advance in kind. As part of the West Parish Filters Water Treatment Plant Facilities Plan (Phase II) in FY18 (see page 18), the existing treatment processes at West Parish Filters were analyzed in the context of future anticipated regulations. This proactive approach gives the Commission time to budget for and design any large construction needed to accommodate new treatment processes.

In FY18, data analysis indicated that the rapid sand filters are more effective in reducing dissolved natural organic matter (NOM). NOM enters the water in Cobble Mountain Reservoir through rain runoff from the surrounding forest,

and is naturally present in all surface water supplies. Higher amounts of precipitation can increase NOM levels in the reservoir. When NOM interacts with chlorine added during the disinfection process, it can create chemical compounds for which regulations were recently revised to be more stringent.

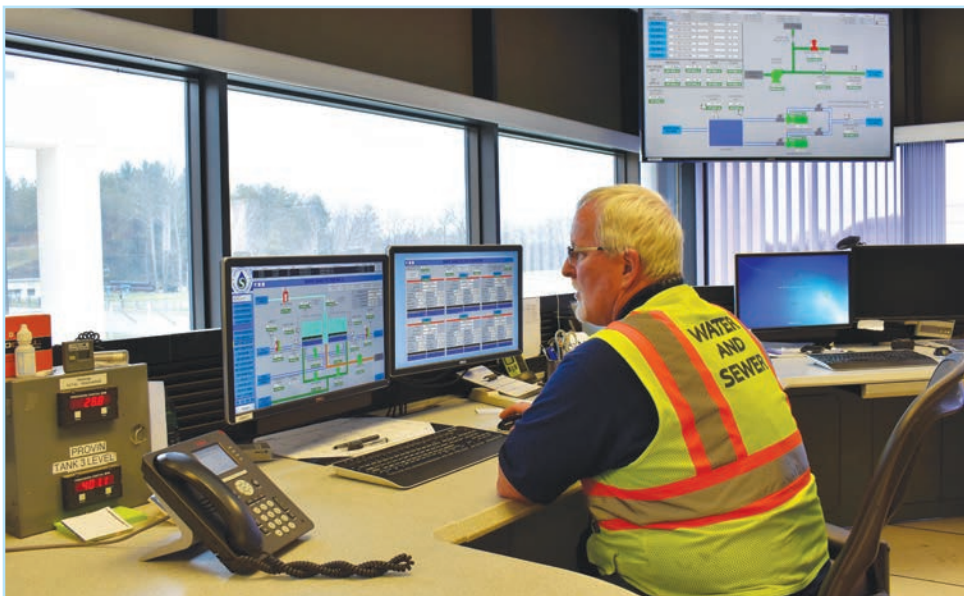
Therefore, as climate change brings more unpredictable weather patterns, updating the treatment process to more effectively remove NOM is important. The analysis conducted in FY18 indicated that rapid sand filters, which use coagulant, removed more

*Below: The West Parish Filters Water Treatment Plant in Westfield.*

*Opposite page, top: A water treatment operator at West Parish Filters Water Treatment Plant checks on the treatment process using the Supervisory Control and Data Acquisition (SCADA) system.*

*Opposite page, bottom: The pipe gallery at West Parish Filters Water Treatment Plant.*





NOM. In response, four of the ten slow sand filters were taken completely out of service, and another four were put on active reserve status for use to meet peak demand and as a redundant system. Approximately 3% of water currently is treated through slow sand filters, down from 15-20% traditionally.

In addition to these changes, the Commission also completed a bench-scale analysis of pre-oxidation with the Engineering Department of the University of Massachusetts at Amherst in FY18. Pre-oxidation is another potential process to improve NOM removal. A “pilot plant” study will take this analysis to a larger scale in FY20 for further refinement.

### Laboratory and Regulatory Program

Monitoring the outcomes of the water treatment process is a critical aspect of protecting public health. In addition to ensuring our water is safe for customers to drink, laboratory analysis informs the treatment process as well as operations in the field, such as water main flushing.

The Commission’s state-certified laboratory is located at the West

Parish Filters Water Treatment Plant in Westfield. Laboratory staff oversee water quality testing and compliance with state and federal sampling and reporting requirements. In FY18, the Commission analyzed approximately 50,000 drinking water quality tests, most of which were conducted on-site. External certified laboratories were also utilized for a variety of tests.

Every day, laboratory staff collect 15-30 samples during the treatment process and from the distribution system to ensure that our drinking water meets state and federal regulations. The Commission’s laboratory also conducts bacteria testing for the addition, repair, or replacement of water mains.

In addition to routine testing, the Commission carries out supplemental sampling programs required by regulators. In FY18 this included the Lead and Copper Rule (which requires sampling every three years), and the Total Coliform Rule. During FY18, which extended from July 2017 through June 2018, the Commission was in compliance with all state and regulatory requirements.



# Wastewater Collection & Treatment

Water that flows down our customers' drains and toilets in Springfield is carried by the Commission's underground collection (sewer) system to the Springfield Regional Wastewater Treatment Facility (SRWTF) in Agawam. Customers in Agawam, East Longmeadow, Longmeadow, Ludlow, Wilbraham, West Springfield, and part of Chicopee also send wastewater to the SRWTF via the collection systems they own and maintain in their respective municipalities.

The region is fortunate to have the second largest wastewater treatment facility in New England, with a design capacity of 67 million gallons/day (MGD). In FY18, the SRWTF treated an average of 36.6 MGD (13.35 billion gallons total), leaving ample capacity for future expansion and regional economic development.

## Springfield Wastewater Collection System

A 470-mile network of pipes and 34 pump stations collect and transport wastewater from 35,298 retail accounts in the City of Springfield to the SRWTF. The Commission is responsible for the system's maintenance, upgrades, repairs, and associated regulatory compliance. Operations

and maintenance of the pump stations, intercepting sewers (large transmission pipes to the SRWTF), and 23 combined sewer outfalls is performed by SUEZ Water Environmental Services, the Commission's contract operator.

## Asset Management and Maintenance Program

In addition to the Commission's Sewer Group activities (see page 17), the Wastewater Collection System Asset Management and Maintenance Program conducts high-pressure cleaning, GIS mapping, and visual and virtual/robotic assessment of the condition of sewer pipes and assets in Springfield. These activities improve system performance and allow the Commission to target problem areas for repair or rehabilitation. In FY18, 56,037 linear feet of sewer pipe were assessed through this program, totaling approximately 393 miles or 84% of Springfield's wastewater collection system since the program began in 2008.

## Regulatory Compliance

The Commission's collection system is subject to federal and state environmental regulations in order to protect

environmental water quality. Sanitary sewer overflows (SSOs) and combined sewer overflows (CSOs) are events that must be reported to regulators at the Environmental Protection Agency (EPA) and MassDEP. SSOs can occur due to sewer line disruptions, blockages, stormwater or groundwater infiltration, or other system defects. The Asset Management and Maintenance Program (AMMP) helps identify and minimize potential problems



*Top: The cast-in-place liner for the Main Interceptor Project is delivered for insertion, fall 2017.  
Bottom: The secondary clarifiers at the Springfield Regional Wastewater Treatment Facility.*



### FY18 Wastewater Collection System Activities

Sewer Backup Responses	647
Sanitary Pipe Repairs	22
Residential Sewer Line Repairs	107
Cave-ins Repaired	554

proactively to reduce the occurrence of SSOs. In FY18, there were 21 SSOs, compared with 122 in FY08 prior to the start of the AMMP.

Combined sewer systems collect wastewater and stormwater in the same pipes, and are common in older cities such as Springfield. In rainstorms the volume of combined wastewater and stormwater can exceed pipe capacity, and in these

circumstances the system is designed to discharge excess volume into waterbodies to prevent backups into basements and streets. Springfield has 150 miles of combined sewer pipe and 23 combined sewer outfalls that discharge into the Connecticut, Mill, and Chicopee Rivers.

In 1994, the EPA mandated the reduction of CSOs in cities nationwide, but federal funding for these complicated and extremely expensive projects was eliminated in FY 2010. To date, the Commission has invested more than \$100 million in its CSO reduction program, resulting in an approximate 30% reduction in annual CSO volume. The Commission continues to work to reduce CSOs while maintaining affordable rates through its Integrated Wastewater Plan (IWP). Adopted in 2014, the IWP is one of only a few such plans nationwide that incorporate regulatory-driven projects (CSO remediation) with a 40-year Capital Improvement Program for other necessary wastewater functions. A financial capability and affordability analysis guides implementation, which allows the Commission to balance CSO remediation and other wastewater needs with an evolving regulatory and fiscal landscape. The result is

projects designed to meet multiple objectives at once, such as the Main Interceptor Rehabilitation and CSO Outfall Improvements Project, completed in FY18, and the Connecticut River Crossing and York Street Pump Station Project (see page 20).

### Industrial Pretreatment Program

Industries that generate wastewater more contaminated than that of typical users are subject to federal regulation and local limits set by the Commission's Industrial Pretreatment Program (IPP). Examples include metal finishing, chemical processing, and laundry facilities. In FY18, 50 industries and 53 wastewater discharge permits were regulated under the IPP, representing an average of 5.4 million gallons/day, with 212 samples taken. IPP staff perform regular audits and inspections at relevant industries in all eight communities that use the SRWTF to ensure compliance with additional treatment requirements in order to protect the collection system, the SRWTF, and the environment.



*Above: As water exits the wastewater treatment process, it receives a final treatment of chlorine to eliminate remaining bacteria, and then flows into the Connecticut River.*

## The Future of Wastewater Treatment

Evolving regulations, advances in technology, and emerging issues in environmental and energy markets will deliver significant changes to wastewater treatment in future years. In FY18 the Commission worked to position itself to address these coming challenges through technical study, advocacy and partnership, and strategic planning initiatives.

## Updated Operating Contract

The SRWTF and its associated pumping stations are operated by SUEZ Water Environmental Services, Inc., under a 20-year service contract. In FY18 SUEZ completed its 18th year of a successful contract period. The Commission is currently reviewing new models of public-private-partnerships that have developed over the past 20 years to help inform the procurement process for the next operating contract that will begin in 2020.

## Managing Biosolids

The wastewater treatment process generates some measure of solid waste, known as “biosolids.” Biosolids generated at the SRWTF are current-

ly trucked to incinerators or distant landfills, which are nearing capacity or closing. In FY18 the Commission applied for and received a \$48,850 grant from the Massachusetts Clean Energy Technology Center to conduct a feasibility study on the construction of anaerobic digesters at the SRWTF and a combined heat and power system (CHP) to utilize the gas produced by the digesters. The preliminary study determined that constructing and operating anaerobic digestion with CHP would be no more costly than trucking biosolids, and in most cases would provide added benefits of renewable power and reduced carbon emissions. The Commission will develop these studies further in FY19.

## Nitrogen Monitoring and Sampling

In 2001, a Total Maximum Daily Load (TMDL, or regulatory limit) for nitrogen entering the Long Island Sound (LIS), into which the Connecticut River flows, was implemented by the EPA. The TMDL has been met, but continued low oxygen levels in LIS has led the EPA to pursue further nitrogen reductions from wastewater treatment plants upstream on the Connecticut River. This could lead to significant technological costs for communities with wastewater treatment plants

discharging into the Connecticut River watershed, yet a lack of comprehensive data on all sources of nitrogen in the Connecticut River makes it unclear whether environmental improvement will be achieved.

To fill this gap, the Commission partnered with the United States Geological Survey (USGS) and the Massachusetts Department of Environmental Protection (MassDEP) in November

*Below: From left to right, Massachusetts Secretary of Energy and Environmental Affairs Matthew Beaton, Connecticut River Conservancy Executive Director Andy Fisk, Commission Executive Director Josh Schimmel, U.S. Geological Survey Scientist Jon Morrison, and Massachusetts Department of Environmental Protection Commissioner Marty Suuberg cut a ribbon for a new river gauge and nitrogen sampling program on the Connecticut River, June 2018.*







*At left: A new river gauge was installed near the border of Vermont in Northfield, Massachusetts as part of a new nitrogen sampling program on the Connecticut River supported by the Commission, MassDEP, and the U.S. Geological Survey.*

*Below: Scientists from the U.S. Geological Survey collect samples from the Connecticut River in Northfield to test for nitrogen.*



2017 to fund and install a river gauge and sampling program on the Vermont border to complement nitrogen data already being collected on the border with Connecticut. The gauge and sampling program will better illustrate the amount of nitrogen entering the Connecticut River in Massachusetts, and thus help inform future regulatory efforts to limit nitrogen. In addition, the Commission also applied for a \$51,146 grant from the National Fish and Wildlife Foundation to purchase and install nitrogen analyzers within the SRWTF treatment process to allow real-time monitoring of the amount of nitrogen being removed and discharged to the Connecticut River.

### **NPDES Permit Renewal**

In November 2017, the EPA issued a draft National Pollutant Discharge Elimination System (NPDES) permit for the SRWTF, the first permit update in 17 years. Due to the potential for a NPDES permit to direct spending on the SRWTF in the coming decade or beyond, considerable effort went into reviewing and commenting on the draft. A proposed enforceable limit on the amount of nitrogen in the SRWTF's discharge into the Connecticut River, which could require expen-

sive technology and possibly cap the capacity of the plant at today's flow rates, received the most attention. The tangible environmental outcomes of reducing nitrogen discharge at SRWTF are unclear due to a lack of comprehensive data on nitrogen loading in the Connecticut River. Comments developed by the Commission are still being reviewed by the EPA.



## Field Services

Various crews in the Commission's Field Services division oversee and maintain the drinking water transmission and distribution systems, as well as the wastewater collection system. Field Services crews conduct regular inspections and make upgrades and repairs to the system – sections of which date to the 1880s – throughout the year. Crews also assist customers with repairs or replacements of water and sewer service lines serving individual properties, and respond to questions about water quality. The following activities are funded through the Commission's operations budget.

### Transmission System Maintenance

Staff stationed at Provin Mountain in Agawam oversee three high-pressure transmission mains that traverse Westfield, Agawam, and West Springfield. Regular inspections for leaks, excessive vegetation growth, and encroachments take place throughout the year along the 37 miles of transmission mains in order to protect the underground infrastructure. In FY18, vegetation along 16 of the 37 miles of Commission-owned land along transmission mains was removed.

### Water Quality Protection

A water distribution system must be as dynamic as the water that runs through it. The Commission's Water Quality Group (WQG) is responsible for the inspections and repairs that keep water moving throughout the distribution system. The WQG's inspection of valves and hydrants ensure they are functioning in the event of a water main break or fire. The WQG also implements the Unidirectional Flushing (UDF) Program, which cleans sediment out of mains in order to increase water flow. Flushing is also implemented by the WQG in strategic coordination with engineers and operators at West Parish Filters in order to optimize

safe chlorine levels and water age throughout the system.

#### FY18 Water Quality Group Activities

Hydrants Inspected	2,814
Hydrants Repaired/Rebuilt	147
Valves Exercised	3,000
Miles of Mains Flushed (UDF Program)	55

Water quality is also protected by the Commission's Cross Connection Control Program, which was adopted in accordance with MassDEP regulations in 1998. When a water line is connected to equipment or other systems containing chemicals or water of questionable quality (such as soda fountains, or HVAC equipment), Commission inspectors ensure that safeguards such as backflow prevention devices are installed to prevent contamination. All commercial, industrial, and institutional plumbing must be inspected for cross connection hazards, and all backflow prevention devices must be inspected regularly. In FY18, there were 2,835 devices in Springfield and Ludlow, and 4,346 inspections were conducted.

*Below: During a valve break incident, members of the Sewer Group use a vacuum truck to clean up sediment that washed into a catch basin.*

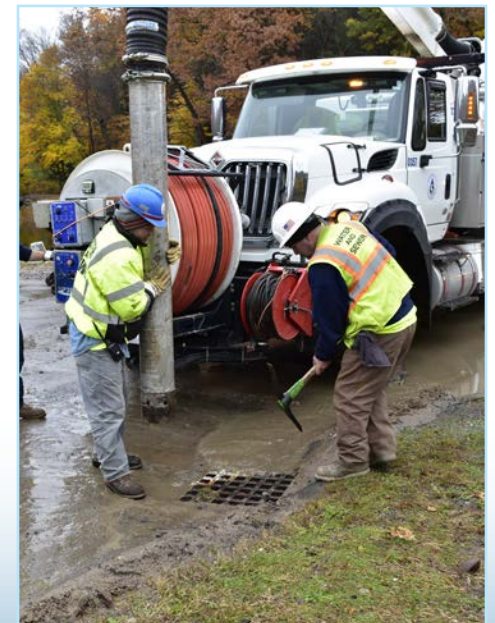
*Opposite page, top: A member of the Water Quality group flushes a hydrant.*

*Opposite page, bottom: Water main replacement on Alden Street.*

#### FY18 Water and Sewer System Statistics

Miles of Water Main	597
Number of Valves	19,376
Number of Hydrants	6,222
Number of Meters	46,188
Miles of Wastewater Mains	471
Number of Wastewater Manholes	11,375
Number of Wastewater Pump Station	27*

\* plus 7 flood control pump stations





### Water Infrastructure Maintenance and Upgrades

When water infrastructure needs repair or replacement, the Commission's Water Construction Group (WCG) responds – 24 hours a day, 7 days a week. Members of the WCG work on a wide range of projects, from repairing unpredictable water main breaks to replacing aging water mains, rebuilding hydrants, or repaving street trenches. Replacements and inspections of private water service lines are also conducted by WCG.



FY18 Water Construction Group Activities	
New Hydrants Installed	24
Hydrants Replaced	50
Water Main Breaks Repaired	50
Water Service Replacements	113
New Valves Installed	191
Valves Replaced	33

### Water Consumption Tracking and Assessments

The basis for our customers' water and sewer bills is water consumption. Water meters in every customer's building report water consumption data through radio signals that are collected by the Meter and Field Services Group (MFSG) on a monthly basis. Crews from MFSG also change out meters, conduct water consumption surveys for customers concerned about high water use, and respond to

FY18 Meter and Field Services Activities	
Meters Installed (Primary & Auxillary)	2,807
Water Consumption Assessments	326

other inquiries. During water consumption surveys, MFSG staff check for leaks, assess household water uses, and advise on water conservation techniques and repairs.

### Wastewater Collection System Operations

The Commission's Sewer Group is responsible for day-to-day maintenance, inspection, and construction of the collection system, and also assists with emergency backups or scheduled service line repairs/replacements. Regular operations include jetting (cleaning) sewer mains, repairing sewer services, sewer main repairs, manhole cleaning/repairs, and closed circuit television inspections of pipes.

FY18 Wastewater Collection Activities	
Manholes Cleaned	2,214
Sewer Jetted (feet)	1,037,459
Sewer Backup Responses	689
Sewer System Repairs	30
Sewer System Repair Pipe Installed (feet)	334
Residential Service Line Repairs	108

# Infrastructure Renewal

The Commission is a steward of a water and wastewater system originally built between the late 1800s through 1930s, a time when aspirations for the future of Springfield were high. Delivering an essential public necessity was as essential to public health and economic growth then as it is today, especially as Springfield experiences a renaissance. Future economic prosperity in Springfield and Ludlow depends on upgrades to the water and sewer systems in order to meet the demands of today and tomorrow.

Aging infrastructure is an urgent issue for the Commission, as well as water and sewer utilities across the nation. The lack of state and federal funding for water infrastructure adds to the challenge, as maintaining ratepayer affordability must be balanced with the urgent need for reinvestment. As much as possible, capital investments at the Commission are carefully planned and sequenced years ahead of implementation in order to maximize ratepayer dollars and avoid steep rate increases. The various projects described in this section represent plans for or implementation of necessary capital upgrades to the Commission’s infrastructure.

## West Parish Filters Water Treatment Plant Facilities Plan

The West Parish Filters Water Treatment Plant was originally built in 1909, and underwent significant modernization in 1974. Since that time, these treatment processes have been well maintained but have limited ability to adapt to new water quality regulations. The new facilities plan will comprehensively assess the entire plant in the context of current and future regulations. This will allow the Commission to proactively plan and budget for any significant upgrades. Phase II of the plan was ongoing throughout FY18, and included risk analyses of various treatment processes (see page 10) and of raw water conveyance from the reservoir to the treatment plant.

In the meantime, capital upgrades were also made to the plant in FY18 based on Phase I of the Facilities Plan. These upgrades included important safety improvements to the bulk chemical storage room, and new air header piping and air valve actuator replacements on the six rapid sand filters to facilitate air scouring, which is used during backwashing (or cleaning) of the filters.

## Highlights of Major FY18 Capital Improvements

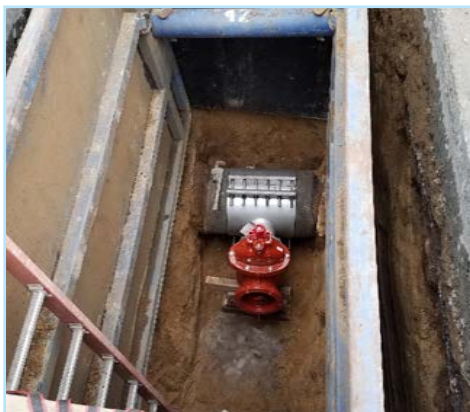
- \$500,000 in water treatment system improvement projects.
- \$180,000 in transmission system rehabilitations.
- \$5 million in Main Interceptor rehabilitation.
- \$3.7 million in water distribution system assessment and rehabilitation.
- \$100,000 in hydrant projects.
- \$850,000 in meter replacements.
- \$1.3 million in wastewater collection system assessment and rehabilitation.
- \$3.3 million in York Street and Connecticut River Crossing projects.
- \$1.2 million in Washburn Street projects.
- \$2.1 million in sewer main rehabilitation projects.

*Opposite page, top:* A new tap into a water main was installed for the Elaine Circle subdivision.

*Opposite page, middle:* The Intake Dam located above the intake reservoir and below the Cobble Mountain Hydro-Electric Plant.

*Opposite page, bottom:* The Cobble Mountain Hydro-Electric Power Plant.





### Dams and Reservoirs

The Commission owns and maintains 10 dams, dating from the late 1800s to the 1960s. In FY18 the Commission continued to implement vegetation control on slopes and dam spillways, and also completed the phase I dam inspections required by state regulators in November 2017. Two areas of focus in FY18 were field assessments of the Cherry Valley Dam spillway at Ludlow Reservoir and the Intake Dam, which is part of the daily water supply system to West Parish Filters Water Treatment Plant. A peer review of a proposed rehabilitation of the Intake Dam found it to be in stable structural condition. Alternatives for improved access and operation of the Cherry Valley spillway are under development based on the field assessment.



### Water Transmission and Storage Systems

When treated water leaves West Parish Filters, it first passes through the Provin Mountain storage tanks in Agawam. Water stored in these tanks maintains water pressure in the distribution system and provides supply in the event of sudden large-scale water use (such as a large fire).



The tanks were built in years ranging from 1909 to the 1960s. A recent study concluded that decreasing water storage capacity and time at Provin will improve water quality in the distribution system. Acting on these findings, planning for the decommissioning and demolition of the oldest storage tank took place in FY18. The tank is expected to be taken off-line permanently in FY20. Preliminary design was also completed for design of a new cover for Storage Tank 2.

Rehabilitation of the 42-inch diameter water main that delivers raw water from Cobble Mountain Reservoir to West Parish Filters commenced in FY18. Initial work included replacing the inlet valve, repairing the access road, installing five new access manways, and the repair of 265 interior pipe joints. Work in FY19 will include installing a new discharge pipe into the sedimentation basin.

### Cobble Mountain Hydro-Electric Power Plant

When Borden Brook and Cobble Mountain Reservoirs were built, engineers utilized their elevation in the hills to deliver water by gravity to the city in the valley. The Cobble Mountain Hydro-Electric Power Plant,

built in 1930, also takes advantage of this design to generate green energy from the flowing water. Holyoke Gas & Electric (HG&E) operates the power plant, while the Commission owns the plant and controls the amount of power generated based on water supply needs. The generated power is sold to the ISO New England electricity market to help offset capital costs for other projects. In FY18, 14,170 Megawatts were generated, worth \$2.2 million.

In FY18, more power poles leading from the hydro-electric plant were replaced due to their deteriorating condition. The poles are believed to date from the 1930s. Steep terrain and adjacent infrastructure were challenging factors, but the project was successfully completed for approximately \$160,000. In FY18 design was also completed to replace the governors (which control water flowing into the plant) and the gate-operating units for the turbine generators, as well as electrical upgrades. Such upgrades at the power plant will ensure that the operating controls meet current standards and energy market requirements. Construction is slated to begin in March 2019 at a cost of \$990,000.

## York Street Pump Station and Connecticut River Crossing Project

In FY18, design to replace the aging pump station on York Street in Springfield was completed. This project is a cornerstone to the Commission's 2014 Integrated Wastewater Plan (IWP). The IWP combines projects driven by regulatory compliance (such as combined sewer overflow remediation) and those driven by aging infrastructure needs into one document to maximize strategic investment.

Because of this integrated planning approach, the York Street Pump Station is designed to address multiple issues at once.

- *Infrastructure Renewal:* The original station dates from the 1940s, and is reaching the end of its useful life.
- *CSO Remediation:* The new station will enable an additional 30 million gallons of wastewater per day to be sent to the SRWTF, reducing combined sewer overflows into the Connecticut River.
- *Redundancy:* Three new sewer lines across the river will add redundancy to the collection system. There are currently two existing pipes under the river, one 85 years and the other 50 years old.

• *Resiliency:* The existing pump station will be repurposed for flood control.

The Commission opted to utilize an innovative Construction-Manager-At-Risk (CMAR) project delivery model to carry the project through final design and construction. CMAR will allow for the selection of a contractor based on qualifications, schedule flexibility, and cost savings, which differs

from conventional design-bid-build delivery methods. Construction of the \$100 million project is scheduled to commence in May 2019 and continue through 2022. In FY18, the Commission also secured a \$790,000 state grant for pre-construction phase costs for the project through its participation in the regional Connecticut River Cleanup Committee.

*Below: A rendering of the new York Street Pump Station.*



### Main Interceptor Rehabilitation and Combined Sewer Outfall Project

The Main Interceptor Sewer (MIS) project was completed in February 2018 at a cost of \$23.4 million. The MIS carries more than 60% of the wastewater flows from the City of Springfield to the wastewater treatment plant on Bondi's Island. The project consisted of repairing three

combined sewer outfall structures and rehabilitating 3,200 feet of 60- and 66-inch diameter sewer pipe.

### New Service Connections

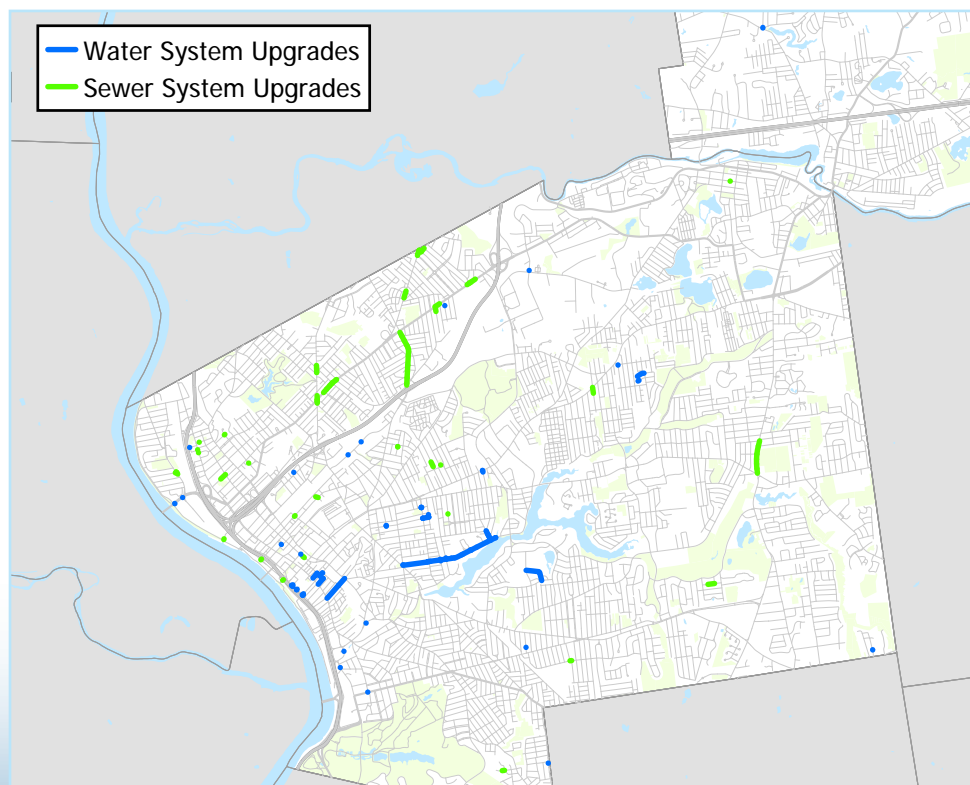
The Commission's Engineering and Technical Services works with commercial and residential customers to efficiently provide water and sewer service to new or re-development proj-

ects throughout the city and Ludlow. In FY18, 30 commercial and 50 residential projects were reviewed to guide proper connection to the water and sewer systems. These included the City's Riverfront Park project, involving a splash pad and irrigation; new water service for the Wellspring Harvest Greenhouse; and new water, sewer, and fire suppression services for Springfield Public School's Culinary and Nutrition Center. In addition, ETS performed 2,657 utility markouts prior to project excavations, 466 of which were for emergency requests.

### Water and Sewer Distribution System Renewal

For a decade, the Commission has utilized its Asset Management and

Maintenance Program to assess, map, and clean the wastewater collection system. In turn, the Infrastructure Improvements Program uses this information to rank wastewater assets for rehabilitation or replacement. Similarly, the Commission's Field Operations group reviews water main break and age records to prioritize when water mains should be replaced. Whenever possible, the Commission coordinates water and wastewater system upgrades in the same locations together to minimize disruption to the city. In FY18, there were 2.7 miles total of underground water and sewer infrastructure, along with other assets, that were replaced or rehabilitated.



FY18 Water and Sewer System Upgrades	Amount Upgraded
Sewer pipe installed	1,901 linear feet
Sewer (rehabilitation) lining	6,578 linear feet
Water main pipe installed	5,937 linear feet
New manholes installed/rehabilitated	54



## Technology Infrastructure

A core approach of the Commission's Information Technology (IT) department is to be a partner in all business activities. Far from simply responding when an issue arises, SWSC IT is involved in the development of new work flows, operations, or other initiatives at the outset to integrate technology in ways that will ultimately improve the delivery of the highest quality water, sewer, and customer service.

In FY18, IT staff worked closely with water treatment operators and laboratory staff to develop an interactive Chlorine Test Results Map to monitor chlorine levels throughout the distribution system. The map assists operators in the chlorine treatment process. It also allows them to coordinate with Field Services to direct flushing in Springfield and Ludlow in order to optimize chlorine levels and water age throughout the distribution system.

With over 1,000 miles of pipe, and over 15,000 acres of watershed or other Commission-owned property, IT staff are also intricately involved with managing and tracking Commission assets. In FY18, IT staff deployed a new GPS unit with sub-centimeter accuracy to obtain precision location information. This unit is being used

for high-precision mapping of water valves, hydrants, manholes, Commission property boundary markers, and other significant infrastructure.

Data collected through this GPS unit or other means can also be integrated into the Commission's *MapIt* web application, which was launched in FY18 as a way for staff of any skill level to easily create high-quality, detailed maps of Commission infrastructure for any business purpose. In addition to being integrated with the Commission's digital asset management system (VUEWorks), *MapIt* provides a way for Commission staff to communicate geographically, by sharing map markup capabilities.

Digital mapping of the wastewater collection (or sewer) system has been performed by a third-party contractor for more than a decade. Commission GIS staff worked with the contractor throughout FY18 to transfer responsibility for the upkeep of this completed dataset to Commission GIS staff.

Protecting customer data and network security remained a top priority for the Commission's IT department in FY18, particularly in the wake of news reports that water systems remain a top

target for intrusion by hackers. Commission IT expanded data monitoring and implemented advanced edge and endpoint threat protection to enhance network security in FY18. Mobile applications were also enhanced for more secure synchronization with the network while being used in the field.

Every shovel that goes into the ground or call that comes into the Operations Center now leaves a digital footprint at the Commission. Our ongoing strategic investment in information technology allows the Commission to serve its customers with more efficiency, accuracy, and mobility than ever before. The combination of more sophisticated security systems and data mapping, along with pin-point accuracy location tools, ensures the Commission has the data it needs to accomplish and advance its mission.

*Top: Commission staff use a new advanced GPS unit to document infrastructure assets.*

*Bottom: The new GPS unit.*

*Opposite page, top: Representatives from Springfield businesses and institutions spoke about the importance of water at the Imagine a Day Without Water media event, hosted by the Commission in the fall of 2017.*



*Bottom, opposite page: A tour group learns about the pipe gallery at West Parish Filters Water Treatment Plant.*

## Education & Community



As most of the Commission's assets are located underground or in areas distant from our customers, the immense amount of infrastructure, natural resources, and staff expertise it takes to deliver clean water is not always readily obvious. But in an era of aging infrastructure, it is important for customers, officials, and future customers to have the opportunity to learn about the vital service water and wastewater systems provide, as well as the challenges and changes facing the water industry. Such awareness is key as more investment is needed to steward the Commission's system into the 21st century.

The Commission also hosted members of the region's state Congressional delegation as well as top officials from the Massachusetts Department of Environmental Protection (MassDEP) to share information on regulatory issues facing water utilities in the state. Another event in June 2018 also involved top MassDEP officials, as well as Secretary of Energy and Environmental Affairs Matthew Beaton to commemorate a new sampling program on the Connecticut River (see page 14). The event highlighted the collaboration among the Commission, state and federal agencies, and environmental organizations to address environmental challenges. In the summer of 2018 the Commission also participated in 21 community events with its water station, and provided numerous tours of the water and wastewater plants.



In FY18 the Commission organized events to help raise awareness about the importance of clean water and water infrastructure to the region. In October 2017, Mayor Sarno along with representatives from Baystate Health, the Springfield Fire Department, Solutia, and MGM Springfield were invited to Cobble Mountain Reservoir on the annual *Imagine a Day Without Water* national media event. Each spoke about what a day without water would mean to their business activities, while a class from Zannetti Montessori School presented on the importance of water to their daily lives. Their remarks were featured in local TV, radio, and print media outlets.

In addition, two educational programs administered by The World is Our Classroom (WIOC) continued to bring Springfield Public Schools students to the Commission's treatment plants and watershed lands in FY18 for day-long, interactive place-based instruction. A total of 825 7th graders from 10 middle schools participated in "A Day at Cobble Mountain," and 1,735 5th graders from 32 middle schools participated in "A Day at Bondi's Island" in FY18.



## Customer Service

For a water and wastewater system serving approximately 175,000 people through 42,000 retail service points, knowledge, experience, and responsiveness are the keys to providing excellent customer service. Each day the Commission's Customer Service Group (CSG) responds to a variety of questions and requests, ranging from billing, service repairs, reports of water or sewer emergencies, or water consumption surveys, among many others. The CSG is comprised of two teams – one focusing on billing and account inquiries, and the other on operations such as service line repairs, new connections, and inspections. Both groups work closely together in order to provide helpful solutions and efficient responses. In FY18, customer service representatives answered 53,400 calls.

The core strength of the Commission's customer service staff is its depth of experience – most of the customer service representatives have been with the Commission for over a decade. While a system the size and age of the Commission's is bound to present new or unexpected situations, the CSG is able to minimize the impact through fast and knowledgeable deployment of resources. During a water leak or an emergency sewer backup, for instance, the CSG can talk customers through the initial steps to take to curtail the situation

until crews arrive, and provide guidance and reassurance throughout the process. For more predictable events, such as property closings or construction schedules, Commission customer service representatives are also sensitive to helping customers meet important deadlines, since they understand how essential water is to business and day-to-day life.

Sometimes, it is the Commission making calls to customers. Through the Leak Detection Program, unusual readings such as sudden high or low usage can indicate a large leak, or potential property abandonment. In these cases, customer service representatives will attempt to contact the owner, and either send crews to the property to check for flooding, or contact City or Town authorities to secure a suspected abandoned property. This program not only protects the accounts and property of the affected customer, but also Springfield and Ludlow neighborhoods. In FY18, customer service identified 326 accounts for suspected issues through the Leak Detection Program. In addition, the final phase of moving all customers from quarterly to monthly billing was completed in FY18. Monthly billing allows customers to notice changes in their water usage more quickly, and assists with more predictable budgeting.



*Above: Accounts / Billing Customer Service Representatives (Bondi's Island, Agarwam)*

*Below: Operations Customer Service Representatives (Colton Street, Springfield)*



# Awards & Achievements

## Distinguished Water Operator of the Year Award

Commission Water Operator Pete Thayer was awarded the Distinguished Water Operator of the Year Award by the Massachusetts Department of Environmental Protection (MassDEP).

According to MassDEP, the award honors “the state’s many dedicated drinking water professionals, while acknowledging certain noteworthy accomplishments that involve excellent water service to the public.”

Mr. Thayer was honored for being instrumental in working with consultants to troubleshoot and improve tasks; optimizing filter performance through observation and analysis of the filter backwash process; working many hours of overtime to cover each of the three shifts, whenever called on; and for reviewing capital improvement projects that affect the treatment process, and making observations and suggestions to improve designs.

## Comprehensive Annual Finance Report Award

The Commission is required to complete financial reports in accordance with Massachusetts General Laws Chapter 40N. But the Commission also opts to also issue a Comprehensive Annual Financial Report (CAFR), which contains additional financial information over a longer time period.

For the fifth consecutive year, the Commission was nationally recognized for its CAFR with a Certificate of Achievement for Excellence in Financial Reporting award from the Government Finance Officers Association, the highest form of recognition in governmental financing and accounting.

## NACWA Gold Peak Performance Award

SUEZ Water Environmental Services, Inc., received a Gold Peak Performance Award from the National Association of Clean Water Agencies (NACWA) for zero permit exceedances in FY18 for the Springfield Regional Wastewater Treatment Facility.



*Above: Commission Water Operator Pete Thayer (center) receives the Distinguished Water Operator of the Year award from MassDEP Drinking Water Program Director Yvette DePeiza (left) and MassDEP Commissioner Marty Suuberg (right) at the statehouse in May 2018.*



# Financial Report

The management of the Springfield Water and Sewer Commission (Commission) provides this narrative overview of the financial activities of the Commission for the fiscal year ended June 30, 2018 (FY18). A full accounting and analysis of all financial activities is available in the Commission's FY18 Comprehensive Annual Financial Report (CAFR), available on the Commission's website or by request.

## Financial Highlights

The Commission had a change in net position of \$1,001,273. The following paragraphs give an overview of the year's activities.

It has been the practice of the Commission to establish its rates and charges for water and wastewater services at levels sufficient to produce revenues adequate to defray all operation and maintenance expenses, projected debt service and reserve deposits, and to maintain net revenues available for debt service to satisfy the coverage requirements mandated by the General Bond Resolution. Until fiscal year 2010, the Commission had historically adjusted its rates and

charges for water and wastewater services on a basis that stabilized rates and charges over a multi-year period. Beginning in fiscal year 2011, the Commission adopted single-year rate schedules and a three-year plan to more closely match revenues to expenditures.

In fiscal year 2018, there was an increase in rates, and in most cases, overall usage was more than anticipated. As a result, wastewater charges, revenue, and fees were approximately \$790,000 more than budgeted. Wholesale water charges and fees were less than budget by approximately \$(340,000). Power generation revenues were more than estimates by approximately \$330,000. These and other factors resulted in total operating revenue of approximately \$77 million in fiscal year 2018, approximately \$700,000 more than budget, and \$5.5 million more than the prior year.

Operating expenses were less than budget by approximately \$2.5 million, primarily as a result of vacant positions and less overtime needed than anticipated. In addition, there was conservative budgeting for general operational expenses and debt service interest.

## SUMMARY OF NET POSITION

YEAR		FY 2018	FY 2017
Current Assets	\$	107,217,164	94,452,567
Non-Current Assets		2,733,266	2,840,055
Capital Assets		331,354,919	317,429,679
Total Assets		441,305,349	414,722,301
Deferred Outflows of Resources		100,682,969	83,682,679
<b>Total Assets and Deferred Outflows</b>	\$		
Current Liabilities		19,869,815	19,667,073
Non-Current Liabilities		278,547,153	250,985,194
Total Liabilities		298,416,968	270,652,267
Deferred Inflows of Resources		118,675,847	103,858,483
<b>Total Liabilities and Deferred Inflows</b>	\$		
Net Investment in Capital Assets		135,716,523	140,096,489
Restricted - Other Purposes		58,368,491	46,627,990
Unrestricted		(69,189,511)	(62,830,249)
<b>Total Net Position</b>	\$	<b>124,895,503</b>	<b>123,894,230</b>
Operating Revenues		76,648,551	71,080,673
Operating Expenses		(57,955,221)	(58,206,763)
<b>Operating Income</b>	\$	<b>18,693,330</b>	<b>12,873,910</b>
Non-Operating Revenues (Expenses)		(3,878,014)	(4,289,220)
Special Items		(13,814,043)	(11,035,127)
<b>Increase (Decrease) in Net Position</b>	\$	<b>1,001,273</b>	<b>(2,450,437)</b>
Beginning Net Position		123,894,230	126,344,667
<b>Ending Net Position</b>	\$	<b>124,895,503</b>	<b>123,894,230</b>



*Above: This photograph of Cobble Mountain Reservoir under construction in 1931 was recently found in a storage box along with many other large-form negatives from the era.*

## Major capital asset events during FY18 included the following:

- Depreciation expense of \$(9.4 million).
- \$650,000 in electrical distribution upgrades.
- \$5 million in Main Interceptor Project.
- \$100,000 in hydrant projects.
- \$850,000 in meter replacements.
- \$500,000 in water treatment system improvement projects.
- \$3.3 million in York Street Pump Station and Connecticut River Crossing project design.
- \$1.2 million in Washburn Street projects.
- \$2.1 million in sewer main rehabilitation projects.
- \$180,000 in transmission system rehabilitations.
- \$1.3 million in collection system assessment and rehabilitation.
- \$3.7 million in distribution system assessment and rehabilitation.
- New vehicles and equipment purchases of \$300,000.
- Computer software and equipment purchases of \$300,000.
- Various other rehabilitation and improvement projects of \$3.8 million.

Additional information on the Commission's capital assets can be found in the FY18 CAFR.



# Financial Report

## Requests for Information

The FY18 Comprehensive Annual Financial Report is available at:

<http://waterandsewer.org/about-the-commission/commission-reports/>.

Questions concerning any of the financial information provided in this report or requests for additional financial information should be addressed to:

Communications Manager  
Springfield Water and Sewer Commission  
P.O. Box 995  
Springfield, MA 01101-0995  
413-452-1300  
[info@waterandsewer.org](mailto:info@waterandsewer.org)

WATER AND SEWER RATES - LAST 5 FISCAL YEARS					
WATER RATES (PER 100 CUBIC FEET)	2019	2018	2017	2016	2015
Residential	\$3.22	\$3.01	\$2.89	\$2.78	\$2.66
Commercial	\$3.22	\$3.01	\$2.89	\$2.78	\$2.66
Municipal	\$2.40	\$2.24	\$2.15	\$2.07	\$1.98
Industrial	\$2.40	\$2.24	\$2.15	\$2.07	\$1.98
Solutia contract	\$2.32	\$2.11	\$1.99	\$1.88	\$1.76
Town contracts (per million gallons)	\$1,491.03	\$1,717.86	\$1,526.61	\$1,178.93	\$1,089.71
Residential Water % Change	7.0%	4.2%	4.0%	4.5%	6.4%
SEWER RATES (PER 100 CUBIC FEET)	2019	2018	2017	2016	2015
Residential	\$5.32	\$4.93	\$4.74	\$4.56	\$4.34
Commercial	\$5.85	\$5.42	\$5.21	\$5.01	\$4.77
Industrial	\$6.38	\$5.92	\$5.69	\$5.46	\$5.20
Municipal	\$5.32	\$4.93	\$4.74	\$4.56	\$4.34
Food Service	\$6.92	\$6.41	\$6.16	\$5.92	\$5.64
Medical	\$5.85	\$5.42	\$5.21	\$5.01	\$4.77
Solutia contract (per million gallons)	\$1,197.77	\$1,145.39	\$1,060.86	\$1,108.27	\$1,099.26
Town contracts (per million gallons)	\$1,197.77	\$1,145.39	\$1,060.86	\$1,108.27	\$1,099.26
Residential Sewer % Change	7.9%	4.0%	3.9%	5.1%	13.6%
<b>Average Combined Rate Increase</b>	<b>7.4%</b>	<b>4.1%</b>	<b>4.0%</b>	<b>4.8%</b>	<b>10.0%</b>

Source: Fiscal Year 2019 *Rules and Regulations* (Chapter 5)



*Springfield Regional Wastewater Treatment Facility, Agawam, MA*



