

TO: CHAIR AND MEMBERS OF THE UNION WATER
SUPPLY SYSTEM JOINT BOARD OF MANAGEMENT

FROM: RODNEY BOUCHARD, UNION WATER MANAGER

DATE: DECEMBER 15, 2016

RE: PROPOSED 2017 UWSS OPERATIONS AND CAPITAL BUDGET
REPORT



RECOMMENDATION

That the Union Water Supply System Joint Board of Management (UWSS Board) adopts the Draft 2017 Operational and Capital Budget for the Union Water Supply System;

And further, that the UWSS Board endorses an increase of \$0.05 per thousand gallons (\$0.0109 per cubic metre) for UWSS wholesale Rate 1 from \$2.67 per thousand gallons (\$0.5868 per cubic metre) to \$2.72 per thousand gallons (\$0.5978 per cubic metre) to be put into effect on April 1, 2017.

And further, that the UWSS Board endorses an increase of \$0.05 per 1000 gallons (\$0.0109/m³) is proposed for the Highbury Canco preferred rate. The new proposed Highbury Canco rate would be \$2.00 per 1000 gallons (\$0.4395/m³) to take effect on April 1, 2017.

REPORT HIGHLIGHTS

- Potable water demand from UWSS is anticipated to be approximately 3,200,000,000 imperial gallons (14,545,450 m³) for 2017. This is based on the average annual demand for the previous 4 years.
- UWSS Revenue for 2017 is estimated at \$8,841,000.
- Operational and Debt Service Expenditures for 2017 are estimated at \$7,043,000. This represents a 4.5% increase in expenditures as compared to 2016. This increase is mainly attributed to anticipated increases in electrical costs;
- 2016 Revenue versus Operational and Debt Service Expenditures are anticipated to result in a surplus of approximately \$1,798,000 for 2017 Fiscal Year;
- A Capital Program of \$2,895,000 is proposed for 2017. This includes large expenditures for Essex Water Re-coating (\$850,000) and complete upgrade of SCADA system (\$1,250,000).
- The proposed Capital Program for 2017 will result in a budgeted net deficit of **\$1,088,000** for 2017 fiscal year. The deficit will be funded using UWSS Reserves.
- An increase of \$0.05 per 1000 gallons (\$0.0109/m³) is proposed for the UWSS Wholesale Rate. The new proposed Rate 1 wholesale Rate would be \$2.72 per 1000 gallons (\$0.5978/m³) to take effect on April 1, 2017.
- An increase of \$0.05 per 1000 gallons (\$0.0109/m³) is proposed for the Highbury Canco preferred rate. The new proposed Highbury Canco rate would be \$2.00 per 1000 gallons (\$0.4395/m³) to take effect on April 1, 2017.

BACKGROUND:

Since the Transfer Order of January 2001, the Board is responsible for considering and approving an annual budget for the Union Water Supply System. The format of the budget is generally the same as that previously prepared for 2016.

This proposed budget is being presented to the UWSS board for consideration. The proposed 2017 budget is outlined to provide details in regards to the following:

- Anticipated revenue for 2017 from wholesale of water to the partner municipalities;
- Anticipated operating expenditures for 2017 including estimated costs for operation of the system by the Ontario Clean Water Agency (OCWA), under its contract with UWSS;
- Proposed Capital Works program for 2017 for UWSS;
- Forecasted Operational Expenditures and Capital Works program for 2017-2022.

DISCUSSION:

The Proposed 2017 Budget documents have been prepared based on the discussions with the contracted operator, OCWA, in regards to operational budget, major maintenance needs, and existing operational issues that would require implementation of capital works to resolve. The Budget documents reflect the following:

- The operations and maintenance costs associated with the 5-Year Fixed Fee Operations Agreement between UWSS and OCWA that came into effect on January 1, 2014;
- The large proposed capital budget for 2017 that includes projects with large expenditures such as the Essex Water Tower re-coating project and complete upgrades to the SCADA system.

Details regarding the budget components are discussed below.

OPERATING EXPENDITURES

Expenditures for the Union Water Supply System (UWSS) consist of a) *Fixed Expenditures*, which includes the OCWA operations contract, UWSS Administration and debt service; and b) *Programs and Studies* that are proposed for 2017. The total projected expenditures for 2017 is budgeted at approximately at \$7,043,000.

Fixed Expenditures

Fixed expenditures for the budget process include the OCWA Operations Budget, UWSS Administrative Budget, Electricity and heating costs, and Debt Service. The total fixed expenditures for 2017 is budgeted at \$6,808,000. The fixed expenditures consist of the following components:

OCWA Operations Budget:	\$2,766,240
UWSS Administrative Budget:	\$ 496,946
Electricity and Natural Gas:	<u>\$1,250,000</u>
<i>Total Operations, Administrative, Energy:</i>	<i>\$4,513,186</i>
Debt Service:	
Sunlife Debt (MFP Debt):	\$2,294,701
Woodslee Credit Union Loan:	\$0
OSIFA (municipal debentures):	\$0
Leamington Debt Repayment:	<u>\$0</u>
<i>Total Debt Service:</i>	<i>\$2,294,701</i>
Total Fixed Costs:	\$6,807,887

Programs and Studies

A number of Programs and Studies are included in the 2017 Budget. These studies are designed to achieve one of the following goals:

- Assess and improve operational processes to improve cost efficiencies potentially resulting in decrease of fixed operations costs such as electricity costs and chemical costs;
- Evaluate water demand and water usage by various sectors including residential, commercial, industrial, and food processing/greenhouse industry;
- Evaluate water quality for potential issues such as toxic algae in raw water, nitrification issues in larger distribution systems, etc.

For the 2017 budget year, \$235,000 has been allocated to Programs and Studies. The following studies are proposed or currently in place:

Water Demand/Usage: This work is being conducted with assistance from various partners (OCWA, Universities, Consultants, local municipalities) to evaluate water demand/usage from large users (e.g. Greenhouse operations) through real-time monitoring instrumentation. The data will be used to refine the UWSS' Master Plan and the UWSS hydraulic water model.

For the 2017 Budget year, UWSS' commitment to this project is \$25,000

Water Quality Investigations: The funds of \$35,000 allocated for water quality investigations includes a continuation of a partnership with Canadian Water Network for work associated with the assessment and evaluation of source water related impacts to the UWSS drinking water system. It also includes collection and evaluation of water quality data from UWSS to help support research of toxic algae effects on drinking water through studies with University of Toronto and University of Montreal

Dissolved Air Flotation (DAF) Pre-treatment Assessment: It is proposed that UWSS will undertake a review of the existing clarification process at the UWSS Treatment Plant for the proposed retrofit of existing clarifiers to Dissolved Air Flotation (DAF) clarification process. DAF water treatment technology is proven to be one of the most effective processes for removal of algae and also has the potential to significantly improve the clarification process at UWSS.

For the 2017 Budget year, \$125,000 has been allocated for this study.

Energy Audit/ Energy Optimization Assessment: It is proposed that UWSS will implement a full energy audit and energy optimization assessment of its Low lift and Treatment Plant facilities in 2017. The assessment will be designed to identify, plan, and implement energy related cost savings measures for UWSS facilities. It is noted that energy costs are the second largest annual expenditures incurred by UWSS. Expected energy usage at UWSS facilities, including electricity and natural gas heating, for 2017 (i.e. \$1,250,000) will account for approximately 18% of the 2017 budgeted fixed expenditures. It is anticipated that the results of this work will identify a number of energy use reduction opportunities and strategies that can be implemented at UWSS.

For the 2017 Budget year, \$50,000 has been allocated for these water quality studies. It should be noted that the Ontario SaveONEnergy program has grant funding available for undertaking energy reduction assessments and implementation of energy reduction strategies.

This study was scheduled to be completed in 2016; however, the study was put on hold until 2017 due to delays associated with grant funding approvals associated with this work.

Operating Expenditure Summary

Fixed Expenditures:	\$6,807,887
Programs and Studies:	<u>\$ 235,000</u>
Total Operating Expenditures for 2017:	\$7,042,887

REVENUE

Revenue for the budget process is mainly based on wholesale billings from the sale of potable water to the 4 municipal owners. A smaller component of revenue is based on miscellaneous revenue such as investment income and sundry income. The total estimated revenue for 2017 is \$8,841,000

Wholesale Water Revenue Summary

Wholesale water revenue is based on annual water usage by the 4 owner municipalities and the wholesale water rates. This also includes wholesale water revenue to Highbury CanCo, which started operations in late June 2014 at the former HJ Heinz Plant facility in Leamington, Ontario.

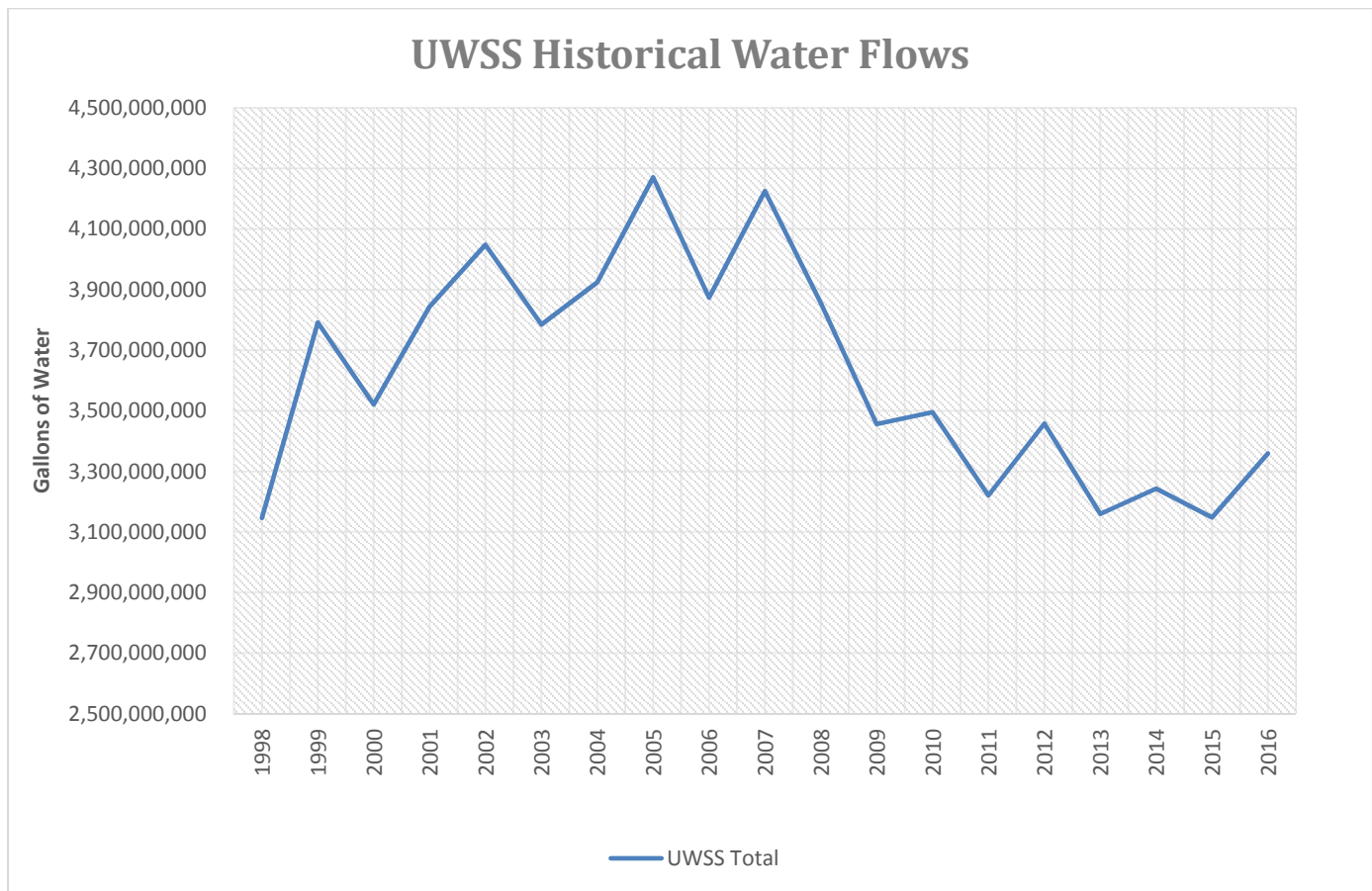
Water Usage

The projected water “usage” by municipal owners for 2017 is 3,200,000,000 imperial gallons (14,545,455 m³) of potable water. This usage estimate is based on the average water demand for the 4 previous years.

Figure 1 depicts the total UWSS water usage trend from 1998-2016.

Figure 2 depicts the water usage trend by each municipal partner from 1998-2016.

Figure 1



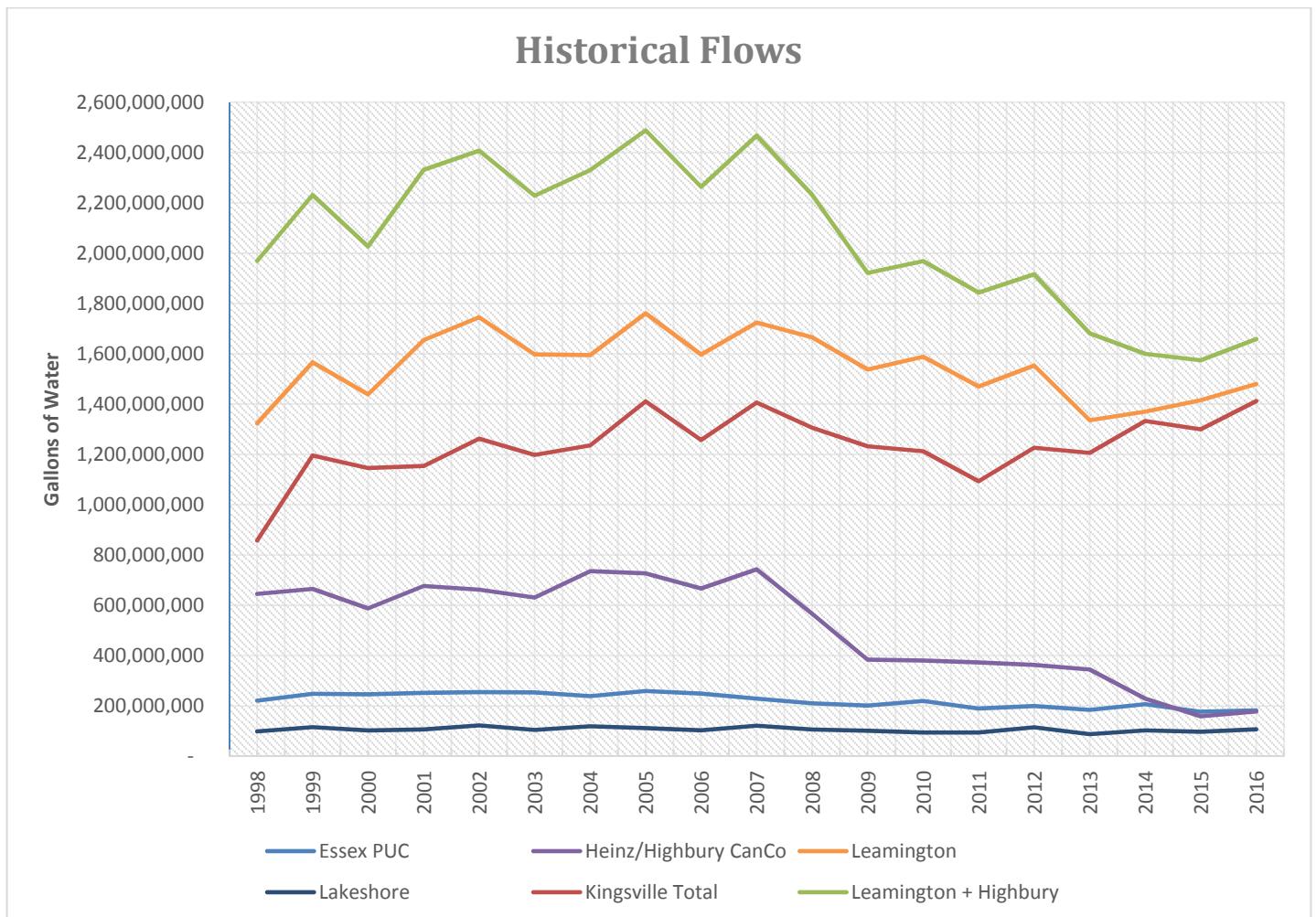
Wholesale Water Rates

For the 2017 budgeting process, it is proposed that an increase of \$0.05 per 1000 gallon (\$0.0109/m³) be applied to the UWSS wholesale rate and to the preferred rate provided to Highbury Canco. This would result in a 2017 UWSS wholesale rate of \$2.72 per 1000 gallons (\$0.5978/m³) and Highbury Canco preferred rate of \$2.00 per 1000 gallons (\$0.4395/m³). It is proposed that the increase for these rates be applied at the start of the 2nd quarter 2017, thus on April 1, 2017.

The following provides 2017 estimates for water rate revenue:

Municipal wholesale:	3,035,000,000 Imp. Gals @ \$2.72/1000 gals =	\$8,255,200
Highbury Canco:	165,000,000 Imp Gals @ \$2.00/1000 gals =	<u>\$330,000</u>
Total Water Rate Revenue Total:		\$8,585,200

Figure 2



Miscellaneous Revenue

Miscellaneous revenue includes income from investments and sundry income.

Investment (interest) income:	\$ 232,000
Sundry revenue:	<u>\$ 24,000</u>
Total Misc. Revenue:	\$ 256,000

Sundry revenue is revenue received from various sources such as lease of space on water towers for telecommunications equipment. The estimated sundry revenue for 2017 is \$24,000 and is roughly based on 2016 revenue.

Revenue Summary

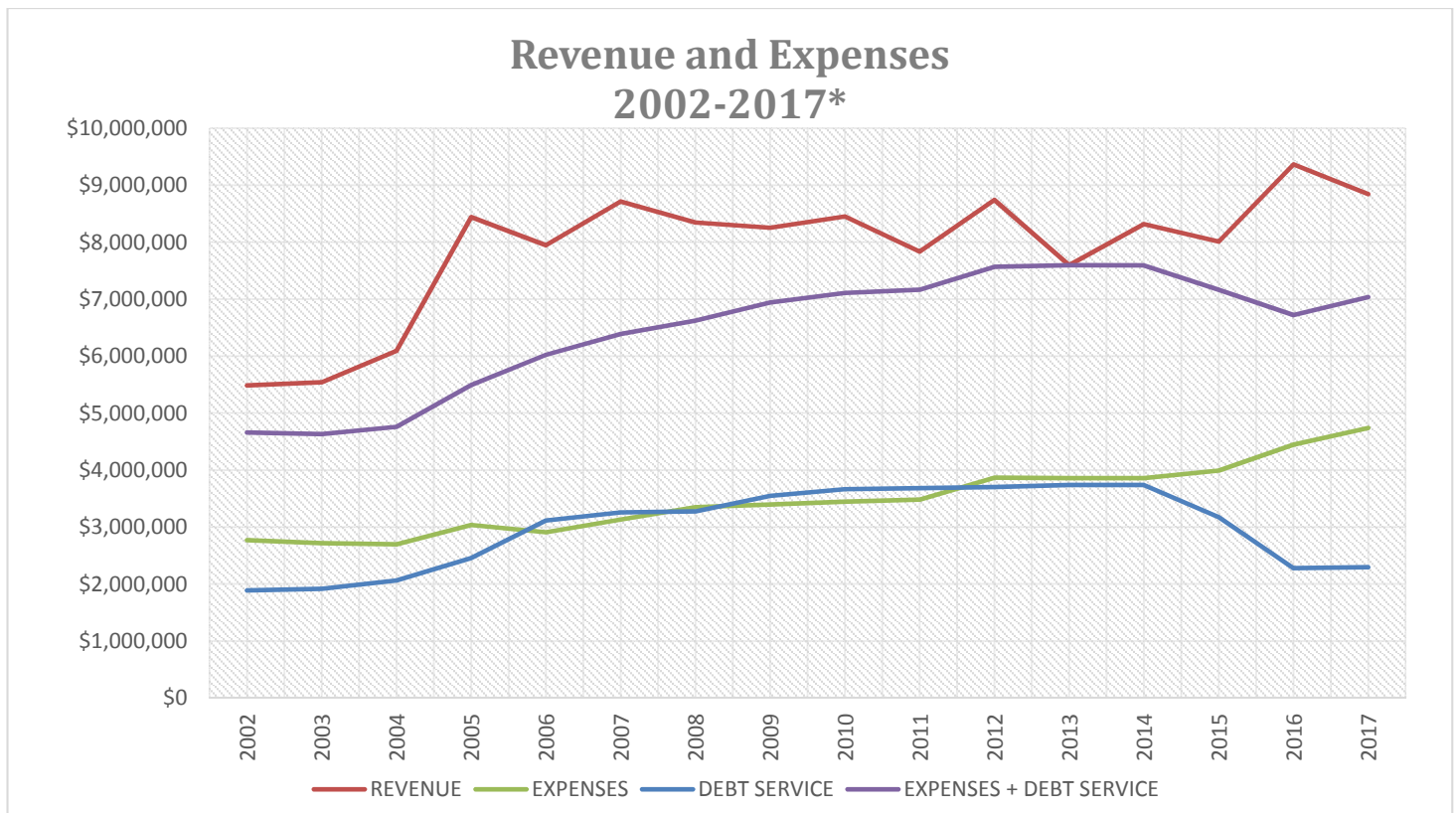
Wholesale Rate Revenue:	\$8,585,200
Miscellaneous Revenue :	<u>\$ 256,000</u>
Total Estimated Revenue for 2017:	\$8,841,200

REVENUE VERSUS OPERATING EXPENDITURES

A comparison of Revenue versus Expenditures for 2017 budget is as follows. It should be noted that the total estimated expenditures also include the proposed budget for operational Programs and Studies of \$235,000.

Total Estimated Revenue:	\$8,841,200
Total Estimated Expenditures:	<u>\$7,042,887</u>
Surplus/(Deficit):	\$1,798,313

Figure 3



CAPITAL PROGRAM

The proposed Capital Program for 2017 is budgeted at \$2,895,000. This includes major Capital Equipment Purchases (e.g. vehicles, heavy equipment) and major Capital Works.

Capital Works:

The following major capital works projects are proposed for 2017:

SCADA System Upgrade - New SCADA System:	\$1,250,000
Essex Water Tower Re-Coating:	\$ 850,000
Filter Media Replacement - Filters #5 & #7:	\$ 140,000
Residuals Lagoon Excavation - South Lagoon:	\$ 100,000
Lagoon Residuals Materials Management:	\$ 100,000
Front Foyer/Entrance Upgrades:	\$ 75,000
Distribution System Valves and Components:	\$ 60,000
Master Meter Replacements/Upgrades:	\$ 50,000
High Lift Pump #4 Rehabilitation:	\$ 45,000
Carbon Scrubber System Upgrade:	\$ 40,000
Low Lift Pump #5 Major Maintenance:	\$ 35,000
Security System Install:	\$ 30,000
Window Replacements-Treatment Plant (Year 3 of 3):	\$ 25,000
Turbidity Meter Upgrades (Year 3 of 3 year Program):	\$ 25,000
Chlorine Analyzer Replacements (Year 2 of 2yr Program):	\$ 20,000
Microstrainer Floors:	\$ 20,000
Filter Meter Upgrades (Year 2 of 3-year Program):	\$ 15,000
High Lift #1 Compressor Replacement:	<u>\$ 15,000</u>
Total Capital Works for 2017:	\$2,895,000

BUDGET SUMMARY

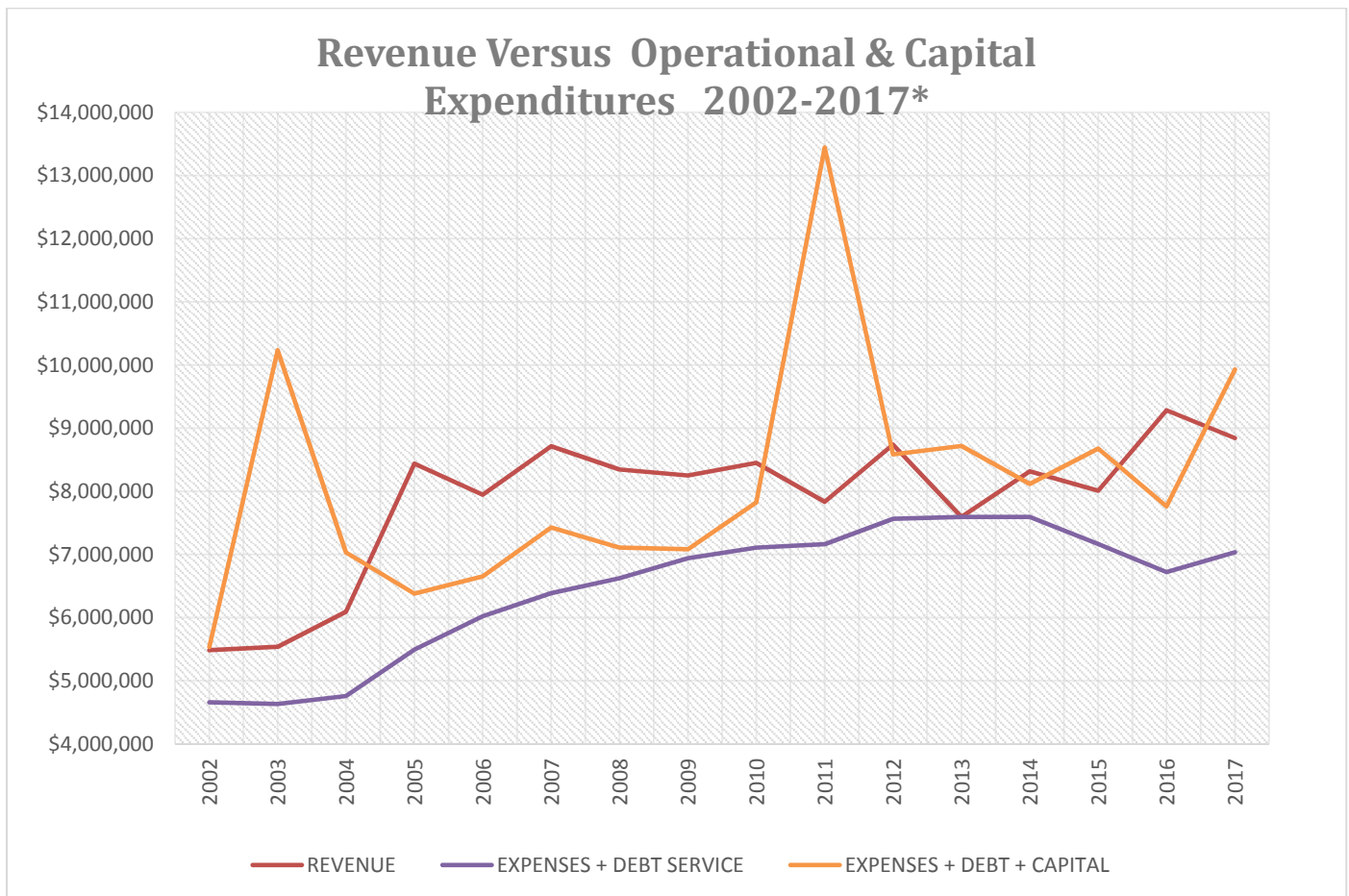
The proposed 2017 budget is summarized as follows:

Total Estimated Revenue: (includes wholesale rate revenue and miscellaneous revenue)	\$8,841,200
Total Estimated Operating Expenditures: (includes Operations Contract, UWSS Admin, Programs & Studies)	<u>(\$7,042,887)</u>
Revenue versus Operating Expenditures: Surplus/ (Deficit)	\$1,798,313
Capital Program: (includes Capital Purchases and Capital Works)	<u>(\$2,895,000)</u>
NET SURPLUS/ (DEFICIT): (Operating surplus/deficit less Capital Program)	<u>(\$1,088,052)</u>

Figure 4 below provides a chart that compares historical UWSS Revenue versus Operating and Capital Expenditures.

Appendix A to this report includes worksheets and tables that provide details on the 2017 Operations and Capital Budgets including a Budget Summary worksheet, Operations and Debt Detail worksheet, 2017 Capital Budget Details worksheet, and a Water Flow and Revenue worksheet.

Figure 4



CASH /RESERVES VERSUS DEBT

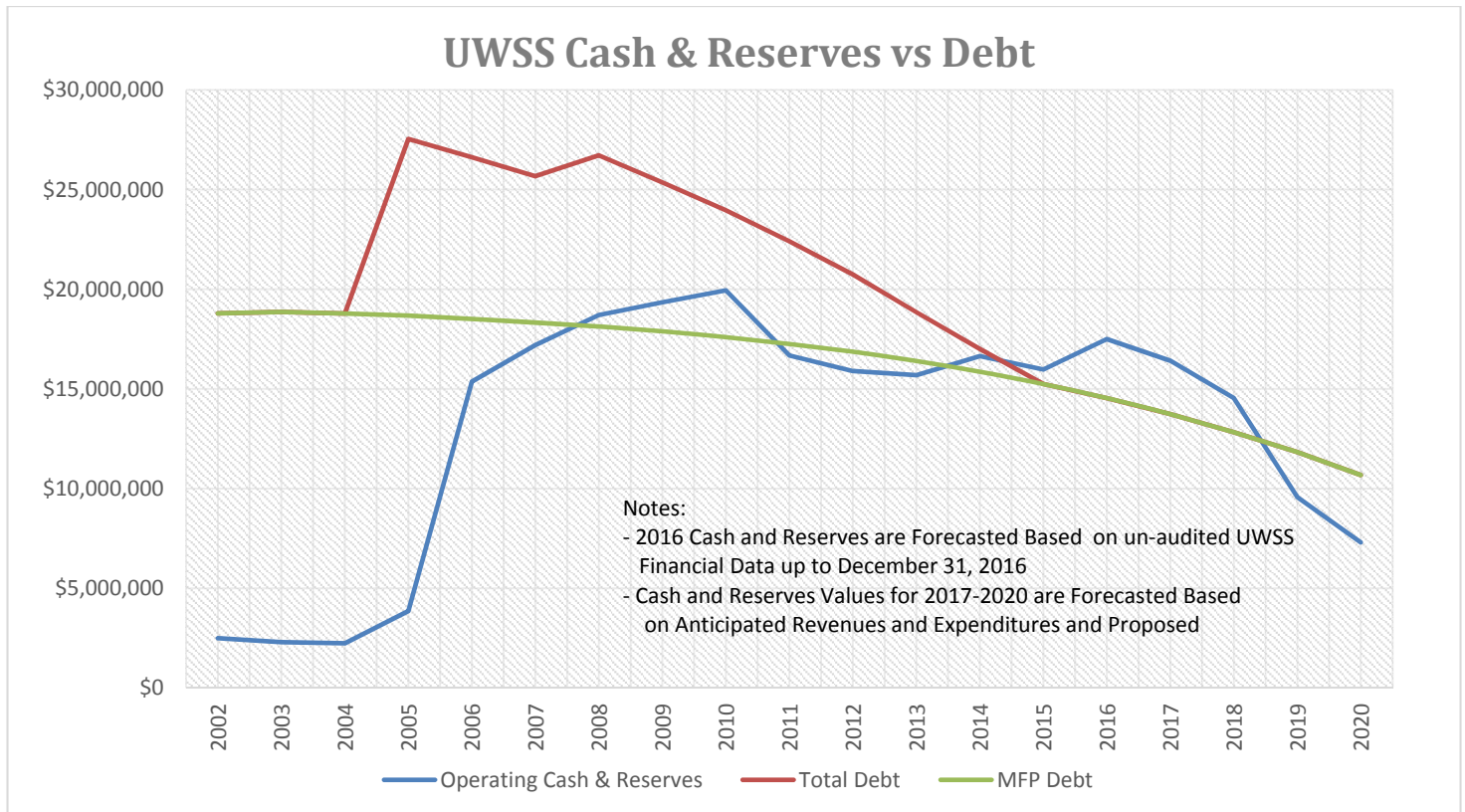
Cash and Reserves for UWSS as of January 1, 2017 are forecasted to be approximately \$17,100,000. It should be noted that of the estimated \$17,100,000 in available cash and reserves for 2017, approximately \$10,000,000 are dedicated to UWSS Settlement Reserve, which is associated with the 2006 settlement that was reached regarding the MFP debt. Although the UWSS Board has authority to do with these funds as it sees fit, the intent is to keep these funds in an interest bearing investment funds to offset the annual MFP Debt obligation and to function as a rate stabilizing Reserve Fund.

The 2017 Operating and Capital Budget projects a Net Deficit of (\$1,088,000) for 2017 year end. Thus, it is anticipated that UWSS reserves at the end of 2016 will decrease to approximately \$16,000,000

Based on debt repayment schedules, the total UWSS long term debt balance for as of January 2017 is \$13,738,634 and consists solely of the Sunlife Debt (MFP Debt).

Figure 5 presents a graph comparing Total Debt and MFP Debt versus Cash Equivalents. It should be noted that “Cash & Reserves” for 2017-2020 are projected based on anticipated Revenues, Expenditures, and proposed Capital Works and are subject to significant changes.

Figure 5



PROPOSED 6-YEAR CAPITAL WORKS PLAN

The UWSS General Manager, with assistance and input from OCWA Operations Staff has developed a proposed 6-year Capital Works Plan (2017-2022) for the UWSS. This Plan reflects the UWSS Manager’s intention to undertake upgrades and improvements to the UWSS to address lifecycle replacement/upgrade issues and to improve water treatment, storage and transmission efficiencies.

The following large capital works are included in the 6-Year Capital Plan:

<u>Year</u>	<u>Proposed Capital Works</u>	<u>Estimated Cost</u>
2018	- Clarifier Retrofit to Dissolved Air Flotation (DAF)	\$2,000,000
	- Chlorine Gas System Retrofit with Dry Scrubber	\$750,000
2019	- UV Disinfection System in Primary Reservoir	\$5,500,000
2020	- Second Clarifier Retrofit to DAF	\$2,000,000
	- Residuals Management System Upgrades	\$1,750,000
2021	- Replacement of 12-inch watermain to Cottam Booster	\$6,000,000

The large capital items identified in the Table above are currently included as “placeholders” and undertaking of such works would be subject to thorough technical and financial evaluation and approval by the UWSS Board. Costs associated with these future capital works are preliminary and are included for Capital Planning and Finance purposes and are subject to change. The Proposed 6-Year Capital Plan is included as Appendix B to this Report. The Plan identifies the proposed works for each year and the anticipated value of the works.

CONCLUSIONS:

It is the UWSS Manager’s opinion that the Budget presented in this report provides a Budget for UWSS that is fiscally prudent while also providing for the major maintenance and lifecycle replacements needed to ensure that UWSS facilities and operations are effective and sustainable for the future.

Respectfully submitted,



Rodney Bouchard, General Manager
Union Water Supply System Joint Board of Management

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**2017 UWSS DRAFT OPERATIONS AND CAPITAL BUDGET
TABLES AND DETAILS**

December 15, 2016 - UW/34/16

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Re: Proposed 2017 UWSS Operations and Capital Budget

**UWSS 6-YEAR CAPITAL PLAN
TABLES AND DETAILS**