

Water and Sewer
FY 2017 Budget Presentation
Portsmouth City Council
May 18, 2016



Overview of Tonight's Meeting

➤ Introduction

Brian Goetz – Deputy Public Works Director

Judie Belanger – Finance Director

David Hyder – Burton and Associates

➤ Highlights of FY 16

➤ Proposed FY 17 Water Budget

➤ Proposed FY 17 Sewer Budget

➤ Proposed FY17 Water and Sewer Rates

➤ Questions

Enterprise Funds - Water



- Bellamy Reservoir
- Madbury Water Treatment Facility
- 8 Wells
- 5 Storage Tanks
- Two Pressure Zones
- 3.5 to 6.5 Million Gallons a Day

- 189 miles of pipe
- 972 Public Fire Hydrants
- 2,840 Valves
- 8,203 Meters/Customers
- Serve 5 Communities and portions of 3 others



Enterprise Funds - Sewer

- 115 Miles of piping
- 20 pumping Stations
- 1,650 Manholes
- Two Wastewater Treatment Facilities
- 6,342 Customers



Management, Operations and Maintenance

- DPW – Water/Sewer Division Staff:

- Management
- Planning
- GIS and Asset Tracking
- Project Implementation



Management, Operations and Maintenance

■ Water Operations:

- Source Water Quality and Protection
- Treatment Facility and Well Operations
- Maintenance



Management, Operations and Maintenance

■ Wastewater Operations:

- Operate Two Treatment Facilities and Laboratories
- Operate and Maintain 20 Pumping Stations



Management, Operations and Maintenance

■ Water Distribution:

- Maintenance of 190 miles of pipe, hydrants and valves
- Services, meter reading, backflow prevention



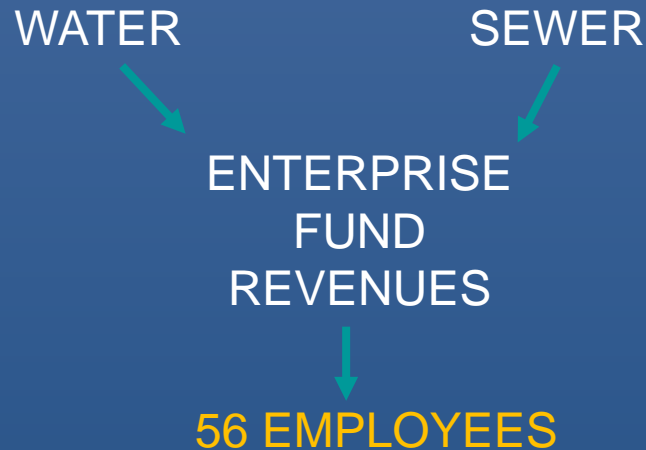
Management, Operations and Maintenance

- Sewer Collections:

- Maintenance of 115 miles of pipe
- Services, manholes and transmission lines



Water and Sewer Position Summary Schedule



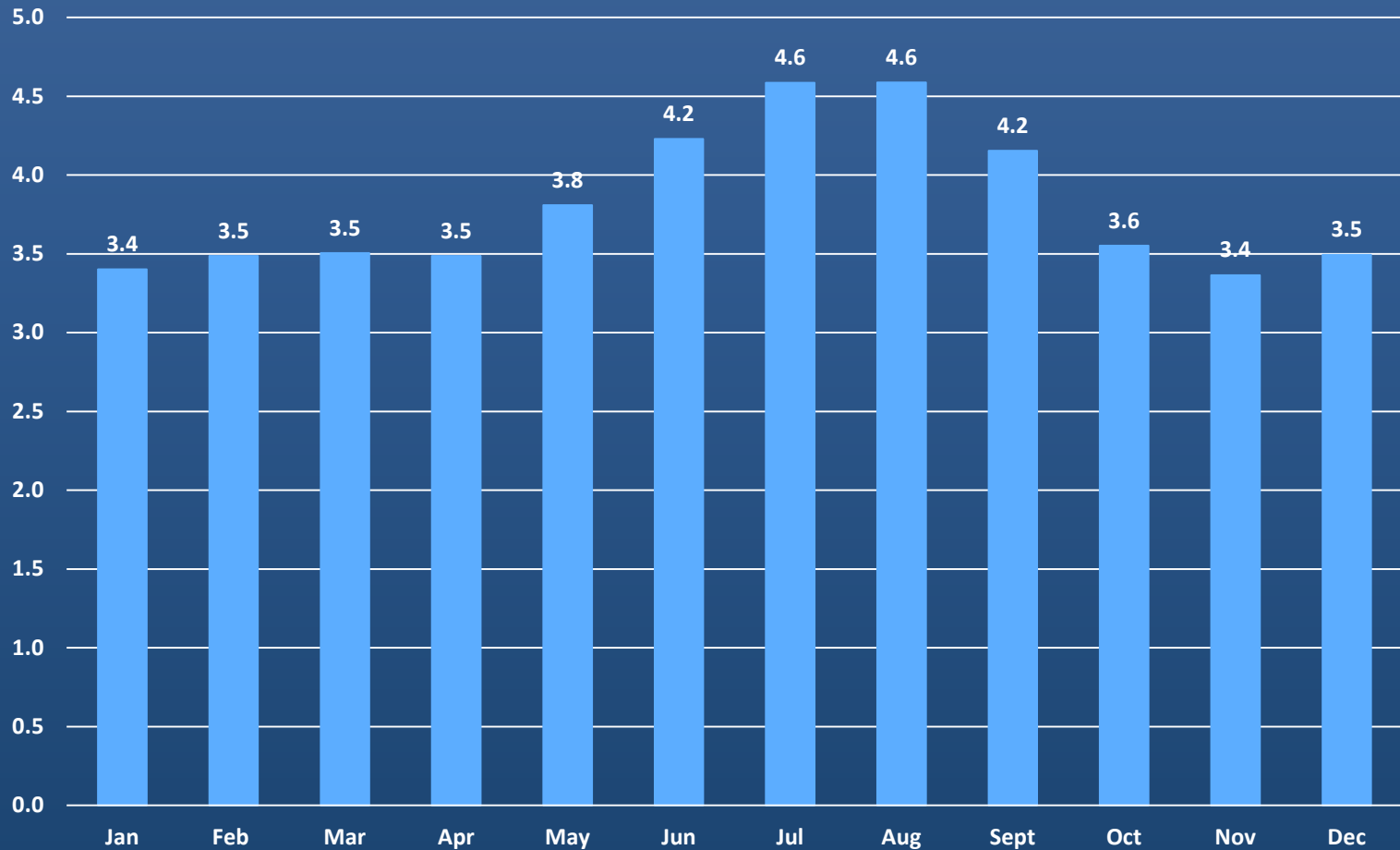
* Many Shared Positions between
Water, Sewer, Highway and Parking/Transportation

Water Division

- Goals and Objectives
 - Continue operations based on conjunctive approach to water management balancing
 - Continue steps to improve water quality, water quantity and system security
 - Develop sustainable funding strategies
 - Rate study recommendations
 - Asset management controls
 - Implement recommendations of 2013 Master Plan

Water Demand

Portsmouth Water System
Average Daily Water Demand
Million Gallons per Day (MGD)
2006 to 2015



Water Usage Analysis

Adapted from Water and Sewer Rate Study Update, Municipal & Financial Services Group/Tighe & Bond, 2012/2013

TOTAL USAGE BREAKDOWN BY ACCOUNTS						
Service Type	Accounts	CONS	Annual CONS per Account	Ave CONS per Account per Month	Average Gallons per Account Per Month	Average Gallons per Account Per Day
Residential SF	5,932	386,897	65	5	4,070	133
Residential MF	738	194,707	264	22	16,459	540
Irrigation	231	16,073	70	12	8,706	285
Commercial	879	555,522	632	53	39,394	1,292
Industrial	80	371,706	4,646	387	289,621	9,496
Municipal	78	45,317	1,688	22	16,190	531
NC Water Dist	1	24,812	24,812	2,068	1,546,615	50,709
Rye Water Dist	1	37,259	37,259	3,105	2,322,478	76,147

CONS = Units of Billed Water Consumption

1 Unit = 748 Gallons

Water Projects



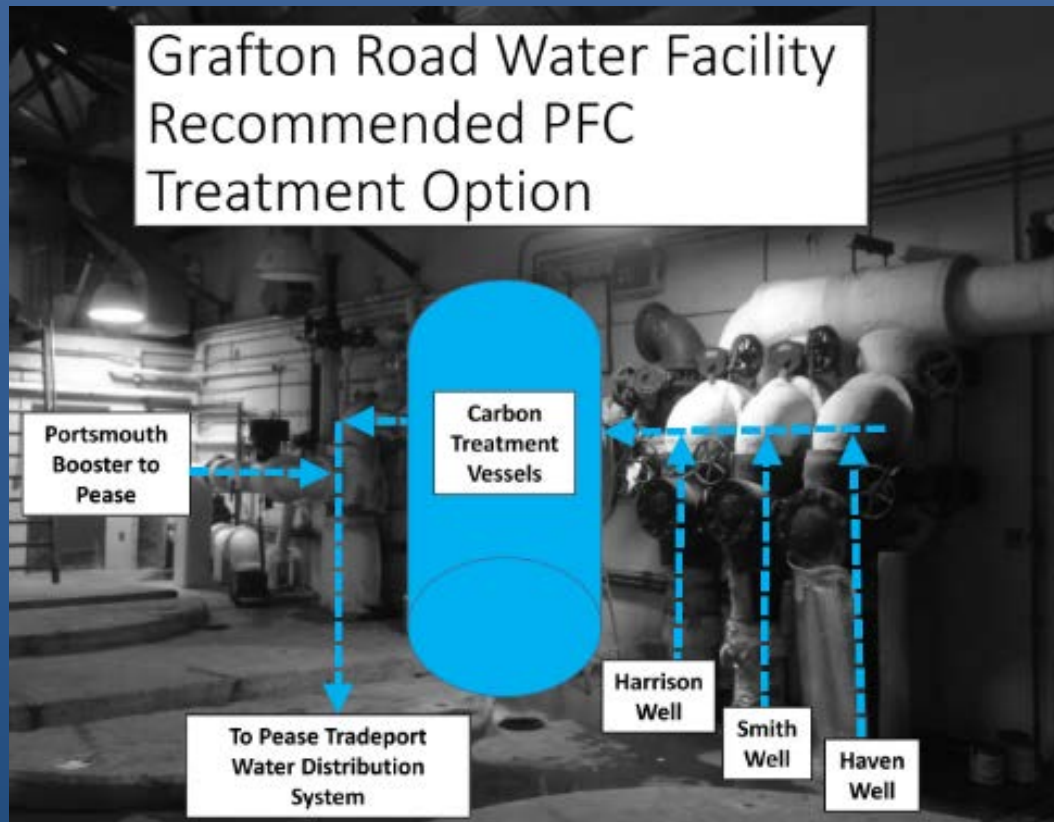
Hobbs Hill Tank Replacement

Newington Booster Station and Tank Aeration Upgrade

- Design ongoing
 - Upgrade pumps
 - Install aeration in tank to improve water quality
- Construction anticipated in early 2017



Water Projects



Pease Well PFC Treatment
Agreement with Air Force to Reimburse City (April 2016)

Water Projects



Madbury Well #5 Drilling



Greenland Well Replacement

Water Projects



Drinking Fountains at City Hall and Spinnaker Point

Water Main Replacements



Lincoln Area Sewer Separation Project

Sewer Division

- Goals and Objectives
 - Bring Peirce Island Wastewater Treatment Facility into compliance with anticipated new NPDES permit requirements
 - Continue operations improvement program in both collection and treatment areas
 - Minimize impacts to the City's waterways from combined sewer overflow

Wastewater Treatment Upgrades

Peirce Island Wastewater Treatment Facility

- Design Completed and Out to Bid with Barge Alternates
- \$75 Million SRF Financing Approved
- Four year construction timeline

City of Portsmouth Wastewater

preserve our community | protect our environment | manage our resources | explore innovative solutions

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- Projects
- Regional
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Notice an odor? Tell us!
ODOR RESPONSE

Wastewater Facility Information

Please note : (Updated 5-2-16) The Environmental Protection Agency has published in the Federal Register the proposed Consent Decree Second Modification. This posting opens a 30-day comment period (click here).

On March 14, 2016, the City Council voted to authorize the bonding of \$75 million in project costs to upgrade the Peirce Island Wastewater Treatment Facility (WWTF).

On Monday, April 11th, a City Council **Work Session** was held to review the construction impacts and traffic mitigation related to the Peirce Island WWTF upgrade. A video of the meeting is below.



On April 20, the New Hampshire Executive Council voted to authorize an **Water State Revolving Fund ("SRF") loan agreement** with the City to help finance this project. The State's authorization for an up to \$75,000,000 loan will help lessen rate impacts for this federally-mandated upgrade to the facility.

The **bid** for this project is only open to **pre-qualified bidders**. A pre-bid meeting will be held on April 13th, and the deadline for proposals is May 19th. Construction is slated to begin on July 1st.

For a list of Frequently Asked Questions and Answers, please visit the [FAQ page](#).

City Council Joint Work Session 4.11.16



City Council Joint Work Session 4/11/16

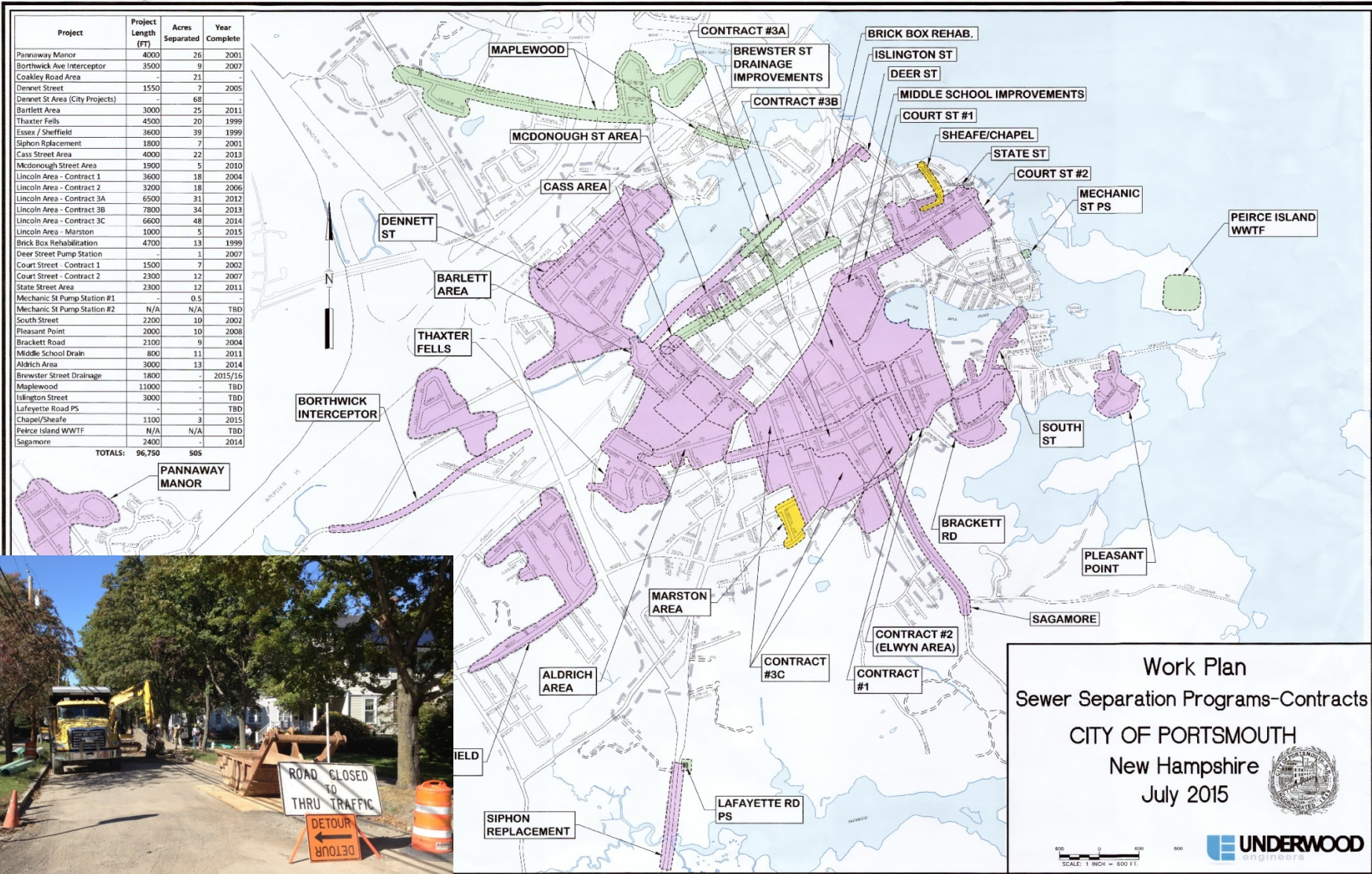
Wastewater Treatment Upgrades

Pease Wastewater Treatment Facility



- Designing Replacement of Headworks
- Third Reactor Basin in Planning to Address Lonza's Expansion



Sewer Separation Projects



Work Plan
 Sewer Separation Programs-Contracts
 CITY OF PORTSMOUTH
 New Hampshire
 July 2015

SCALE: 1 INCH = 600 FT.

Other Sewer Projects

- McDonough Street Phase 3B
- Islington Street (Maplewood to Route 1 Bypass)
- Maplewood Avenue (Fairview Drive)
- Goose Bay Drive Sewer Replacement
- Union Street (Middle to State)
- Sewer Rehabilitation Identified through Infiltration and Inflow Study

Ongoing Sewer Studies

- Infiltration and Inflow Study
 - Identify the Sources of Extraneous Water in the Sewer System
- Post Construction Monitoring Plan
 - Determine Effectiveness of Sewer Separation
 - Determine Needs for Future Long Term Control Plan

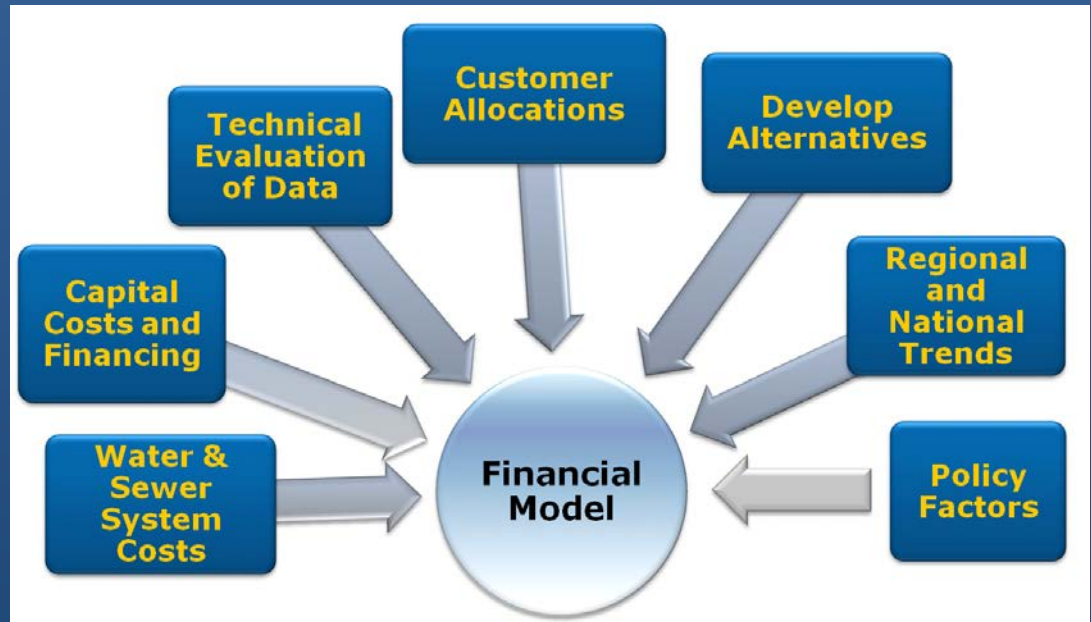
Rate Model Components

BURTON & ASSOCIATES

A Hawksley Consulting Company

The rate model serves as the key tool to assist in long-term planning, allowing:

- Prudent financial planning which results in predictable rate increases
- Funding of significant capital projects
- Proactive management of the systems which results in lowest rates over time



System Funding: Enterprise Funds

- Enterprise Funds Account for Operations That are Financed and Operated in a Manner Similar to Private Business
- Must have Fees and or Charges Sufficient Enough to Cover the Cost of Providing Goods and Services, Including Capital costs (i.e. Depreciation and Debt Service)
- Note: Property Taxes do not Subsidize the Water and Sewer Funds

Water/Sewer Fund Challenges

- Aging Infrastructure
- Regulatory Compliance
- Evolving technologies and level of system complexities, especially with treatment facilities - both water and sewer
- Major Capital Projects
- Ongoing reductions in volumes of water consumed

Rate Study Highlights

- November 2012 - Rate Study Kickoff
- February 2013 - City Council Work Session
- March 2013 - Public Input Session Rate Study
- April 2013 - City Council Work Session Water and Sewer Budget
- March 2014 - Public Input Session Rate Study
- May 14, 2014 – City Council Work Session Water and Sewer Budget
- FY15 and FY16 Budgets Implemented Rate Study Recommendations

Rate Stabilization Reserve Policy

- Established Rate Stabilization policy in FY14 as part of ongoing rate modeling.
- Increase net position or utilize net position to stabilize user rates from year to year
- Goal of policy has been to establish a glide path of predictable and stable rate adjustments.

Proposed FY 17
Water
Fund Budget
and
Rates

FY17 Water Capital Outlay

<u>Project Name</u>	<u>Amount</u>
Annual Water Line Replacement	\$500,000
Well Stations Improvements	\$150,000
Water System Pressure and Storage Improvements	\$250,000
Rolling Stock Vehicle and Equipment	\$199,000
TOTAL	\$1,099,000

FY17 Water Bonded Projects

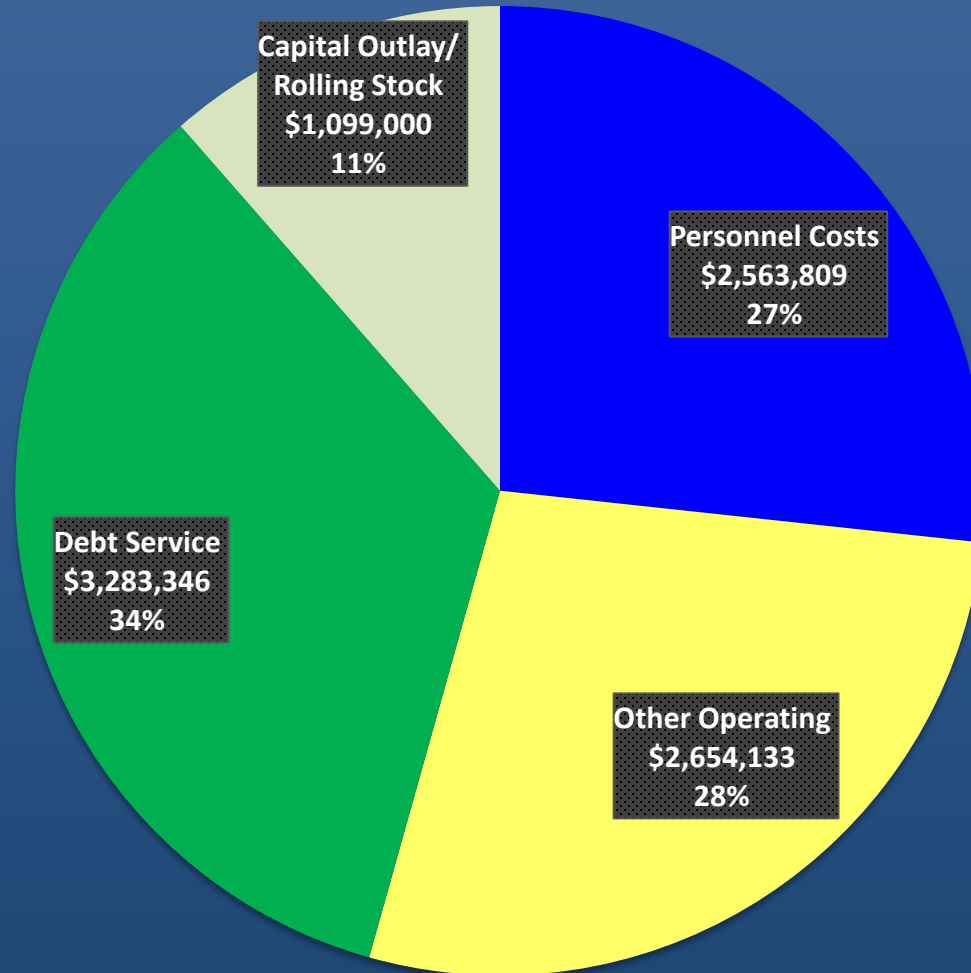
<u>Project Name</u>	<u>Amount</u>	<u>Funding Source</u>
Annual Water Line Replacement	\$1,500,00	Bond
Water System Pressure & Storage Improvements	\$750,000	Bond
TOTAL	\$2,250,000	

FY 17 vs. FY16 Water Fund Budget

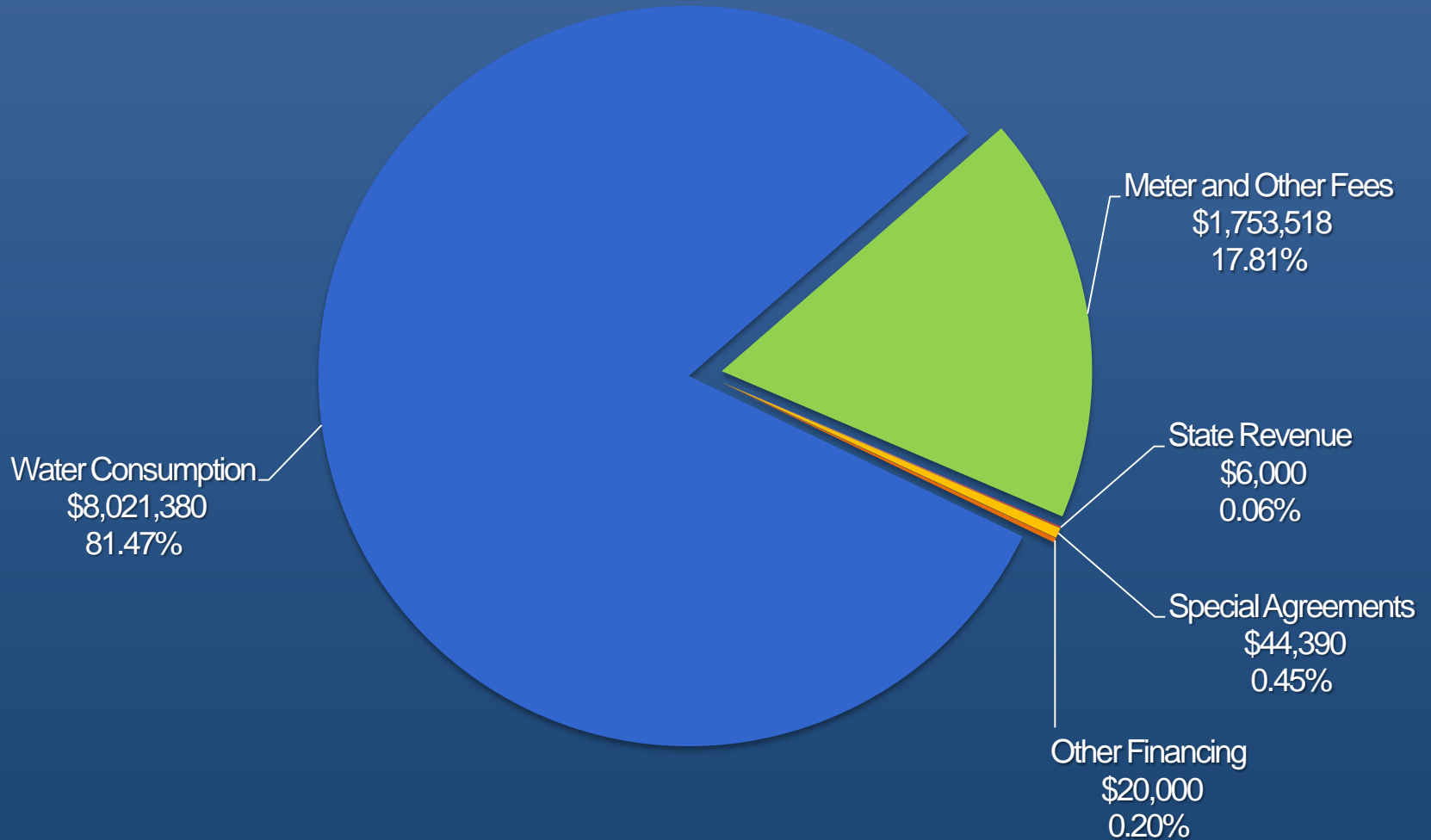
	FY16	FY17 Proposed Budget	FY16 vs FY17	Percent of Budget
Utilities	\$500,164	\$412,538	(\$87,626)	4.3%
Chemicals	\$451,000	\$365,000	(\$86,000)	3.8%
Sludge/Grit Removal	\$200,000	\$175,000	(\$25,000)	1.8%
Assistance Program	\$25,000	\$10,000	(\$15,000)	0.1%
Rolling Stock	\$201,500	\$199,000	(\$2,500)	2.1%
Property Taxes	\$118,000	\$118,000	\$0	1.2%
Stock Materials	\$227,400	\$232,200	\$4,800	2.4%
Equipment	\$47,750	\$56,750	\$9,000	0.6%
Administrative Overhead	\$552,326	\$571,227	\$18,901	6.0%
Other Operating	\$293,207	\$334,906	\$41,699	3.5%
Repairs	\$165,470	\$212,900	\$47,430	2.2%
Prof Contracted Services	\$114,862	\$165,612	\$50,750	1.7%
Interest on Debt *	\$1,082,152	\$1,140,818	\$58,666	11.9%
Personnel Costs	\$2,429,848	\$2,563,809	\$133,961	26.7%
Capital Projects *	\$700,000	\$900,000	\$200,000	9.4%
Principal on Debt *	\$1,937,528	\$2,142,528	\$205,000	22.3%
TOTAL	\$9,046,207	\$9,600,288	\$554,081	100%

* Capital Related Budget Funds = 45%

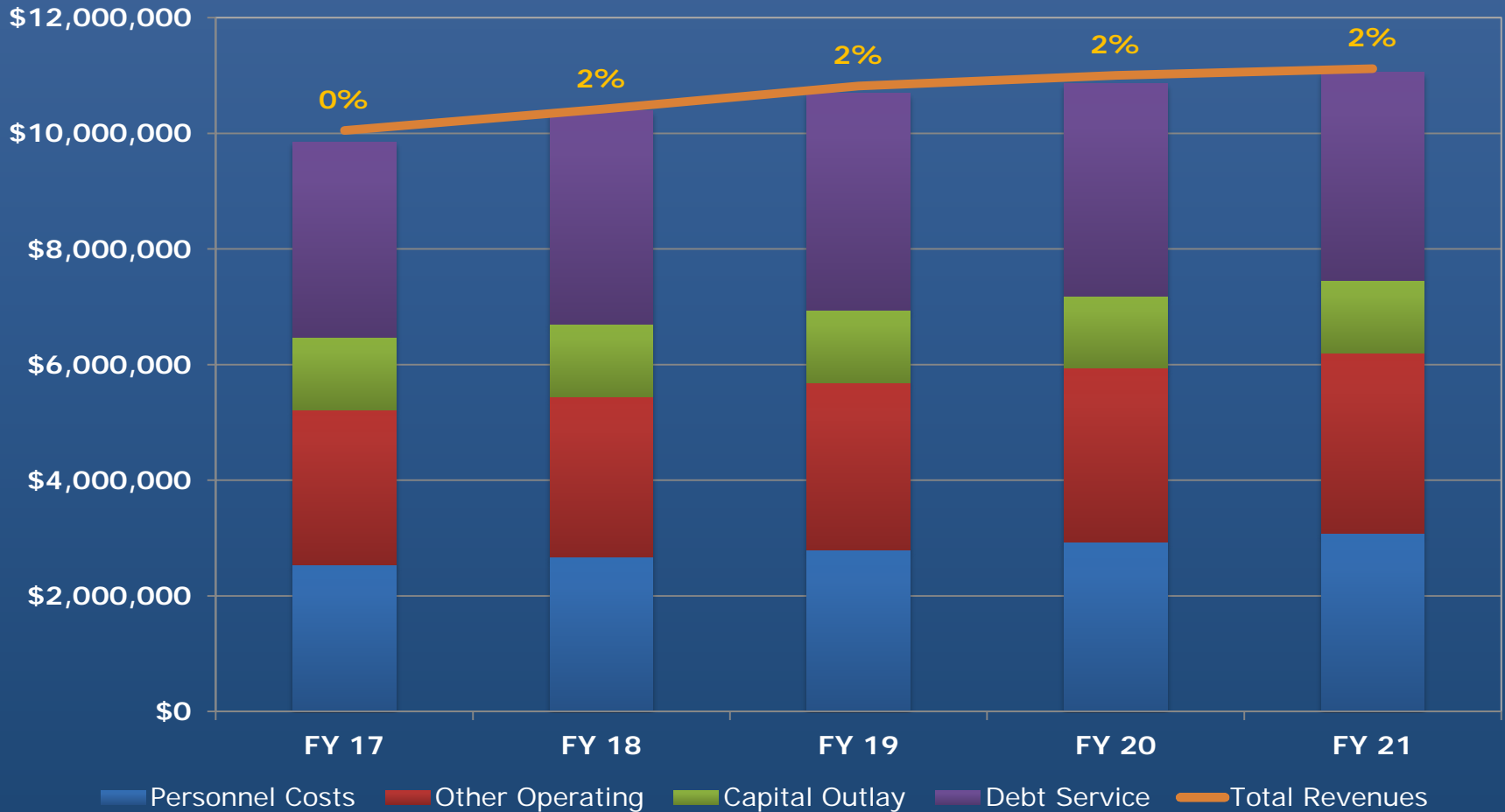
Cash Requirements: FY 17 Water Fund \$9,600,288



FY 17 Estimated Water Revenues



Water Rate Projections



FY17 Proposed Water Rate

0% Rate Change from FY 16 (no change since FY11)

	FY 17 Proposed (per unit)
First Tier Rate (10 units or less per month)	
Capital Related rate, per unit billed	\$2.60
First 10 units billed per month	\$1.55
Total First Tier Rate	\$4.15
Second Tier Rate (over 10 units per month)	
Capital Related rate, per unit billed	\$2.60
Over 10 units billed per month	\$2.40
Total Second Tier Rate	\$5.00

1 unit = 748 gallons of water

FY17 Proposed Water Rate

Average Residential Customer Bill

FY17 Water Rate			
Average Residential Customer Bill			
Monthly Consumption in units			
(1unit = 100 cf = 748 gallons)			
	Rate	Billed Units	Month Charge
Capital Related Rate, per unit	\$2.60	5	\$13.00
1st Tier water service rates	\$1.55	5	\$7.75
Minimum Charge (5/8" meter)	\$4.95	n/a	\$4.95
Total Monthly Charge			\$25.70
Total Annual Charge			\$308.40

Irrigation Rate Structure

- Irrigation system use places significant peak demands on the water system requiring the City to construct and maintain adequate supply and storage capacity.
- Customer with irrigation meter does not pay capital fee (Capacity Use Surcharge) for use of capacity.
- Capacity use charge per CCF reflects use of capacity not purchased when connecting to the City water system.

Irrigation Rate Structure

- Cost of service based irrigation rate structure

Irrigation Rate Structure	O&M and Capital Rate per CCF	Capacity Use Charge per CCF	Total Irrigation Rate per CCF
0 to 5 Units ⁽¹⁾	\$5.00	-	\$5.00
5 to 15 Units	\$5.00	\$4.70	\$9.70
Over 15 Units ⁽²⁾	\$5.00	\$7.05	\$12.05

(1) First five units provides an allowance for discretionary use

(2) Use of capacity above 10 units, 1.5 times capacity use charge

- Recommend a transitional irrigation structure (wider usage blocks) for a period of time

Irrigation Rate Structure	O&M and Capital Rate per CCF	Capacity Use Charge per CCF	Total Irrigation Rate per CCF
0 to 10 Units	\$5.00	-	\$5.00
10 to 20 Units	\$5.00	\$4.70	\$9.70
Over 20 Units	\$5.00	\$7.05	\$12.05

Wholesale Water Rates

The City provides wholesale water to two surrounding water districts

- New Castle Water District - City has provided service to portions of New Castle since 1916
- Rye Water District - City has provided service since 1947
- Total current volume of wholesale water sold is approximately 62,000 units (represents 3.8% of total water volume sold by City)
- Wholesale Rate used to be regulated by New Hampshire Public Utilities Commission and has not been adjusted for a number of years

Wholesale Water Rates Analysis

Wholesale water rates are set based on analysis of cost of providing service

- Proportional share of operating (volume) and capital (use of assets)
- Excluding expenses incurred in serving only retail (customer service, distribution)

Wholesale water service to New Castle and Rye is a small percentage of overall water revenues:

- The revenue generated from wholesale customers contributes approximately \$60,000 per year, less than 1% of the overall revenue requirement for the water enterprise fund.

Recommended wholesale rate is \$3.35/unit

Proposed FY 17
Sewer
Fund Budget
and
Rates

FY17 Sewer Capital Outlay

<u>Project Name</u>	<u>Amount</u>
Pease Wastewater Treatment Upgrades	\$600,000
Long Term Control Plan Related Projects	\$400,000
Annual Sewer Line Replacement	\$1,000,000
Pumping Station Upgrades	\$250,000
Union Street Sewer Reconstruction	\$150,000
Vehicle and Equipment Replacement	\$450,000
TOTAL	\$2,850,000

FY17 Sewer Bonded Projects

<u>Project Name</u>	<u>Amount</u>	<u>Funding Source</u>
* Peirce Island Wastewater Treatment Upgrades	\$75,000,000	Bond
Annual Sewer Line Replacement	\$2,500,000	Bond
Pumping Station Upgrades	\$400,000	Bond
Goose Bay Drive Sewer Replacement	\$500,000	Bond
TOTAL	\$78,400,000	

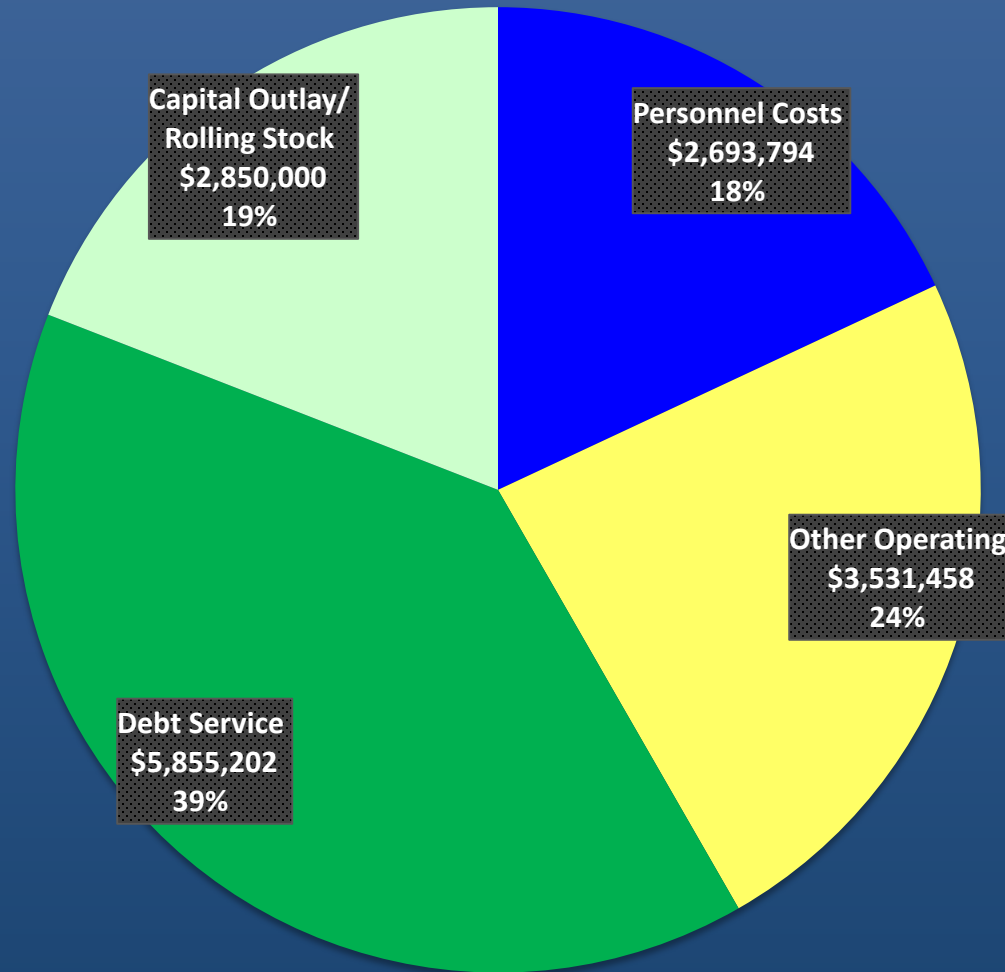
Note: * Council Authorization for Peirce Island Upgrade was \$75,000,000 per latest engineering estimate for total project funds needed for State Revolving Loan Fund

FY 17 vs. FY16 Sewer Fund Budget

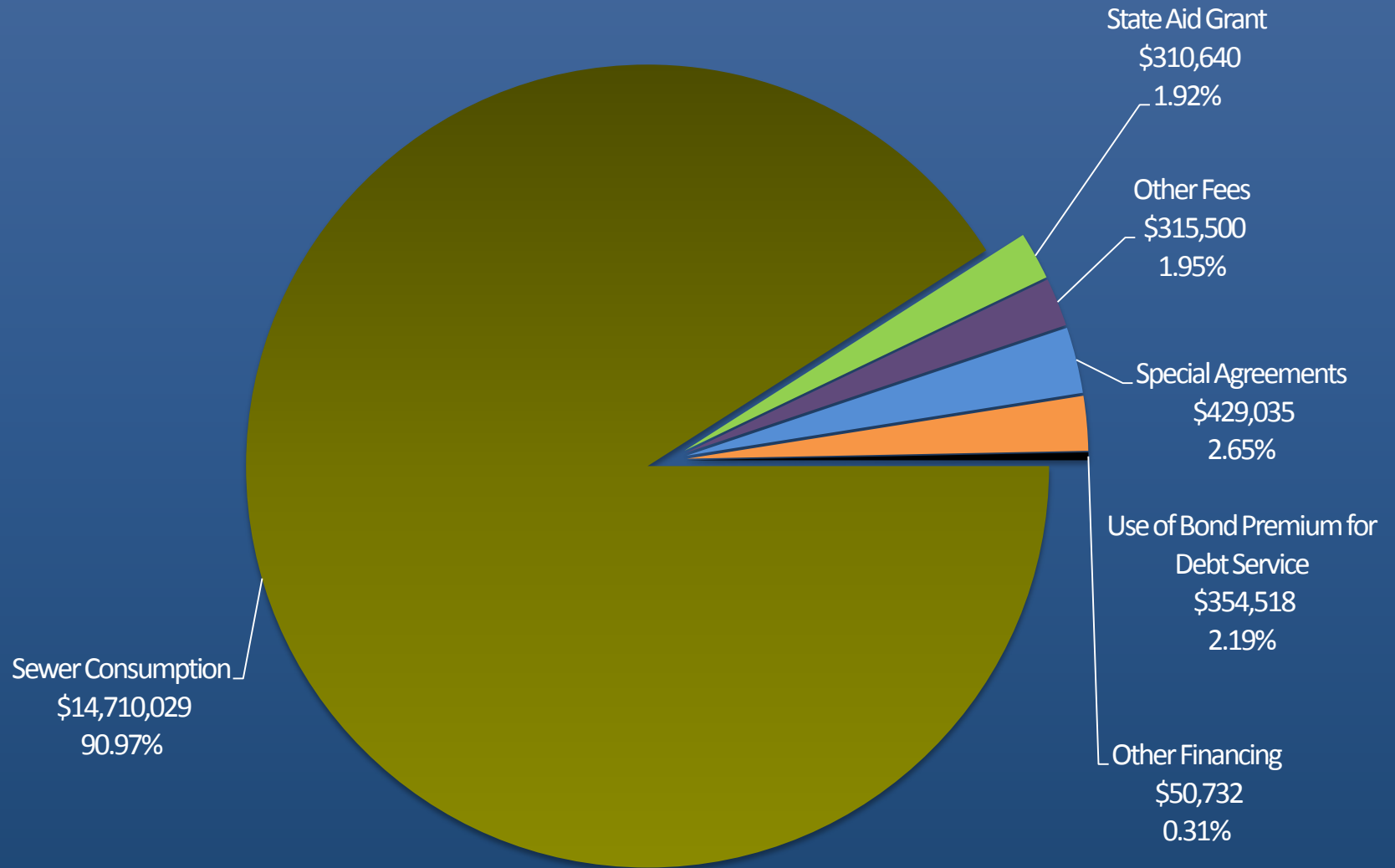
	FY16	FY17 Proposed Budget	FY16 vs FY17	Percentage of Budget
Chemicals	\$970,028	\$673,000	(\$297,028)	4.5%
Utilities	\$718,753	\$552,686	(\$166,067)	3.7%
Other Operating	\$565,308	\$504,961	(\$60,347)	3.4%
Permits Expenses/Legal Fees	\$205,000	\$147,500	(\$57,500)	1.0%
Rolling Stock	\$502,000	\$450,000	(\$52,000)	3.0%
Assistance Program	\$50,000	\$20,000	(\$30,000)	0.1%
Sludge/Grit Removal	\$327,000	\$320,500	(\$6,500)	2.1%
Stock Material	\$70,500	\$70,500	\$0	0.5%
Prof Contracted Services	\$145,759	\$150,259	\$4,500	1.0%
Equipment	\$174,500	\$189,000	\$14,500	1.3%
Administrative Overhead	\$552,326	\$571,227	\$18,901	3.9%
Personnel Costs	\$2,663,473	\$2,693,794	\$30,321	18.0%
Repairs & Maintenance	\$282,075	\$331,825	\$49,750	2.2%
Principal on Debt *	\$3,595,593	\$3,795,593	\$200,000	25.4%
Interest on Debt *	\$1,568,185	\$2,059,609	\$491,424	13.8%
Capital Projects *	\$950,000	\$2,400,000	\$1,450,000	16.1%
TOTAL	\$13,340,500	\$14,930,454	\$1,589,954	100%

* Capital Related Budget Funds = 58%

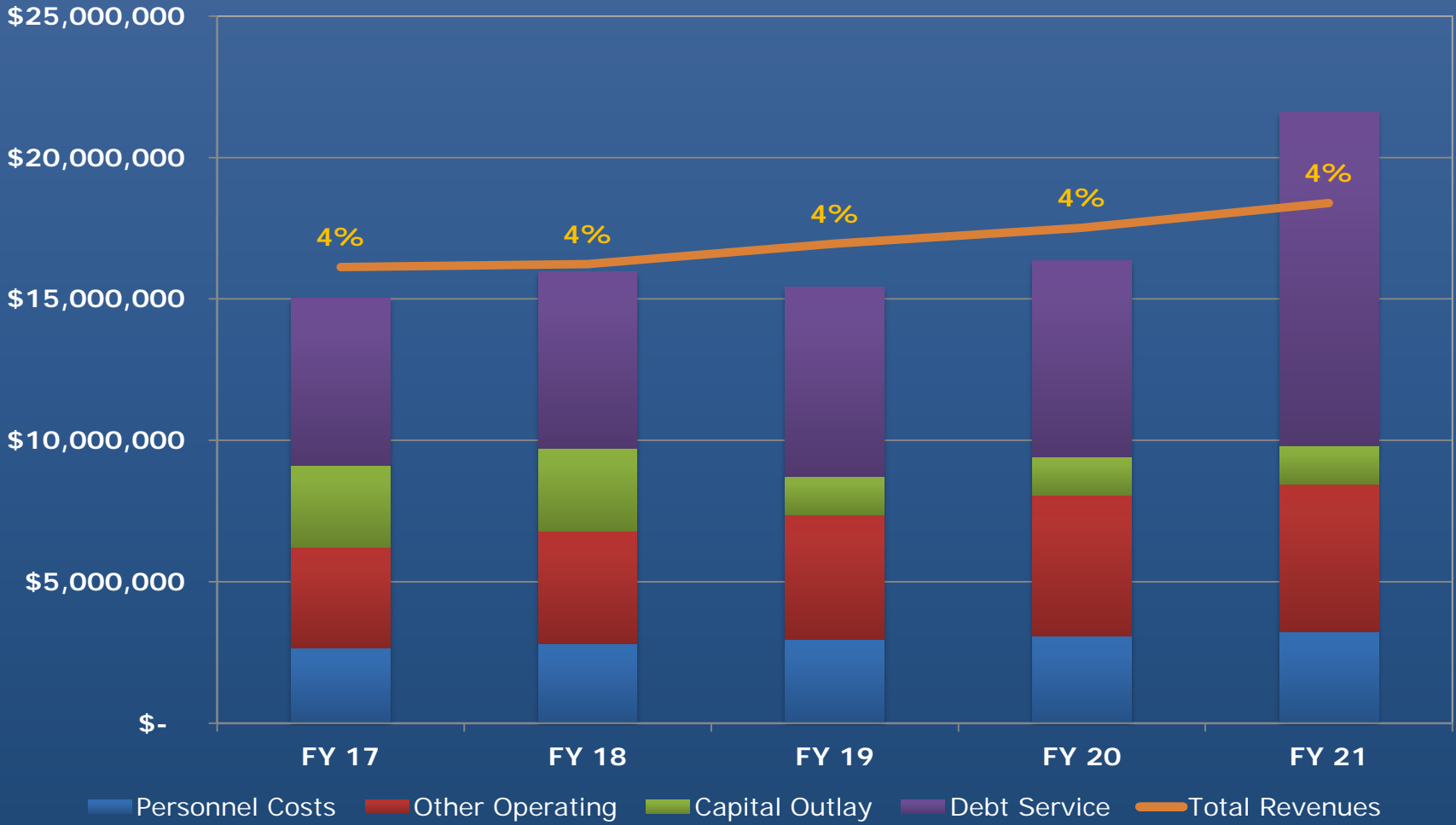
Cash Requirements: FY 17 Sewer Fund - \$14,930,454



FY 17 Estimated Sewer Revenues



Sewer Rate Projections



FY17 Sewer Rate Projections

Peirce Island WWTF Anticipated/ Actual Bond	FY16 Rate Increase	FY17 Rate Increase	FY18 Rate Increase	FY19 Rate Increase	FY20 Rate Increase
\$70.0M (FY16)	5%	5.5%	6%	6%	6%
\$75.0M (FY17)	N/A	4%	4%	4%	4%

Use of low interest rate SRF Loan for Peirce Island allows for modified adjustments in sewer rate.

FY17 Proposed Sewer Rate

4% Rate Change from FY 17

	FY 17 Proposed (per unit)
First Tier Rate (10 units or less per month)	
Capital Related rate, per unit billed	\$7.74
First 10 units billed per month	\$4.50
Total First Tier Rate	\$12.24
Second Tier Rate (over 10 units per month)	
Capital Related rate, per unit billed	\$7.74
Over 10 units billed per month	\$5.73
Total Second Tier Rate	\$13.47

1 unit = 748 gallons of water

FY17 Proposed Sewer Rate

Average Residential Customer Bill

FY17 Sewer Rate

Average Residential Customer Bill

Monthly Consumption in units

(1unit = 100 cf = 748 gallons)

	Rate	Billed Units	Month Charge
Capital Related Rate, per unit	\$7.74	5	\$38.70
1st Tier sewer service rates	\$4.50	5	\$22.50
Minimum Charge (5/8" meter)	\$0.00	n/a	\$0.00
Total Monthly Charge			\$61.20
Total Annual Charge			\$734.40

This increase results in a monthly increase of \$2.35 per month or \$28.20 per year for the average residential customer.

Rebate and Assistance Programs

Water Efficiency Rebate Program

Water and Sewer Enterprise Fund



\$100



\$150



Residential Toilet and Washing Machine Rebate Program

Low-Flow Toilets (281 total):

200 rebates issued in 2015

81 rebates through April 2016

High Efficiency Washing Machines (77 total):

71 rebates issued in 2015

6 rebates through April 2016

Rebate Program – Average Monthly Water Savings

Analysis of 20 Locations with Rebates (Non Irrigation Months)



Low Flow Toilets:

- Pre Rebate – 5,102 gallons/month
- Post Rebate – 3,567 gallons/month
- Savings – 1,535 gallons/month
- 50 gallons/day savings
- **30% Reduction**



High Efficiency Washing Machines:

- Pre Rebate – 3,861 gallons/month
- Post Rebate – 3,122 gallons/month
- Savings – 739 gallons/month
- 24 gallons/day savings
- **19% Reduction**

Assistance Program

- Assistance Program
 - Ongoing Assistance - 25% Discount on Water/Sewer
 - 28 customers assisted
 - Temporary Assistance - \$300 one-time credit
 - 4 customers assisted

City of Portsmouth NH Water and Sewer Assistance Programs



Program Effective Date: 01/01/15

If you are a current customer of the City of Portsmouth's Water and Sewer Division you may be eligible for one of the following assistance programs:

- (1) *Receive On-going Assistance of 25% off your water and sewer bills with the Water & Sewer Annual Assistance Program.*

Water & Sewer Annual Assistance Program

25% discount on water and sewer for income-eligible homeowners or tenants serviced by the City of Portsmouth's Division of Water and Sewer.

- (1) *Applicant must reside at the property and have a current water and sewer account at the address on the application.*
- (2) *See Application Section A for income restrictions.*
- (3) *Program discount is valid from date of acceptance forward. It is not applicable to any past due balances on the customer's account.*
- (4) *Applicant must provide the required documents as described on the application and schedule an appointment with the Billing Office.*

- (2) *Receive Temporary Assistance of up to a \$300 credit toward your water and sewer bill once per year.*

Water & Sewer Temporary Assistance

The City of Portsmouth Water and Sewer customers may receive up to a \$300 water and sewer credit if you have a verifiable financial hardship that occurred within the past six (6) months (e.g. major medical expenses, job loss, or a change in marital status).

- (1) *Applicant must reside at the property and have a current water and sewer account at the address on the application.*
- (2) *Must be a verifiable financial hardship (see application form for more details).*
- (3) *Applicant must provide the required documents as described on the application and schedule an appointment with the Billing Office.*



Water and Sewer Billing Office - City Hall
1 Junkins Ave
Portsmouth, NH 03801
603-610-7248 / www.cityofportsmouth.com

To access these services:

- 1. Verify your eligibility.**
Check your eligibility for the programs for which you are applying (see programs listed to left).
- 2. Complete the appropriate application.**
Be sure to include all requested documents as listed in the applications. Applications are available at City of Portsmouth Water & Sewer Billing Office.
- 3. Water & Sewer Assistance applicants must set up their appointment through the Billing Office.**

Please contact the Water & Sewer Billing Office located at Portsmouth City Hall to set up your appointment.

Phone # (603) 610-7248

Process Time for Applications:

Within three (3) weeks of your appointment you will receive a notification of approval, pending, or denial. Discounts through the Annual Assistance Program are good for one (1) year.

You need to apply each successive year thereafter.

Discussion