REPORT OF INDEPENDENT AUDITORS AND FINANCIAL STATEMENTS WITH REQUIRED SUPPLEMENTARY INFORMATION AND OTHER INFORMATION

KING COUNTY WATER QUALITY ENTERPRISE FUND (AN ENTERPRISE FUND OF KING COUNTY, WASHINGTON)

December 31, 2018 and 2017

MOSSADAMS

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Report of Independent Auditors

To the Metropolitan King County Council
Seattle, Washington

Report on the Financial Statements

We have audited the accompanying financial statements of the King County Water Quality Enterprise Fund (Water Quality), which comprise the statements of net position as of December 31, 2018 and 2017, and the related statements of revenues, expenses, and changes in net position, and cash flows for the years then ended, and the related notes to the financial statements.

Management's Responsibility for the Financial Statements

Management is responsible for the preparation and fair presentation of these financial statements in accordance with accounting principles generally accepted in the United States of America; this includes the design, implementation, and maintenance of internal control relevant to the preparation and fair presentation of financial statements that are free from material misstatement, whether due to fraud or error.

Auditor's Responsibility

Our responsibility is to express an opinion on these financial statements based on our audits. We conducted our audits in accordance with auditing standards generally accepted in the United States of America. Those standards require that we plan and perform the audits to obtain reasonable assurance about whether the financial statements are free from material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the financial statements. The procedures selected depend on the auditor's judgment, including the assessment of the risks of material misstatement of the financial statements, whether due to fraud or error. In making those risk assessments, the auditor considers internal control relevant to the entity's preparation and fair presentation of the financial statements in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the entity's internal control. Accordingly, we express no such opinion. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of significant accounting estimates made by management, as well as evaluating the overall presentation of the financial statements.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

Opinion

In our opinion, the financial statements referred to above present fairly, in all material respects, the financial position of the King County Water Quality Enterprise Fund as of December 31, 2018 and 2017, and the results of its operations and its cash flows for the years then ended in accordance with accounting principles generally accepted in the United States of America.

Other Matters

Required Supplementary Information

Accounting principles generally accepted in the United States of America require that the Management's Discussion and Analysis, the Schedule of the County's Proportionate Share of the Net Pension Liability, Schedule of the County's Contributions to the Pension Plan, and Schedule of the County's Changes in Total OPEB Liability and Related Ratios for the Postemployment Health Care Plan be presented to supplement the basic financial statements. Such information, although not a part of the financial statements, is required by the Governmental Accounting Standards Board who considers it to be an essential part of financial reporting for placing the financial statements in an appropriate operational, economic, or historical context. We have applied certain limited procedures to the required supplementary information in accordance with auditing standards generally accepted in the United States of America, which consisted of inquiries of management about the methods of preparing the information and comparing the information for consistency with management's responses to our inquiries, the financial statements, and other knowledge we obtained during our audit of the financial statements. We do not express an opinion or provide any assurance on the information because the limited procedures do not provide us with sufficient evidence to express an opinion or provide any assurance.

Other Information

Our audits were conducted for the purpose of forming an opinion on Water Quality's financial statements. The Supplemental Schedule of Debt Service Coverage Ratios and Supplemental Schedule of Historical Debt Service Coverage Ratios are presented for purposes of additional analysis and are not a required part of the financial statements. Such information is the responsibility of management and was derived from and relates directly to the underlying accounting and other records used to prepare the financial statements. The other information has not been subjected to the auditing procedures applied in the audit of the financial statements and, accordingly, we express no opinion on it.

Moss Adams LLP

Seattle, Washington
April 30, 2019

The management of King County Water Quality Enterprise Fund (Water Quality) presents to readers of its financial statements this narrative overview and analysis of its activities and financial performance for the fiscal years ended December 31, 2018 and 2017.

The Sewer System

Water Quality provides regional wastewater treatment services to Western Washington in King County, part of Snohomish County, and part of Pierce County with a service area encompassing over 424 square miles. The major wastewater treatment facilities include three secondary treatment plants at West Point in Seattle, South Plant in Renton and the Brightwater Treatment Plant located near Woodinville and two smaller secondary treatment plants at Vashon Island and Carnation, 391 miles of interceptors, 47 pump stations, and 25 regulator stations. Other facilities include four combined sewer overflow (CSO) treatment plants and 39 CSO control locations. The sewer system collected and treated an average of 177 million gallons per day (MGD) in 2018 from approximately 1.8 million residents.

Financial Highlights

During 2018, Water Quality provided sewage treatment services to 760,571 residential customer equivalents (RCE) compared to 756,916 in 2017 and 756,430 in 2016. An RCE is one single-family residence or an equivalent unit of 750 cubic feet of monthly water consumption for all other customers such as multifamily residential, commercial, and industrial properties. The capacity charge program added 12,906 new connections to its customer billing base in 2018. The program added 12,484 and 10,743 new connections in 2017 and 2016, respectively. In 2018, the average flow of the five treatment plants was 177 MGD with a peak daily flow of 482 MGD. Maximum system capacity was 868 MGD in 2018 and 862 MGD in 2017. The average daily flow fluctuated between a peak of 177 MGD in 2018 and 194 MGD in 2017. The annual fluctuation in flows largely depends on the amount of annual precipitation.

In 2018, resource recovery delivered 129,568 tons compared to 117,195 tons in 2017 of Loop® biosolids to customers for use in forest management, agriculture, and composting. Approximately 76.9 million gallons compared to 108 million gallons in 2017 of Class A reclaimed water was distributed for irrigation, urinals/toilets, municipal purposes, and wetland enhancement and about 669 million gallons of filtered, treated wastewater compared to 621 million gallons in 2017 were used for internal treatment plant processes. The permitted capacity for the South Plant reclaimed water facility is a filter feed loading of 1.3 MGD and the Brightwater permitted reclaimed water treatment capacity is 21 MGD.

Water Quality sold 2.5 million therms of natural gas to Puget Sound Energy from the South Treatment Plant in 2018 and 2.4 million therms in 2017. Congressional action under the Energy Independence Security Act and subsequent rule-making by the Environmental Protection Agency (EPA) created an opportunity for Water Quality to monetize the environmental benefit of its biofuel through the generation and sale of environmental attributes called RINS (Renewable Identification Numbers). In November 2016, King County entered an agreement with IGI Resources, Inc., for the sale of bio-methane from South Plant and the corresponding RINS. In 2018, RINS revenues were $4.4 million from which $762 thousand was paid for operational costs to fulfill the administrative and operations requirements of the contract and to improve the operation of the biogas system. In 2017, RINS revenue totaled $5.6 million from which $785 thousand was paid for operational and administrative costs and improvement of the operation of the biogas system. West Point Treatment Plant sold Seattle City Light 10.9 million kilowatt hours of electricity generated from digester gas in 2018 and 10.9 million kilowatt hours in 2017.

Financial Highlights (continued)

The Industrial Pretreatment Program conducted 297 inspections and took 1,777 compliance samples in 2018 compared to 339 inspections and 1,735 compliance samples taken in 2017. The program currently tracks 551 facilities with discharge authorization permits and 109 significant industrial users compared to 585 facilities with discharge authorization permits and 111 significant industrial users in 2017.

In 1999, the Metropolitan King County Council adopted the Regional Wastewater Services Plan (RWSP) to construct additional capacity, protect public health and provide for future projected population growth in its service area through 2030. Major RWSP projects include improvements to the regional Conveyance system and CSO control projects. Total capital program expenditures were $225.6 million in 2018 and $192.0 million in 2017.

Water Quality currently has 39 CSO locations plus four CSO treatment facilities. Past investments conducted in concert with the City of Seattle have resulted in a significant reduction in combined sewer overflows from a baseline of 2.3 billion gallons per year in years 1980–1983 to an average of 1 billion gallons per year at present.

In 2012, the EPA entered into a consent decree with Water Quality to reduce CSO overflows to meet regulator's standards for discharges or treatment by 2030. The consent decree is based on Water Quality's 2012 Amended Long-term CSO Control Plan (the Plan). The Plan amended the original total of 21 CSO projects to 13 projects that will control 18 CSO locations. By 2018, five projects were either completed or operational and under monitoring for compliance. At present, four of the remaining nine projects are underway, including a joint project with the City of Seattle to control two King County CSO locations.

The EPA and Washington State Department of Ecology (DOE) will monitor Water Quality's progress with CSO control and work closely with the enterprise going forward to meet CSO control requirements. In accordance with the county's National Pollutant Discharge Elimination System (NPDES) permit for the West Point Treatment Plant and the consent decree, a review of the CSO Program was submitted to the DOE as part of the West Point permit renewal, stating no changes to the Plan. The next update to the Plan is due to the DOE and EPA in 2024 as part of the next West Point NPDES permit renewal.

On February 9, 2017, during heavy rainfall in the Seattle area, the West Point treatment plant was operating at peak hydraulic capacity when a partial interruption of power supply occurred. The ensuing cascade of events caused several elements of the treatment plant to fail, culminating in flooding of the plant and leading to the emergency bypass of the treatment system and the discharge into Puget Sound of an estimated 180 million gallons of stormwater mixed with untreated sewage. Water Quality was able to restore primary treatment to the plant on February 28, 2017. On May 8, 2017, secondary treatment and full regulatory compliance was restored.

Financial Highlights (continued)

Water Quality incurred $23.8 million in operating and capital costs to remediate damage at West Point in 2017 and 2018. In December 2018, it reached a final settlement of $22.5 million with its insurer for the damage that was sustained from the flood. Of this amount, $12.5 million was advanced in 2017 and was recorded as other nonoperating revenue. Netted against this advance were an asset impairment loss of $1.6 million and recovery costs of $10.0 million, resulting in a net gain of $883 thousand. The balance of the settlement has been recorded as other nonoperating income in 2018. Water Quality incurred and capitalized an additional $4.5 million in 2018 and $10.0 million in 2017 in capital assets to remediate the flood damage at West Point.

The DOE issued a Notice of Penalty against Water Quality in September 2017 in the amount of $361 thousand for permit violations stemming from the incident and an Administrative Order requiring that six corrective actions be implemented. In June 2018, Water Quality reached a settlement to pay a penalty of $74 thousand and to contribute $287 thousand for ecological studies and restoration projects to be completed by the end of 2022.

In April of 2016, the Magnolia CSO Control Facility entered service and functioned until a pipeline leak was detected on November 2, 2016. An extensive analysis was undertaken by Water Quality project management in conjunction with the project contractor to determine the root cause of the leak and a corrective course of action. The work continued until December, 2017 when the project team decided on a plan to destroy the existing pipe and replace it with a continuous pipeline. Water Quality determined the original pipeline a total loss and impairment in accordance with governmental accounting standards. The storage tank and other components of this project remain intact and depreciation for them continued since the expected life of the facility remains as originally capitalized. The carrying value of the fully retired pipeline was $9.6 million in 2017. The costs associated with replacing the pipeline are still being determined and will be capitalized in 2019. Water Quality has filed a claim against the contractor’s insurance policy to recover its costs related to the loss of the failed pipeline and its replacement.

Water Quality operating revenues increased by 1.4 percent, or $6.9 million, to $509.5 million in 2018 from $502.6 million in 2017 while operating expenses before depreciation and amortization decreased by 1.1 percent, or $1.6 million, to $139.5 million in 2018 from $141.1 million in 2017. The decrease in operating expenses before depreciation and amortization are due primarily to an actuarial pension expense reduction.

The monthly sewer rate stayed the same at $44.22 in 2018 and 2017. In 2017, it increased to $44.22 from $42.03 per RCE in 2016. The capacity charge rate increased to $62.60 per RCE in 2018 from $60.80 per RCE in 2017. Capacity charge revenues increased 5.1 percent, or $4.2 million, to $86.8 million in 2018 from $82.6 million in 2017. The RCE’s billed for sewer treatment services increased to 760,571 in 2018 from 756,916 (based on sewer revenues that include sewer agency prior year adjustments) in 2017. The County allows the capacity charge to be prepaid on a discounted basis at the customer’s option. The discount rate reflects the 15-year mortgage and 10- and 20-year investment rates and was 2.9 percent in 2018 and 2017. In June, 2018, the County Council adopted a capacity charge of $64.50, and a sewer rate of $45.33 per RCE for 2019, reflecting a 2.5 and 3.0 percent increase, respectively, from 2018.

Financial Highlights (continued)

The rate stabilization reserve, as mandated by the Metropolitan King County Council as part of its rate setting activities, permits Water Quality to set aside a portion of current revenue for future periods in order to moderate the impact of rate increases over time. The rate stabilization reserve was unchanged at $46.3 million in 2018 and 2017. Future deposits to the rate stabilization reserve will decrease operating revenues and debt service coverage in the year of the deposit. Withdrawals will have the opposite effect of increasing operating revenues and debt service coverage in the year the rate stabilization reserve is reduced.

In January of 2018, Water Quality voluntarily redeemed $920 thousand of principal on its Junior Lien Sewer Revenue bonds, Series 2015A and 2015B. In October 2018, Water Quality purchased and deposited U.S. Treasury securities in an irrevocable escrow to defease $135.8 million of outstanding 2010, 2011B, and 2012 Sewer Revenue and Refunding bonds. Substantially all of the funding for the escrow came from the $144.9 million Brightwater judgement awarded to the County in 2016. In November 2018, Water Quality issued $124.5 million in Sewer Revenue Bonds, Series 2018B, to fund its capital program. In December 2018, Water Quality remarketed two Junior Lien Variable Sewer Revenue Bonds, Series 2011 and 2012 at $100.0 million each. These were remarketed at fixed rates of 2.5 and 2.6 percent respectively, and are subject to mandatory repurchase in June, 2020 and March, 2021, respectively. Water Quality received $27.8 million in low interest state loans in 2018 at rates between 1.7 and 2.7 percent.

The County made history on April 19, 2018, when Water Quality became the nation’s first utility to receive a loan from the EPA’S newly created Water Infrastructure Finance and Innovation Act (WIFIA) program – the first major federal assistance program for municipal utilities in almost 20 years. The $134.5 million loan for the Georgetown Wet Weather Treatment Station locks in a 3.1 percent interest rate through the 2051 final maturity date of the loan. Draws on this loan will reimburse Water Quality for costs incurred on the Georgetown project and must be made no later than one year after substantial completion of the project, which is currently scheduled for January of 2022. No draws were taken on this loan in 2018. The WIFIA Loan will be evidenced by the County issuing a sewer revenue bond to the EPA.

Water Quality issued $149.5 million in Sewer Refunding Revenue Bonds in 2017, which resulted in $35.8 million in savings over the lives of the refunded issues or $19.9 million in present value of debt service savings. In February 2017, Water Quality deposited cash in an irrevocable escrow to defease $5.1 million of outstanding 2008 and 2009 sewer revenue bonds. With the defeasance of these bonds, revised covenants in the bond ordinance that establish the minimum ratings for surety bonds that the County may use as qualified investments in lieu of cash in the Bond Reserve have become effective. In December 2017, Water Quality issued $50.0 million in Junior Lien Sewer Revenue Bonds, Series 2017, to fund its capital program. In October 2017, Water Quality issued $154.6 million in Limited Tax General Obligation Refunding Bonds which resulted in $41.2 million in savings over the life of the refunded issue or $33.5 million in present value of debt service savings. On October 26, 2017, Water Quality issued $100.0 million in Multi-Modal Limited Tax General Obligation Refunding Bonds to refund all outstanding 2010 Multi-Modal, Series A and B debt. Water Quality received $26.5 million in low interest state loans in 2017 at rates of 2.4 and 2.7 percent.

Financial Highlights (continued)

The results of operations for 2018 and 2017 produced a debt service coverage ratio on senior lien debt of 1.72 and 1.70, respectively, exceeding the coverage covenant requirement of 1.15 in both years. The total debt coverage ratio of 1.49 in 2018 and 1.51 in 2017 exceeded the 1.15 policy minimum in both years.

Overview of the Financial Statements

This discussion and analysis is intended to serve as an introduction to Water Quality's basic financial statements. The basic financial statements are comprised of the comparative statements of net position; statements of revenues, expenses and changes in net position; statements of cash flows; and the notes to the financial statements, which explain certain elements of the financial statements in greater detail.

Water Quality's financial statements provide information with respect to all of its activities using accounting methods similar to those used by private-sector companies. The statements provide both long-term and short-term information about Water Quality's financial status.

The comparative statement of net position presents information on all of Water Quality's assets, liabilities and deferred inflows/outflows of resources, with the difference presented as net position as of each year-end. Over time, the statements demonstrate Water Quality's financial health by providing a basis for the reader to evaluate capital structure, liquidity, and financial flexibility. In accordance with implementation of GASB Statement No. 75, *Accounting and Financial Reporting for Postemployment Benefits Other Than Pensions*, 2017 beginning net position and financial statements were restated. For more detailed information on the restatements, refer to Note 13 in the financial statements.

The two most recent years' operating and non-operating revenues and expenses of Water Quality are accounted for in the statements of revenues, expenses and changes in net position. The statements illustrate the current and prior period results of operations and recovery of costs by receipt of fees, and are instrumental in demonstrating Water Quality's continued creditworthiness. All changes in net position are reported as soon as the underlying event occurs, irrespective of the timing of related cash flows. The receipt of monthly sewage treatment charges provides the principal support for Water Quality's activities. Sewage treatment charges of $403.6 million provided 79.2 percent of operating revenues in 2018 and $401.7 million provided 79.9 percent of operating revenues in 2017. Water Quality is a wholesale provider of sewage treatment services to 34 municipal and 3 non-municipal participants in King, Pierce, and Snohomish counties. The receipt of the monthly payments is governed by service agreements, the majority of which expire in July 2036.

The statements of cash flows report cash receipts, cash payments, and net changes in cash derived from operations, financing, and investment activities. From the statements, the reader can discern Water Quality's sources and applications of cash during 2018 and 2017, reasons for differences between operating cash flows and operating income, and the effect on the statements of net position from investing, capital, and financing activities.

Overview of the Financial Statements (continued)

The notes to financial statements provide additional information essential to obtain a full understanding of the data provided in the basic statements.

In the following comparative analysis of the financial statements, percentages and ratios were calculated and rounded using the actual detail from the financial statements.

Financial Analysis of the Statement of Net Position

Comparative data, stated in millions of dollars:

	Years Ended December 31,		
	2018	2017 (As Restated)	2016
Current assets	$ 297.9	$ 438.7	$ 458.1
Noncurrent assets	310.9	242.4	217.1
Capital assets	4,096.1	4,077.8	4,081.5
Other	121.0	120.2	113.3
Total assets	4,825.9	4,879.1	4,870.0
Deferred outflows of resources	210.0	233.6	247.5
Total assets and deferred outflows of resources	5,035.9	5,112.7	5,117.5
Current liabilities	212.4	216.0	214.5
Noncurrent liabilities	4,019.4	4,146.0	4,216.1
Total liabilities	4,231.8	4,362.0	4,430.6
Deferred inflows of resources	58.4	54.1	47.5
Total liabilities and deferred inflows of resources	4,290.2	4,416.1	4,478.1
Net position - net investment in capital assets	353.1	180.7	154.2
Net position - restricted	237.8	235.9	202.4
Net positon - unrestricted	154.8	280.0	282.8
Total net position	$ 745.7	$ 696.6	$ 639.4

Net position serves as a useful indicator of Water Quality's financial position. As of December 31, 2018 and 2017, assets and deferred outflows of resources exceeded liabilities and deferred inflows of resources by $745.7 million and $696.6 million, respectively.

Financial Analysis of the Statement of Net Position (continued)

Of the total Water Quality assets and deferred outflows of resources, 81.3 percent or $4,096.1 million were invested in capital assets such as treatment plants, pumping and regulator stations, interceptors, and other equipment at year-end 2018. Net investment in capital assets increased by 95.4 percent or $172.4 million primarily due to new bond proceeds. For the year-end 2017, 79.8 percent or $4,077.8 million were invested in capital assets. Water Quality uses its capital assets to provide wholesale wastewater collection and treatment services in King, Pierce, and Snohomish counties. Current operating and debt service requirements are met by operating and non-operating revenues composed of monthly sewage treatment charges, a capacity charge for new customers, other special-handling charges, miscellaneous operating revenues, and investment earnings.

The net position increased by 7.0 percent or $49.1 million in 2018 to $745.7 million from $696.6 million in 2017. Changes in net position are largely due to increased sewage disposal, capacity charge and other operating revenues. Restricted net position increased by 0.8 percent or $1.9 million in 2018 to $237.8 million from $235.9 million in 2017. The unrestricted net position decreased by $125.2 million in 2018 to $154.8 million from $280.0 million in 2017. This reduction reflects the use of substantially all of the $144.9 million Brightwater judgement awarded to the County in 2016 to fund an escrow for the defeasance of debt.

In 2017, the net position increased by 8.9 percent or $57.2 million to $696.6 million from $639.4 million in 2016. Water Quality also prevailed in a July 6, 2017 judgement by the Supreme Court which released a total of $15.4 million in attorney’s fees related to the Brightwater litigation settlement between Vinci, Parsons, Frontier-Kemper (VPFK) and King County. Restricted net position increased by 16.6 percent or $33.5 million in 2017 to $235.9 million from $202.4 million in 2016. The unrestricted net position decreased by $2.8 million in 2017 to $280.0 from $282.8 million in 2016.

Financial Analysis of the Statement of Revenues, Expenses, and Changes in Net Position

Comparative data, stated in millions of dollars:

	Years Ended December 31,		
	2018	2017 (Restated)	2016
Sewage treatment fees	$ 403.6	$ 401.7	$ 381.5
Capacity charge revenue	86.8	82.6	71.2
Other revenue	19.1	18.3	11.8
Operating revenues	509.5	502.6	464.5
Operating expenses	318.1	318.1	315.0
Operating income	191.4	184.5	149.5
Nonoperating (expenses)	(142.6)	(126.1)	(13.4)
Grant revenues	0.3	-	0.1
Change in net position	49.1	58.4	136.2
Net position beginning of year	696.6	638.2	503.2
Net positon end of year	$ 745.7	$ 696.6	$ 639.4

While the statements of net position show changes in assets, liabilities, deferred inflows/outflows of resources and net position, the statements of revenues, expenses and changes in net position provide insight into the source of these changes.

During 2018, operating revenues increased by 1.4 percent or $6.9 million to $509.5 million from $502.6 million in 2017. Operating expenses stayed the same at $318.1 million in 2018 and 2017.

In 2017, operating revenues increased by 8.2 percent or $38.1 million to $502.6 million from $464.5 million in 2016. Operating expenses increased by 1.0 percent or $3.1 million to $318.1 million in 2017 from $315.0 million in 2016.

Operating Revenues

In 2018, sewage disposal fee revenue increased by $1.9 million, 0.5 percent, to $403.6 million from $401.7 million in 2017 because of an increased number of RCE's. Water Quality charged a monthly sewage treatment rate of $44.22 per RCE in both 2018 and 2017, and $42.03 in 2016. In 2017, sewage disposal revenues increased by 5.3 percent, or $20.2 million, to $401.7 million from $381.5 million in 2016.

Financial Analysis of the Statement of Revenues, Expenses, and Changes in Net Position (continued)

Operating Revenues (continued)

A 3.0 percent increase in the 2018 capacity charge rate for new customers and continued growth in new connections contributed to a 5.1 percent, or $4.2 million, increase in overall capacity charge revenue of $86.8 million. In 2017, capacity charge revenue increased by 16.0 percent to $82.6 million from $71.2 million in 2016. Capacity charge early payoffs accounted for 25.5 percent of the 2018 capacity charge revenue compared to 28.6 percent in 2017 and 25.4 percent in 2016.

Other operating revenues totaling $19.1 million in 2018 increased $800 thousand, or 4.4 percent, due primarily to high strength surcharges in industrial waste. In 2017, other operating revenue increased 55.1 percent, or 6.5 million to $18.3 million from $11.8 million in 2016 due to the sale of bio-methane credits (RINS).

Operating Expenses

In 2018, operating expenses, excluding depreciation, fell 1.1 percent or $1.6 million to $139.5 million compared to a 1.7 percent increase, or $141.1 million in 2017. The decrease in operating expenses is due primarily to an actuarial pension expense reduction.

Utility and Service costs increased 5.3 percent, or $1.9 million from $36.1 million in 2017 to $38.0 million in 2018. Increases in capital contract services and electricity were offset by a reduction in consultant service costs. Utility and Service costs in 2017 increased 13.2 percent or $4.2 million from $31.9 million to $36.1 million. Electricity costs in 2018 rose by 3.5 percent, or $494 thousand, to $14.7 million from $14.2 million in 2017. In 2018, Water Quality continued to sell its methane rather than use it to generate electricity at South Treatment Plant. In 2017, electricity costs increased by 1.4 percent or $220 thousand to $14.2 million. Chemical costs increased $394 thousand or 4.9 percent in 2018 from $8.1 million to $8.5 million. These essential operational costs are subject to market price fluctuation. In 2017, chemical costs stayed the same at $8.1 million from 2016.

Intragovernmental expenses rose slightly by $276 thousand, or 0.5 percent, to $39.4 million from $39.2 million in 2017. In 2017, intragovernmental expenses grew 9.4 percent or $3.4 million, to $39.2 million from $35.8 million in 2016. Contributors to the intragovernmental increase were additional services, such as water testing, provided by the Water Land and Resource Division.

Financial Analysis of the Statement of Revenues, Expenses, and Changes in Net Position (continued)

Non-operating Revenues and Expenses

Non-operating expenses (net) increased by $16.5 million to $142.6 million in 2018 from $126.1 million in 2017. The main contributors to this net increase were higher interest expense for variable rate debt and legal costs related to environmental remediation offset by increased investment earnings and a $10.1 million insurance recovery in 2017 on the West Point treatment plant flood event. In 2017, non-operating expenses (net) increased by $112.7 million to $126.1 million from $13.4 million in 2016. The main contributor to the non-operating expense increase (net) in 2016 was the release of $129.6 million in restricted funds related to the VPFK legal action on the Brightwater project. Subsequently in 2017, the drop in non-operating expense (net) corresponds to the 2016 decision. In 2017, an additional $15.4 million of disputed VPFK legal fees were settled in a July 6, 2017 Supreme Court decision, and were added to non-operating expense (net). Impaired asset costs totaling $9.6 million for Magnolia CSO project, and net 2017 West Point flood event costs are included in the 2017 non-operating expense (see Financial Highlights for additional information).

Capital Assets

At December 31, 2018, Water Quality's investment in capital assets, net of accumulated depreciation, was $4,096.1 million, reflecting an increase of $18.3 million or 0.4 percent less than the balance of $4,077.8 million at December 31, 2017. Capital assets net decrease from December 31, 2016 to December 31, 2017 was $3.7 million or 0.1 percent.

Large 2018 construction project expenditures include:

- $33.1 million for Georgetown Wet Weather Treatment Station
- $26.3 million for Sunset and Heathfield Pump Stations and Forcemain Upgrade
- $17.9 million for Magnolia CSO Control Improvements
- $12.2 million for Pacific Pump Station and Auburn West Interceptor (Kent Auburn Phase B)
- $7.3 million for North Mercer Island and Enatai Interceptor Upgrade

Large 2017 construction project expenditures include:

- $37.7 million for North Creek Interceptor
- $13.6 million for Kent-Auburn Pacific Pump Station and Interceptors
- $11.9 million for Georgetown Wet Weather Treatment Station
- $11.0 million for West Point Treatment Plant
- $10.4 million for Hanford Conveyance and Storage Tank

For more detailed information on capital assets, refer to Note 6 in the financial statements.

Debt Administration

In January of 2018, Water Quality voluntarily redeemed $920 thousand of principal on its Junior Lien Sewer Revenue bonds, Series 2015A and 2015B. This is part of a financial practice whereby variable rate debt will be amortized so that each issue will be retired by its stated maturity date.

In April of 2018, Water Quality entered into a WIFIA loan agreement with the EPA for $134.5 million at a 3.1 percent interest rate. Draws on this loan will reimburse costs on the Georgetown Wet Weather Treatment Station through of January, 2023. No draws were taken on the loan in 2018.

On October 25, 2018, Water Quality purchased and deposited Treasury securities in an irrevocable escrow to defease $135.8 of outstanding Sewer Revenue and Refunding Bonds, Series 2010, 2011B and 2012. The escrow was funded using the bulk of the $144.9 million Brightwater judgement awarded in 2016. On November 5, 2018 Water Quality sold $124.5 million of sewer revenue bonds with an average life of 7.9 years at an average rate of 5.0 percent and an effective rate of 3.0 percent. This debt issue provided $142.0 million of proceeds for the capital program.

On December 3, 2018, Water Quality remarketed $100.0 million of Junior Lien Variable Rate Demand Sewer Revenue Bond, Series 2011 with an average life of 2 years at an average rate of 2.5 percent and an effective rate of 2.6 percent. Additionally, Water Quality remarketed $100.0 million of Junior Lien Variable Rate Demand Sewer Revenue Bond, Series 2012 with an average life of 3 years at an average rate of 2.6 percent and an effective rate of 2.7 percent. On the mandatory repurchase dates of December 1, 2020 and December 1, 2021, respectively, Water Quality may effect a conversion of the Series to another authorized interest rate mode. Maturity dates on both remain at January 1, 2042 and January 1, 2043, respectively.

On February 22, 2017, Water Quality deposited cash in an irrevocable escrow to defease $5.1 million in Sewer Revenue Bonds, Series 2008 and 2009. With the defeasance of this debt, revised covenants in the bond ordinance that establish the minimum ratings for surety bonds that the County may use as qualified investments in lieu of cash in the Bond Reserve became effective.

Water Quality issued $154.6 million of limited tax general obligation refunding bonds in October, 2017 with an average life of 9.6 years at an average rate of 4.3 percent and an effective rate of 2.6 percent and $149.5 million of sewer refunding revenue bonds in December, 2017 with an average life of 15.9 years at an average rate of 5.0 percent and an effective rate of 3.6 percent. On October 26, 2017, Water Quality issued $100.0 million in multi-modal limited tax general obligation refunding bonds to refund all outstanding 2010 Multi-Modal, Series A and B. On December 19, 2017 Water Quality issued $50.0 million in Junior Lien Sewer Revenue Bonds, Series 2017 which was used for new capital construction.
Water Quality received $27.8 million in low-interest loans from the State of Washington in 2018 and $26.5 million in 2017. The new loans carry below-market rates between 1.7 percent and 2.7 percent with repayment terms of 20 years.

Debt Administration (continued)

Water Quality has $2.8 billion of sewer revenue bonds and variable rate revenue bonds outstanding at the end of 2018 and had $2.9 billion of sewer revenue bonds and variable rate revenue bonds outstanding at the end of 2017. Revenue bonds are repaid from and secured by a pledge of earnings, revenues and money received by Water Quality from or on account of operation of the sewer system, including receipts from sewage treatment fees, and other income of Water Quality. Revenue bonds are not guaranteed by the full faith and credit of King County.

At the end of 2018, Water Quality has $676.6 million of general obligation bonds and variable rate general obligation bonds outstanding and had $706.0 million of general obligation bonds and variable rate general obligation bonds outstanding at the end of 2017. While the full faith and credit of King County guarantees repayment of principal and interest on general obligation bonds, they are paid from sewage treatment fees and other income.

King County Sewer Enterprise parity revenue bonds received ratings of AA+ from Standard and Poor's (S&P) Global Ratings and Aa1 from Moody's Investors Service for the sewer revenue bonds issued in November, 2018. The remarketing of junior lien variable rate demand bonds received ratings of Aa2 and AA by Moody's Investors Service and S&P Global Ratings, respectively. In 2017, Water Quality's bond ratings on its limited tax general obligation bonds were AAA and Aaa by Standard and Poor's and Moody's Investors, respectively. Moody's also raised its rating in 2017 for sewer revenue bonds from Aa2 to Aa1 and raised its rating of junior lien sewer revenue bonds to Aa2 from Aa3.

At the time of the issuance of the sewer revenue bonds in December 2018, Water Quality's bond ratings were:

Moody's Investors Service	Standard & Poor's
Aa1	AA+

As required by bond covenant, Water Quality maintains a bond reserve account, which is funded by cash, Treasury securities investment and surety bond policies. At December 31, 2018, the cash and investment balance in the reserve account was $150.5 million and with a surety bond balance of $29.6 million, totaled $180.1 million. This balance exceeded the reserve account requirement of maximum annual debt service on the parity bonds by $8.5 million. In June 2017, excess funds in the reserve account of $10.0 million were transferred to the construction fund to pay for capital improvements. At December 31, 2018 and 2017, respectively, the rate stabilization, liquidity, and asset management financial policy reserves totaled $81.1 million.

For more detailed information on debt, reference the notes to the financial statements.

Debt Service Coverage Ratios

	Year Ended December 31, 2018	2017
Parity and parity lien debt	1.72	1.70
Total debt	1.49	1.51

Two debt service coverage ratios closely monitored by bond rating agencies are coverage on parity debt and coverage on total debt. By bond ordinance, Water Quality sets sewer rates at a level adequate to provide net revenue equal to at least 1.15 times the annual debt service requirement on parity debt. Water Quality has an adopted policy to equal or exceed a ratio of at least 1.25 on parity debt or 0.10 above the ratio required by bond ordinance. Since 2001, Water Quality established a minimum coverage policy of 1.15 on total debt to further strengthen coverage performance.

Requests for Information

This financial report is designed to provide an overview of Water Quality's financial condition as of the years ended December 31, 2018 and 2017. Questions concerning this report or requests for additional information should be addressed to Cheryl Lee, Chief Accountant for King County, 500 Fourth Avenue, Room 653, Seattle, WA 98104.

King County Water Quality Enterprise Fund
Statements of Net Position (in thousands)

	December 31, 2018	December 31, 2017 (As Restated)
CURRENT ASSETS		
Cash and cash equivalents	$ 240,584	$ 366,227
Restricted cash and cash equivalents	2,757	2,481
Accounts receivable, net	42,131	57,767
Due from other funds	2,498	2,087
Inventory of supplies	9,545	9,531
Prepayments	368	579
	297,883	438,672
NONCURRENT ASSETS		
Restricted assets		
Cash and cash equivalents	295,889	242,406
Investments	15,038	-
	310,927	242,406
Capital assets		
Building and land improvements	2,147,297	2,114,776
Artwork	6,045	6,045
Infrastructure and right of way	2,420,740	2,297,081
Plant in service and other equipment	1,173,465	1,145,510
Less accumulated depreciation	(2,282,831)	(2,134,638)
	3,464,716	3,428,774
Land and easements	264,335	259,657
Construction work in progress	367,025	389,354
	4,096,076	4,077,785
Other noncurrent		
Regulatory assets, net of amortization	117,791	116,750
Other assets	3,251	3,488
	121,042	120,238
Total assets	4,825,928	4,879,101
DEFERRED OUTFLOWS OF RESOURCES		
Deferred outflows on refunding	205,124	227,851
Deferred outflows on other postemployment benefits	41	-
Deferred outflows on pension	4,797	5,767
Total deferred outflows of resources	209,962	233,618
TOTAL ASSETS AND DEFERRED OUTFLOWS OF RESOURCES	$ 5,035,890	$ 5,112,719

Statements of Net Position (continued) (in thousands)

	December 31, 2018	December 31, 2017 (As Restated)
CURRENT LIABILITIES		
Accounts payable	$ 29,177	$ 33,472
Retainage payable	2,757	2,481
Due to other funds	37	25
Interest payable	67,307	66,590
Wages and benefits payable	3,430	3,080
Compensated absences	735	669
Taxes payable	36	16
Unearned revenue	2,475	2,325
State loans payable	16,538	15,690
General obligation bonds payable	21,760	29,340
Revenue bonds payable	63,170	55,535
Environmental remediation costs	4,825	6,627
Deposits and other liabilities	193	210
	212,440	216,060
NONCURRENT LIABILITIES		
Compensated absences	10,341	10,596
Other postemployment benefits	1,533	1,652
Net pension liability	17,200	35,112
State loans payable, net	212,936	202,354
General obligation bonds payable, net	725,138	755,018
Revenue bonds payable, net	3,009,327	3,100,316
Environmental remediation costs	41,729	39,833
Other liabilities	1,131	1,145
	4,019,335	4,146,026
Total liabilities	4,231,775	4,362,086
DEFERRED INFLOWS OF RESOURCES		
Regulatory credits - rate stabilization	46,250	46,250
Deferred inflows on other postemployment benefits	119	-
Deferred inflows on pension	12,012	7,825
Total deferred inflows of resources	58,381	54,075
TOTAL LIABILITIES AND DEFERRED INFLOWS OF RESOURCES	4,290,156	4,416,161
NET POSITION		
Net investments in capital assets	353,122	180,727
Restricted for		
Debt service	163,364	162,103
Regulatory assets and environmental liabilities	74,488	73,777
Unrestricted	154,760	279,951
Total net position	$ 745,734	$ 696,558

See accompanying notes.

King County Water Quality Enterprise Fund

Statements of Revenues, Expenses, and Changes in Net Position (in thousands)

	Years Ended December 31, 2018	2017 (As Restated)
OPERATING REVENUES		
Sewage disposal fees	$ 403,589	$ 401,650
Other operating revenues	105,961	100,923
Total operating revenues	509,550	502,573
OPERATING EXPENSES		
Sewage treatment, disposal, and transmission	101,681	102,680
General and administrative	37,904	38,441
Environmental related amortization	2,818	4,242
Depreciation and amortization	175,699	172,779
Total operating expenses	318,102	318,142
OPERATING INCOME	191,448	184,431
NONOPERATING REVENUES (EXPENSES)		
Investment earnings	9,969	4,386
Interest expense	(142,283)	(127,874)
Loss on disposal and impairment of capital assets	(8,714)	(4,250)
Loss on extinguishment of debt	(1,786)	(263)
Other	269	1,932
Total nonoperating expenses	(142,545)	(126,069)
INCOME BEFORE GRANTS	48,903	58,362
Capital grants	273	-
CHANGE IN NET POSITION	49,176	58,362
NET POSITION		
Beginning of year (restated)	696,558	638,196
End of year	$ 745,734	$ 696,558

See accompanying notes.

King County Water Quality Enterprise Fund
Statements of Cash Flows (in thousands)

	Years Ended December 31, 2018	2017
CASH FLOWS FROM OPERATING ACTIVITIES		
Cash received from customers	$ 541,476	$ 490,717
Cash received from other funds - interfund services	1,816	1,683
Cash payments to suppliers for goods and services	(56,354)	(51,479)
Cash payments to other funds - interfund services	(39,437)	(39,174)
Cash payments for employee services	(58,161)	(54,953)
Other receipts	5	12,500
Other payments	(12,449)	(22,661)
Net cash provided by operating activities	376,896	336,633
CASH FLOWS FROM NONCAPITAL FINANCING ACTIVITIES		
Transfers out	(982)	(741)
Assistance to other agencies	(494)	(425)
Net cash used in noncapital financing activities	(1,476)	(1,166)
CASH FLOWS FROM CAPITAL AND RELATED FINANCING ACTIVITIES		
Acquisition of capital and other utility assets	(212,376)	(175,138)
Proceeds from disposal of capital assets	430	62
Principal paid on capital debt	(102,207)	(86,944)
Interest paid on capital debt	(153,484)	(157,869)
Proceeds of new bond issuance	142,037	50,000
Proceeds of state loans	27,843	26,471
Cash payments for bond defeasance	(144,199)	(5,394)
Capital grants received	15	-
Net cash used in capital and related financing activities	(441,941)	(348,812)
CASH FLOWS FROM INVESTING ACTIVITIES		
Interest on investments	9,637	4,386
Investment purchases	(15,000)	-
Net cash provided (used) in investing activities	(5,363)	4,386
NET DECREASE IN CASH AND CASH EQUIVALENTS	(71,884)	(8,959)
CASH AND CASH EQUIVALENTS		
Beginning of year	611,114	620,073
End of year	$ 539,230	$ 611,114

See accompanying notes.

King County Water Quality Enterprise Fund
Statements of Cash Flows (in thousands)

	Years Ended December 31, 2018	Years Ended December 31, 2017
RECONCILIATION OF OPERATING INCOME TO NET CASH PROVIDED BY OPERATING ACTIVITIES		
Operating income	$ 191,448	$ 184,431
Adjustments to reconcile operating income to net cash provided by operating activities		
Depreciation and amortization	175,699	172,779
Other nonoperating revenue and expense	9,036	22,358
Changes in assets		
Accounts receivable	15,636	(13,011)
Due from other funds	-	(92)
Inventory of supplies	(14)	(771)
Prepayments	211	(265)
Other assets	(805)	(6,963)
Changes in deferred outflows of resources		
Deferred outflows on other postemployment benefits	(41)	-
Deferred outflows on pension	969	4,082
Changes in liabilities		
Accounts payable	(2,107)	3,393
Retainage payable	163	82
Due to other funds	12	9
Taxes payable	20	2
Unearned revenue	150	(269)
Wages and benefits payable	331	134
Compensated absences	(188)	(208)
Other postemployment benefits	(118)	(1,094)
Net pension liability	(17,912)	(16,457)
Other liabilities	99	(18,115)
Changes in deferred inflows of resources		
Deferred inflows on other postemployment benefits	119	-
Deferred inflows on pension	4,188	6,608
Total adjustments	185,448	152,202
NET CASH PROVIDED BY OPERATING ACTIVITIES	$ 376,896	$ 336,633

NONCASH INVESTING, CAPITAL, AND FINANCING ACTIVITIES

Water Quality reported capital grants on account of $258 thousand at 2018 year-end and no capital grant in 2017.

Water Quality issued bonds in 2017 to refund debt issued from 2008 to 2011. The $356.4 million of bond proceeds and $6.5 million of cash payments by Water Quality were placed in escrow for the defeasance of $335.3 million of outstanding bond principal and $30.5 million of interest.

Note 1 – Operations and Accounting Policies

Summary of operations – The King County Water Quality Enterprise Fund (Water Quality) is an enterprise fund operated by the King County Department of Natural Resources and Parks in accordance with Chapter 35.58 of the Revised Code of Washington (RCW) to provide sewage treatment and water pollution abatement services to the urbanized areas of King County, Washington (the County).

Water Quality is an integral part of the County reporting entity and is included, as an enterprise fund, in the County's comprehensive annual financial report. As an enterprise fund, Water Quality is funded and operated separately from other operations of the County. Revenues, bond proceeds, and grants are restricted by purpose. Accordingly, Water Quality maintains separate accounting records and issues stand-alone financial statements.

Water Quality has long-term sewage disposal agreements with the cities and sewer districts that operate sewage collection systems within its service area. The monthly sewage disposal charge to the contracting cities and districts is based on Water Quality's estimated annual monetary requirements, including operating costs and debt service. Revenues from Water Quality's largest customer, the City of Seattle (Seattle Public Utilities), represent approximately 40 percent of total sewage disposal fees in 2018 and in 2017.

Water Quality purchases goods and services from other County agencies, including reimbursement of the County's general fund for a share of general government. Expenses incurred in doing business with other County agencies amounted to $39.4 million and $39.2 million in 2018 and 2017, respectively.

Significant accounting policies – Water Quality is accounted for using the flow of economic resources measurement focus similar to that of a private enterprise organized for profit. Water Quality's financial statements are prepared in accordance with accounting principles generally accepted in the United States of America (GAAP) as applied to governmental units using the accrual basis of accounting. Under this method, revenues are recorded when earned, and expenses are recorded at the time liabilities are incurred. Water Quality, regardless of the timing of cash flows, applies all applicable Governmental Accounting Standards Board (GASB) pronouncements.

a. **Cash and cash equivalents** – Water Quality considers as cash and cash equivalents surplus balances held with the King County Treasurer in the King County Investment Pool (the Pool) except the amounts invested through the Pool-Plus program, cash with escrow agents or held in trust, and petty cash. Water Quality records its investments in the Pool-Plus program at fair value. Unrealized gain or loss on Water Quality's proportionate share of the pooled investments and individual investments is reported as a component of investment earnings.

b. **Receivables and allowance for doubtful accounts** – Receivables include charges for services rendered by Water Quality or intergovernmental grants. All unbilled service receivables are recorded at year-end. The provisions for estimated uncollectible receivables are reviewed and updated at year-end. These provisions are estimated based on actual historical write-off trends and knowledge of specific circumstances that indicate collection of an account may be unlikely. As of December 31, 2018 and 2017, Water Quality's allowance for doubtful accounts was $997 thousand and $890 thousand, respectively.

Note 1 – Operations and Accounting Policies (continued)

c. **Due from and to other funds, interfund loans, and advances** – Due from and to other funds consists of current receivables and payables from or to other funds within the County. They typically arise from interfund goods and service transactions and reimbursements.

Interfund loans receivable and payable or advances from and to other funds represent authorized short-term and long-term, respectively, lending and borrowing arrangements within the County.

d. **Inventory of supplies** – Inventory is recorded at the lower of cost or market using the weighted-average cost method. Materials and supplies are expensed as consumed. Inventory is written off in the year that it is determined obsolete.

e. **Restricted assets** – In accordance with Water Quality's bond resolutions, state law, King County codes, or other agreements, separate restricted assets have been established. These assets are restricted for specific purposes, including bond and state loan reserves.

f. **Capital assets** – Capital assets are stated at cost, less accumulated depreciation and amortization. Water Quality's capitalization threshold is: equipment at $5 thousand; software and intangible assets at $500 thousand, and buildings and improvements at $100 thousand. Provision for depreciation and amortization are made on a straight-line basis over the estimated useful lives of Water Quality's capital assets as follows:

Description	Estimated Useful Life
Buildings and improvements other than building	10–75 years
Cars, vans, and trucks	5–10 years
Data processing equipment	3–10 years
Heavy equipment	5–25 years
Sewer lines	20–50 years
Shop equipment	5–20 years
Software	3–10 years
Intangibles	35 years

Prior to the implementation of GASB Statement 89, *Accounting for Interest Cost Incurred before the End of a Construction Period*, in 2018, Water Quality capitalized certain interest income and expense related to borrowings until the assets were ready for their intended use. The amount capitalized was the difference between the interest revenue and interest expense associated with the applicable tax free borrowings. Total interest expense incurred was $149.0 million during 2017, of which $13.2 million was capitalized.

Repairs and maintenance are expensed as incurred; major renewals, replacements, and betterments are capitalized.

Note 1 – Operations and Accounting Policies (continued)

Water Quality annually reviews long-lived assets for impairment to determine whether any events or circumstances indicate the carrying value of the assets may not be recoverable. No impairment was identified in 2018. During 2017, Water Quality recognized an asset impairment of $11.2 million due to damage caused by West Point Treatment Plant flooding in February 2017 and Magnolia CSO control facility pipeline failure in November 2016. The construction to fully replace the pipeline took place primarily in 2018, with completion expected in mid-2019. The other assets at the facility, with a total 2018 year-end carrying amount of $30.8 million, remain idle until the new pipeline enters service.

g. **Compensated absences** – Employees earn vacation based upon their date of hire and years of service. Employees hired prior to January 1, 2018 have a maximum vacation accrual of 480 hours, while those hired January 1, 2018 or after have a maximum vacation accrual of 320 hours unless the employee's collective bargaining unit agreement specifies a different maximum. Unused vacation at retirement or normal termination is considered vested and payable to the employee, up to the employee's maximum accrual. Employees also earn up to 12 days of sick leave per year and may accumulate sick leave balances without limit. If the employee is leaving their employment due to death or retirement, they are paid for 35 percent of the value of unused sick leave with no maximum. Vacation pay and a portion of sick leave liabilities, including payroll taxes, are accrued.

   Water Quality accrues estimated excess compensation liabilities to the Washington State Department of Retirement Systems based on an employee's accrued vacation and sick leave. An excess compensation liability is incurred when an employee whose retirement benefits are based in part on excess compensation receives a termination or severance payment defined by the State as excess compensation. This includes, but is not limited to, a cash-out of unused annual leave in excess of 240 hours and a cash-out of any other form of leave.

h. **Rebatable arbitrage** – Water Quality's tax-exempt debt is subject to arbitrage restrictions as defined by the Internal Revenue Code. Arbitrage occurs when the funds borrowed at tax-exempt rates of interest are invested in higher yielding taxable securities. These interest earnings in excess of interest expense must be remitted to the federal government except when spending exceptions rules are met. The liability is recognized during the period the excess interest is earned. Water Quality has no liability as of December 31, 2018 and 2017.

i. **Deferred outflows and inflows of resources** – Deferred outflows of resources represent consumption of resources that is applicable to future reporting periods and deferred inflows of resources represent acquisition of resources that is applicable to future reporting periods. Deferred outflows of resources include deferred losses on the refunding of bonds and certain amounts related to pension and postemployment benefits other than pensions (OPEB) accounting. Deferred inflows of resources include certain amounts related to pension and OPEB accounting and rate stabilization.

Note 1 – Operations and Accounting Policies (continued)

j. **Operating and nonoperating revenues and expenses** – Operating revenues result from exchange transactions of Water Quality's activities. Expenses associated with providing wastewater treatment services and operating Water Quality's treatment facilities are considered operating. Nonoperating revenues result from nonexchange transactions such as operating subsidies and investment earnings.

   Water Quality provides water treatment services to cities and sewer districts and recognizes revenue when such service is provided. Additionally, the capacity charge revenue is generated from new connections to the sewer system. Both water treatment service and capacity charge rates are authorized by ordinances passed by the King County Council. Water treatment service and capacity charge revenues are recorded through cycle billings rendered to customers monthly. Water Quality accrues and records unbilled water service and capacity charge revenues in the financial statements for services provided from the date of the last billing to year-end.

k. **Debt-related amortization** – Bond premiums, discounts and refunding losses and gains are amortized over the life of the bonds using the outstanding principal balance method.

l. **Capital grant revenues** – Pursuant to GASB Statement No. 33, *Accounting and Financial Reporting for Nonexchange Transactions*, grant revenues are reported separately from operating and nonoperating revenues as capital grant revenues. Water Quality reported capital grant revenues of $273 thousand for the year ended December 31, 2018.

m. **Net position** – Resources set aside for debt service and other obligations, net of related liabilities, are classified as restricted net position on the statements of net position as their use is limited by externally-imposed restrictions. Net investments in capital assets are reported as a separate component of net position and consists of capital assets, net of accumulated depreciation, reduced by the outstanding balances of any bonds, notes, or other borrowings attributable to the acquisition, construction, or improvement of those assets. Any net position not subject to classification as restricted or invested in capital assets is reported as unrestricted.

n. **Net position flow assumption** – Sometimes Water Quality will fund outlays for a particular purpose from both restricted (e.g., restricted bond or grant proceeds) and unrestricted resources. In order to calculate the amounts to be reported as restricted net position and unrestricted net position, a flow assumption must be made about the order in which the resources are considered to be applied. It's the County's policy to consider restricted net position to have been depleted before unrestricted net position is applied.

o. **Use of estimates** – The preparation of the financial statements in conformity with accounting principles generally accepted in the United States of America requires management to make estimates and assumptions that affect the amounts reported in the financial statements. Specific estimates have been made in the areas of allowance for uncollectible accounts, environmental remediation costs, useful lives of capital assets, pension and other postemployment benefits liabilities and related deferred outflows and inflows of resources, and future interest rates. Actual results could differ from these estimates.

Note 1 – Operations and Accounting Policies (continued)

p. **Reclassification** – Certain reclassifications have been made to the prior year statements to conform to the current year presentation

New accounting standards – The following GASB pronouncements were implemented during the current year.

GASB Statement No. 75, *Accounting and Financial Reporting for Postemployment Benefits Other Than Pensions*, was issued in June 2015. This statement replaces the requirements of Statements No. 45, *Accounting and Financial Reporting by Employers for Postemployment Benefits Other Than Pensions*, as amended, and No. 57, *OPEB Measurements by Agent Employers and Agent Multiple-Employer Plans*. Water Quality implemented this statement in 2018 and restated prior financial statements to comply with the requirements.

GASB Statement No. 85, *Omnibus 2017*, was issued in March 2017. This statement addresses a variety of topics including issues related to blending component units, goodwill, fair value measurement and application, and postemployment benefits (pensions and other postemployment benefits). The statement was adopted by Water Quality in 2018 with no impact on its financial statements.

GASB Statement No. 86, *Certain Debt Extinguishment Issues*, was issued in May 2017. The primary objective of this Statement is to improve consistency in accounting and financial reporting for in-substance defeasance of debt by providing guidance for transactions in which cash and other monetary assets acquired with only existing resources—resources other than the proceeds of refunding debt—are placed in an irrevocable trust for the sole purpose of extinguishing debt. This Statement also improves accounting and financial reporting for prepaid insurance on debt that is extinguished and notes to financial statements for debt that is defeased in substance. Water Quality implemented this statement in 2018 and made reporting changes to comply with the requirements.

GASB Statement No. 89, *Accounting for Interest Cost Incurred before the End of a Construction Period*, was issued in June 2018. This Statement establishes accounting requirements for interest cost incurred before the end of a construction period and the objectives are to enhance the relevance and comparability of information about capital assets and the cost of borrowing for a reporting period and to simplify accounting for interest cost incurred before the end of a construction period. This statement was early implemented in 2018 with no material impact on Water Quality's capital assets reporting.

Note 2 – Deposits and Investments in King County Investment Pool

The King County Treasurer is the custodian of Water Quality's cash. Water Quality's cash on deposit with the King County Treasurer is pooled with cash from other County funds and other jurisdictions and are either deposited in the County's bank account or invested by the County. The King County Investment Pool (the Pool) functions essentially as a demand deposit account where Water Quality receives an allocation of its proportionate share of pooled earnings as interest.

Note 2 – Deposits and Investments in King County Investment Pool (continued)

The Pool is administered by the King County Treasury Operations Section and is not registered with the Securities and Exchange Commission (SEC) as an investment company. Oversight is provided by the King County Executive Finance Committee (EFC), which serves the role of the County Finance Committee as defined in RCW 36.48.070

The County has deposit and investment policies addressing risks that have the potential to result in losses of deposits and investments. The deposits that are not covered by the Federal Deposit Insurance Corporation (FDIC) are collateralized by the Public Deposit Protection Commission of the State of Washington (PDPC) at no less than fifty percent. Effective June 7, 2018, resolution 2018-1 adopted by Commission on June 1, 2018, allowed "all well capitalized public depositaries may collateralize uninsured public deposits at no less than fifty percent." The PDPC is a statutory authority established under Chapter 39.58 RCW that governs public depositaries and provides that "all public funds deposited in public depositaries, including investment deposits and accrued interest thereon, shall be protected against loss, as provided in the chapter." It constitutes a multiple financial institution collateral pool that can make *pro rata* assessments to all public depositaries within the state for their public deposits. PDPC protection is of the nature of collateral, not of insurance.

The custodial credit risk for deposits is the risk that Water Quality's deposits may not be returned to it in the event of a bank failure.

Assessing Water Quality's risk exposure, Water Quality's cash and cash equivalents balance of $539.2 million and $611.1 million were fully invested in the Pool as of December 31, 2018 and 2017, respectively. The County had demand deposits of $29.1 million as of December 31, 2018, of which $6.9 million was exposed to custodial credit risk as uninsured and uncollateralized. As of December 31, 2017, the County had demand deposits of $38.1 million, of which $18.0 million was exposed to custodial credit risk as uninsured and uncollateralized.

The EFC adopted the Pool-Plus program which allows County agencies or districts to invest funds beyond the maximum maturity limit established for the Pool. This policy provides an investment option that allows a participant in the Pool to combine a portfolio of individual long-term securities in the same fund that is invested in the Pool. The pooling of the long-term portfolio with the Pool provides the ability to invest at durations longer than the Pool while maintaining access to the liquidity of the Pool. The Pool-Plus program allows qualifying funds to invest over longer durations recognizing there are: (1) potential risks such as increased price volatility and the possibility of selling securities before maturity to pay unexpected expenditures could result in a loss of principal; (2) benefits from reducing reinvestment risk which improves the predictability of future budget revenue; (3) and potential rewards such as increased earnings.

Note 2 – Deposits and Investments in King County Investment Pool (continued)

The Pool is used for the liquidity portion of the portfolio while the following investment types are used for the longer term investments:

- U.S. treasuries or securities with full faith and credit of the U.S. government backing them.

- Senior debt obligations issued by U.S. agencies, instrumentalities, or government-sponsored enterprises such as Federal National Mortgage Association (FNMA), Federal Home Loan Bank (FHLB), Federal Farm Credit Bank (FFCB), and Federal Home Loan Mortgage Corporation (FHLMC). While these agencies have credit ratings equivalent to the U.S. government, they are not explicitly guaranteed by the U.S. government. Financial market participants view them as having an “implied guarantee” because these agencies were chartered by Congress.

Water Quality participated in the Pool-Plus program starting in 2018 and recorded Individual Investments at fair value of $15.0 million as of December 31, 2018. The following schedule shows the types of investments, the average interest rate, and the effective duration limits of the Pool-Plus program at December 31, 2018 (dollars in thousands):

	Fair Value	Principal	Average Interest Rate	Effective Duration (Yrs)
Investment type				
U.S. Treasury notes	$ 15,038	$ 15,321	2.45%	4.160

The U.S. Treasury notes are valued using quoted prices in active markets. The U.S. Treasury notes with AA credit rating is backed by full faith and credit of the U.S. government.

Credit risk – **investments** – Credit risk is the risk that an issuer or other counterparty to an investment will not fulfill its obligation. As of December 31, 2018, the Pool was not rated by a Nationally Recognized Statistical Rating Organization (NRSRO). In compliance with state statutes, Pool policies authorize investments in in U.S. Treasury securities, U.S. Federal agency securities and mortgage-backed securities, municipal securities and corporate notes (rated at least “A” by two NRSROs), commercial paper (rated at least the equivalent of “A-1” by two NRSROs), certificates of deposit issued by qualified public depositaries, repurchase agreements, and the Local Government Investment Pool managed by the Washington State Treasurer’s office.

Note 2 – Deposits and Investments in King County Investment Pool (continued)

The Pool's policies limit the maximum amount that can be invested in various securities. At 2018 and 2017 year-end the Pool was in compliance. The Pool's actual composition, as of December 31, 2018 and 2017, is as follows (in thousands):

	2018		2017	
	Total	Allocation Percentage	Total	Allocation Percentage
Investment type				
Repurchase agreements	$ 366,000	4.91%	$ 296,000	4.30%
Commercial paper	576,197	7.73%	386,989	5.62%
U.S. Agency discount notes	73,880	0.99%	478,950	6.96%
Supranational discount notes	49,927	0.67%	-	-
Corporate notes	964,179	12.93%	1,019,747	14.81%
Corporate notes floating rate	99,948	1.34%	-	-
U.S. Treasury notes	2,873,869	38.53%	2,486,956	36.12%
U.S. Agency notes	648,763	8.70%	1,418,257	20.60%
U.S. Agency collateralized mortgage obligations	4,031	0.05%	4,922	0.07%
Supranational coupon notes	1,212,097	16.25%	377,600	5.48%
State treasurer's investment pool	589,306	7.90%	415,634	6.04%
	$ 7,458,197	100.00%	$ 6,885,055	100.00%

Custodial credit risk – investments – Custodial credit risk is the risk that in the event of the failure of the counterparty, the County will not be able to recover the value of its investments or collateral securities that are in the possession of an outside party. County policy mandates that all security transactions, including repurchase agreements, are settled "delivery versus payment (DVP)." This means that payment is made simultaneously with the receipt of the security. These securities are delivered to the County's safekeeping bank or its tri-party custodian banks. Exempt from the DVP policy are Certificates of Deposits (CDs) and funds placed with the State of Washington Local Government Investment Pool.

Concentration of credit risk – investments – Concentration of credit risk is the risk of loss attributed to the magnitude of a government's investment in a single issue. At 2018 year-end the Pool had concentrations greater than 5.0 percent of the total investment pool portfolio in the following issuers: International Bank Recon, 7.3 percent, and Bank of Montreal, 5.4 percent.

The issues with concentrations greater than 5.0 percent of the pool portfolio at 2017 year-end were as follows Federal Farm Credit Bank, 9.7 percent, Federal Home Loan Mortgage Corporation, 8.6 percent, Wells Fargo Bank, 5.7 percent, and Federal National Mortgage Association, 5.6 percent.

Interest rate risk – investments – Interest rate risk is the risk that changes in interest rates will adversely affect the fair value of an investment. Through its investment policy, the County manages its exposure to fair value losses arising from increasing interest rates by setting maturity and effective duration limits for the Pool. The policy limit for the Pool's maximum effective duration is 1.5 years, and 40 percent of the Pool's total value in securities must have a maturity of 12 months or fewer. Securities in the portfolio cannot have an average life greater than five years at purchase. The combined effective duration of the liquidity and core portfolios was 0.943 years and 1.022 years at December 31, 2018 and 2017, respectively.

Note 2 – Deposits and Investments in King County Investment Pool (continued)

All securities are reported at fair value. Fair value reports are prepared monthly and distributed to all Pool participants. The Pool values participants' shares using an amortized cost basis. Monthly income is distributed to participants based on their relative participation during the period.

Fair value hierarchy – The County categorizes its fair value measurements within the fair value hierarchy established by generally accepted accounting principles. The hierarchy is based on the valuation inputs used to measure fair value of the assets. Level 1 inputs are quoted prices in an active market for identical assets; Level 2 inputs are significant other observable inputs; and Level 3 inputs are significant unobservable inputs.

The following is a summary of inputs in valuing the County's investments as of December 31, 2018 and 2017.

KING COUNTY INVESTMENT POOL

		Fair Value Measurement Using		
Investments by Fair Value Level	Fair Value 12/31/2018	Quoted Prices in Active Markets for Identical Assets (Level 1)	Significant Other Observable Inputs (Level 2)	Unobservable Inputs (Level 3)
Commercial paper	$ 576,197	$ -	$ 576,197	$ -
U.S. agency discount notes	73,880	-	73,880	-
Corporate notes	964,179	-	964,179	-
Corporate notes floating rate	99,948	-	99,948	-
U.S. treasury notes	2,873,869	2,873,869	-	-
U.S. agency notes	648,763	-	648,763	-
Supranational discount notes	49,927	-	49,927	-
U.S. agency collateralized mortgage obligations	4,031	-	4,031	-
Supranational coupon notes	1,212,097	-	1,212,097	-
Subtotal	6,502,891	$ 2,873,869	$ 3,629,022	$ -
Investments Measured at Amortized Cost (Not Subject to Fair Value Hierarchy)				
Repurchase agreements	366,000			
State treasurer's investment pool	589,306			
Subtotal	955,306			
Total investment in Investment Pool	$ 7,458,197			

Note 2 – Deposits and Investments in King County Investment Pool (continued)

KING COUNTY INVESTMENT POOL

		Fair Value Measurement Using		
Investments by Fair Value Level	Fair Value 12/31/2017	Quoted Prices in Active Markets for Identical Assets (Level 1)	Significant Other Observable Inputs (Level 2)	Unobservable Inputs (Level 3)
Commercial paper	$ 386,989	$ -	$ 386,989	$ -
U.S. agency discount notes	478,950	-	478,950	-
Corporate notes	1,019,747	-	1,019,747	-
U.S. treasury notes	2,486,956	2,486,956	-	-
U.S. agency notes	1,418,257	-	1,418,257	-
U.S. agency collateralized mortgage obligations	4,922	-	4,922	-
Supranational coupon notes	377,600	-	377,600	-
Subtotal	6,173,421	$ 2,486,956	$ 3,686,465	$ -
Investments Measured at Amortized Cost (Not Subject to Fair Value Hierarchy)				
Repurchase agreements	296,000			
State treasurer's investment pool	415,634			
Subtotal	711,634			
Total investment in Investment Pool	$ 6,885,055			

U.S. Treasury notes are valued using quoted prices in active markets and classified in Level 1 of the fair value hierarchy.

Commercial Paper, U.S. Agency Discount Notes, Corporate Notes, U.S. Agency Notes, U.S. Agency Collateralized Mortgage Obligations and Supranational Coupon Notes are valued using standard inputs including benchmark yields, reported trades, broker/dealer quotes, issuer spreads, two-sided markets, benchmark securities, bids, offers, and reference data including market research publications. Interactive Data also monitors market indicators, industry and economic events and corroborating market data and are classified in Level 2 of the fair value hierarchy.

State Treasurer’s Investment Pool and Repurchase Agreement are overnight securities and are recorded at amortized cost.

Note 3 – Restricted Assets

A significant portion of Water Quality's assets are restricted as to use by legal and contractual provisions and by fiscal management policy. Restricted assets comprise cash and cash equivalents of $298.6 million and investments of $15.0 million at December 31, 2018 and cash and cash equivalents of $244.9 million at December 31, 2017, to comply with bond covenants and other requirements.

Liability amounts payable from restricted assets primarily consist of escrow and in-house retainage payables. These amounted to $2.8 million and $2.5 million at December 31, 2018 and 2017, respectively. The details of cash and cash equivalents and restricted assets as of December 31, 2018 and 2017 are as follows (in thousands):

	2018	2017
Unrestricted cash and cash equivalents		
Operating funds	$ 42,064	$ 36,738
Construction funds	31,764	169,291
Bond funds	131,912	125,393
Policy reserves	34,844	34,805
Total unrestricted cash and cash equivalents	240,584	366,227
Restricted cash and cash equivalents		
Bond reserves	$ 135,454	$ 150,491
SRF loan reserves	12,873	11,612
Bond proceeds committed to construction	101,312	34,053
Retainage	2,757	2,481
Rate stabilization reserve	46,250	46,250
Total restricted cash and cash equivalents	298,646	244,887
Total cash and cash equivalents	539,230	611,114
Restricted investments		
Bond reserves	15,038	-
Total restricted assets - cash and cash equivalents and investments	$ 313,684	$ 244,887

Note 4 – Risk Management

Water Quality is exposed to a wide range of risks of loss, including those related to tort; theft of, damage to, and destruction of assets; errors and omissions; injuries to employees; and natural disasters.

Water Quality participates in three County internal service funds to account for and finance its (1) property/casualty, (2) workers' compensation, and (3) employee medical and dental benefits, through self-insurance programs. The County contracts with a plan administrator to process medical and dental claims. County fund/claims managers, together with the Civil Division of the King County Prosecuting Attorney's Office, are responsible for processing all tort and workers' compensation claims.

Note 4 – Risk Management (continued)

During 2018 and 2017, Water Quality claims paid by the Insurance Fund of King County were $52 thousand and $248 thousand, respectively. In the past three years there was no occurrence that resulted in payment in excess of the self-insured retention of $6.5 million.

Claims settlements and loss expenses are accrued in the three internal service funds for the estimated settlement value of both reported and unreported claims. These funds are responsible for collecting interfund premiums from insured funds and departments, for paying claim settlements, and for purchasing certain policies. The County's internal service funds assess premiums attributable to Water Quality on the basis of claims experience, actuarial evaluation of future claims risk, and adequacy of available reserves. Premiums are recorded as an expense in the year paid or accrued.

Water Quality retains all risk associated with environmental claims.

Note 5 – Long-Term Liabilities and Notes Payable

Sewer revenue bonds – As of December 31, 2018, bonds outstanding include $2,807.5 million of serial and term bonds maturing from January 1, 2019 through January 1, 2052, bearing interest at stated rates of 1.0 percent to 5.0 percent per annum.

In January of 2018, the County voluntarily redeemed $920 thousand of principal on its Junior Lien Sewer Revenue bonds, Series 2015A and Series 2015B.

On October 25, 2018, the County purchased Treasury securities at a cost of $144.2 million and placed them in an escrow to pay interest and redeem at their earliest redemption dates of $135.8 million of outstanding Sewer Revenue and Refunding Bonds, Series 2010, 2011B and 2012. Under the terms of the authorizing ordinances, these bonds have been defeased and are no longer secured by a pledge of the revenue of the sewer system. The defeasance of these bonds will reduce future principal and interest payments by $193.6 million through 2032. Substantially all of the funding for the escrow came from the judgement awarded to Water Quality in 2016 relating to the construction of the conveyance tunnels for its Brightwater treatment plant. Water Quality undertook the defeasance in order to reduce a portion of the debt that it had incurred as a result of the additional costs that led to the litigation and subsequent judgement.

On November 5, 2018, the County issued $124.5 million in sewer revenue bonds, Series 2018B with an effective interest cost of 3.0 percent and an average coupon interest rate of 5.0 percent.

In December 2018, the County remarketed two Junior Lien Variable Sewer Revenue Bonds, Series 2011 and 2012 at $100.0 million each. These were remarketed at a fixed rate of 2.5 and 2.6 percent, respectively, and are subject to mandatory repurchase in December 2020 and December 2021, respectively. The bonds maturity dates of January 1, 2042 and January 1, 2043, respectively, remain the same.

Note 5 – Long-Term Liabilities and Notes Payable (continued)

On February 22, 2017, Water Quality purchased Treasury securities at a cost of $5.4 million and placed them in an escrow to pay interest and principal through their stated maturity dates on $5.1 million of outstanding Sewer Revenue Bonds, Series 2008 and 2009. Under the terms of the authorizing ordinances, these bonds were defeased and are no longer secured by a pledge of the revenue of the sewer system. The defeasance of these bonds reduced principal and interest payments by $5.5 million through 2018. Funding for the escrow came from Water Quality's unrestricted cash balances. Upon the defeasance of these bonds, new bond ordinance covenants became effective which allowed Water Quality to re-instate $29.6 million of surety bonds as qualified investments in lieu of cash in the Bond Reserve.

On December 19, 2017, the County issued $149.5 million in sewer revenue bonds, Series 2017, with an effective interest cost of 3.6 percent to advance refund $159.7 million of outstanding 2010, 2011-A, 2011-B, and 2011-C sewer revenue bonds and 2009 general obligation bonds with an average coupon interest rate of 5.0 percent. The reacquisition price exceeded the net carrying amount of the refunded debt by $11.2 million. This advance refunding was undertaken to reduce total debt service payments by $35.8 million over the life of the bonds, resulting in an economic gain (difference between the present values of the old and new debt service payments) of $19.9 million.

On December 19, 2017, the County issued $50.0 million in junior lien sewer revenue bonds, Series 2017, with a one-month variable interest rate. On April 2, 2018 the King County council approved a January 1, 2048 maturity date for the bonds, correcting a January 1, 2040 date from the December 2017 sale motion.

Bond issues provide funding for Water Quality's construction plan. Certain serial bonds may not be redeemed prior to maturity; other bonds may be redeemed after the lapse of specific periods of time. Amounts from the sewer revenue bond fund may be used to purchase term bonds prior to maturity.

The bonds are secured by a pledge of the revenue of the sewer system subject to payment of all operating and maintenance expenses of the sewer system. Payments from revenues of Water Quality are required to be made to the sewer revenue bond fund to pay interest and retire serial or term bonds on or before maturity. The amount required in the cash reserves and surety policies are based on the highest year of debt service over the life of all outstanding revenue bonds.

Note 5 – Long-Term Liabilities and Notes Payable (continued)

The following table summarizes Water Quality's revenue bonds (in thousands):

	Final Maturity	Interest Rates	Original Issue Amount	Outstanding at December 31, 2018
2001A-B Junior Lien Variable	1/1/32	(variable)	$ 100,000	$ 100,000
2010	1/1/50	2.00-5.00%	334,365	43,900
2011	1/1/41	5.00-5.125%	175,000	12,050
2011 Series B	1/1/41	1.00-5.00%	494,270	61,560
2011 Series C	1/1/35	3.00-5.00%	32,445	7,885
2011 Sewer Junior Lien Variable	1/1/42	(variable)	100,000	100,000
2012A Refunding	1/1/52	5.00%	104,445	89,785
2012B Refunding	1/1/35	4.00-5.00%	64,260	64,260
2012C Refunding	1/4/33	2.50-5.00%	65,415	62,775
2012 Sewer Junior Lien Variable	1/1/43	(variable)	100,000	100,000
2013A Refunding	1/1/35	2.00-5.00%	122,895	107,375
2013B Revenue and Refunding	1/1/44	2.00-5.00%	74,930	58,970
2014A Refunding	1/1/47	5.00%	75,000	75,000
2014B Refunding	7/1/35	1.00-5.00%	192,460	187,250
2015 Sewer Junior Lien Variable	1/1/46	(variable)	100,000	99,080
2015A Refunding	7/1/47	3.00-5.00%	474,025	471,420
2015B Refunding	1/1/46	4.00-5.00%	93,345	80,730
2016A Refunding	7/1/41	4.00-5.00%	281,535	276,315
2016B Refunding	7/1/49	4.00-5.00%	499,655	494,200
2017A Refunding	7/1/49	5.00%	149,485	140,500
2017B Sewer Junior Lien Variable	1/1/48	(variable)	50,000	50,000
2018B Sewer Revenue	7/1/32	5.00%	124,455	124,455
			$ 3,807,985	$ 2,807,510

General obligation bonds – As of December 31, 2018, bonds outstanding include $676.6 million of serial and term bonds maturing January 1, 2019 through 2040, bearing interest at stated rates of 2.0 percent to 5.3 percent per annum.

Certain serial bonds cannot be redeemed prior to maturity; other bonds may be redeemed after the lapse of specific periods of time.

On October 25, 2017, the County issued $154.6 million in general obligation refunding bonds, Series 2017, with an effective interest cost of 2.6 percent to advance refund $175.6 million of 2008 general obligation bonds, with an average coupon interest rate of 4.3 percent. The reacquisition price exceeded the net carrying amount of the refunded debt by $6.6 million. This advance refunding was undertaken to reduce total debt service payments by $41.2 million over the life of the bonds, resulting in an economic gain (difference between the present values of the old and new debt service payments) of $33.5 million.

Note 5 – Long-Term Liabilities and Notes Payable (continued)

On October 26, 2017, the County issued $100.0 million in multi-modal general obligation refunding bonds, Series 2017A and Series 2017B, with a one-month variable rate, maturing on January 1, 2040. The bonds refunded all outstanding 2010 Series A and B debt.

The following table summarizes Water Quality's general obligation bonds (in thousands):

	Final Maturity	Interest Rates	Original Issue Amount	Outstanding at December 31, 2018
2008 LTGO	1/1/34	3.25-5.25%	$ 236,950	$ 21,020
2009B LTGO	7/1/39	5.00-5.25%	300,000	7,370
2012A LTGO	1/1/25	2.00-5.00%	68,395	55,215
2012B LTGO	1/1/29	5.00%	41,725	41,725
2012C LTGO	1/1/34	5.00%	53,405	53,405
2012F LTGO	12/1/22	2.20%	3,010	3,010
2015A LTGO	7/1/38	2.00-5.00%	247,825	247,510
2017A LTGO	1/1/34	4.00-5.00%	154,560	147,360
2017A-B Multi-Modal LTGO	1/1/40	(variable)	100,000	100,000
			$ 1,205,870	$ 676,615

Prior year refunded and defeasance of debt – As of December 31, 2018, Water Quality had outstanding refunded and defeased general obligation bonds and sewer revenue bonds in the amount of $1.1 billion. Prior to 2018, Water Quality defeased these bonds by placing proceeds of the refunding bonds and/or existing cash from Water Quality in irrevocable trust accounts to provide for future debt service payments on the defeased bonds. The liability for the defeased bonds has been removed from Water Quality's financial statements.

State loans – Water Quality has received loans from the Washington State Department of Ecology under the Water Pollution Control State Revolving Fund Loan Program and the Washington Public Works Trust Fund. The loans require either semi-annual or annual payments of principal and interest from 2019 through 2037 and bear interest at stated rates from 0.0 percent to 3.1 percent. As of December 31, 2018, the balance due on all state loans is $229.5 million. Water Quality maintains separate cash reserves of $12.9 million as of December 31, 2018. These reserves are treated as restricted, being required under the Revolving Fund Loan Program.

Note 5 – Long-Term Liabilities and Notes Payable (continued)

At December 31, 2018, the required principal and interest payments for all classes of long-term debt are as follows (in thousands):

	Revenue Bonds		General Obligation Bonds		State Loans		
Year(s) Beginning	Principal	Interest	Principal	Interest	Principal	Interest	Total
January 1,2019	$ 64,840	$ 121,011	$ 21,760	$ 32,617	$ 16,538	$ 4,999	$ 261,765
January 1,2020	62,675	120,264	22,900	31,706	17,130	4,674	259,349
January 1,2021	60,910	117,346	15,800	30,556	17,047	4,343	246,002
January 1,2022	69,690	114,522	29,885	29,497	16,326	4,009	263,929
January 1,2023	68,750	111,408	37,485	28,048	15,657	3,681	265,029
January 1, 2024-2027	346,130	507,242	155,055	117,248	66,482	13,599	1,205,756
January 1, 2028-2032	540,005	409,909	189,555	75,971	54,207	6,511	1,276,158
January 1, 2033-2037	495,765	282,034	104,175	39,504	26,088	1,023	948,589
January 1, 2038-2042	594,655	171,190	100,000	5,400	-	-	871,245
January 1, 2043-2047	451,320	67,790	-	-	-	-	519,110
January 1, 2048-2052	52,770	4,587	-	-	-	-	57,357
	$ 2,807,510	$ 2,027,303	$ 676,615	$ 390,547	$ 229,475	$ 42,839	$ 6,174,289

The future annualized interest payments for the variable rate revenue bonds are based on an interest rate of 5.4 percent, which represents 90 percent of the long-term interest rate assumed by the County for financial planning purposes. Interest payments on the Junior Lien Variable Sewer Revenue Bonds, Series 2011 and 2012, are based on the stated amount of interest that will be paid through their mandatory purchase dates and at the 5.4 percent rate thereafter.

Variable rate general obligation and revenue bonds – The variable rate bonds, 2001 Series A and Series B revenue bonds are supported by a periodically renewable letter of credit that expires September 30, 2020. The variable rate bonds, 2011, 2012, 2015 Series A and Series B, Series 2017, and Series 2017 A and B do not have liquidity facilities.

Financial policy reserves – In addition to bond reserves related to Sewer Revenue Bonds, Water Quality maintains liquidity and asset management reserves totaling $34.8 million at December 31, 2018.

Compliance with bond resolutions – With respect to the year ended December 31, 2018, Water Quality complied with all financial covenants stipulated by its bond resolutions.

Note 5 – Long-Term Liabilities and Notes Payable (continued)

Changes in long-term liabilities – Long-term liability activity for the years ended December 31, 2018 and 2017 was as follows (in thousands):

	Balance January 1, 2018	Additions	Reductions	Balance December 31, 2018	Due Within One Year
Bonds payable	$ 3,581,265	$ 324,455	$ (421,595)	$ 3,484,125	$ 84,930
Bond premiums and discounts	358,944	6,512	(30,186)	335,270	-
Total bonds payable	3,940,209	330,967	(451,781)	3,819,395	84,930
State loans	218,044	27,843	(16,413)	229,474	16,538
Compensated absences	11,265	10,934	(11,123)	11,076	735
Other post-employment benefits	1,652	635	(754)	1,533	-
Net pension liability	35,112	19,675	(37,587)	17,200	-
Environmental remediation	46,460	9,658	(9,564)	46,554	4,825
Other liabilities	1,355	174	(210)	1,319	188
Total long-term liabilities	$ 4,254,097	$ 399,886	$ (527,432)	$ 4,126,551	$ 107,216

	Balance January 1, 2017	Additions	Reductions	Balance December 31, 2017	Due Within One Year
Bonds payable	$ 3,640,765	$ 454,045	$ (513,545)	$ 3,581,265	$ 84,875
Bond premiums and discounts	352,151	33,776	(26,983)	358,944	-
Total bonds payable	3,992,916	487,821	(540,528)	3,940,209	84,875
State loans	205,989	26,472	(14,417)	218,044	15,690
Compensated absences	11,473	10,332	(10,540)	11,265	669
Other post-employment benefits *	2,746	671	(1,765)	1,652	-
Net pension liability	51,568	26,846	(43,302)	35,112	-
Environmental remediation	46,877	8,665	(9,082)	46,460	6,627
Other liabilities **	1,558	-	(203)	1,355	210
Total long-term liabilities	$ 4,313,127	$ 560,807	$ (619,837)	$ 4,254,097	$ 108,071

* In 2017, OPEB beginning balance was restated from $1,583 thousand to $2,746 thousand, resulting from Water Quality's implementation of GASB Statement No. 75.

** In 2017, beginning balances of other liabilities, $1,558 thousand, were reclassified from current liabilities to non-current liabilities due to payment agreements.

Note 6 – Changes in Capital Assets

Changes in capital assets for the years ended December 31, 2018 and 2017, are shown in the following table (in thousands):

	Balance January 1, 2018	Increases	Decreases	Balance December 31, 2018
Land	$ 244,275	$ 5,322	$ (831)	$ 248,766
Easements	15,382	187	-	15,569
Construction work in progress	389,354	214,930	(237,259)	367,025
Total nondepreciable assets	649,011	220,439	(238,090)	631,360
Buildings	2,002,571	29,228	(8,680)	2,023,119
Improvements other than building	112,205	11,991	(17)	124,179
Artwork	6,045	-	-	6,045
Right of way	7,635	-	-	7,635
Infrastructure	2,289,446	128,852	(5,193)	2,413,105
Equipment	1,109,879	42,003	(14,049)	1,137,833
Software development	35,631	-	-	35,631
Total depreciable assets	5,563,412	212,074	(27,939)	5,747,547
Accumulated depreciation and amortization				
Building	(758,399)	(52,915)	3,518	(807,796)
Improvements other than building	(32,187)	(4,249)	16	(36,420)
Artwork	(1,284)	(206)	-	(1,490)
Right of way	(1,363)	(218)	-	(1,581)
Infrastructure	(622,772)	(49,628)	2,980	(669,420)
Equipment	(683,902)	(59,918)	13,327	(730,493)
Software development	(34,731)	(900)	-	(35,631)
Total depreciation and amortization	(2,134,638)	(168,034)	19,841	(2,282,831)
Depreciable assets - net	3,428,774	44,040	(8,098)	3,464,716
Total capital assets - net	$ 4,077,785	$ 264,479	$ (246,188)	$ 4,096,076

Note 6 – Changes in Capital Assets (continued)

	Balance January 1, 2017	Increases	Decreases	Balance December 31, 2017
Land	$ 240,759	$ 3,557	$ (41)	$ 244,275
Easements	15,289	93	-	15,382
Construction work in progress	331,948	167,697	(110,291)	389,354
Total nondepreciable assets	587,996	171,347	(110,332)	649,011
Buildings	1,980,048	25,396	(2,873)	2,002,571
Improvements other than building	102,781	9,626	(202)	112,205
Artwork	5,700	405	(60)	6,045
Right of way	7,635	-	-	7,635
Infrastructure	2,260,787	43,144	(14,485)	2,289,446
Equipment	1,110,978	37,617	(38,716)	1,109,879
Software development	35,631	-	-	35,631
Total depreciable assets	5,503,560	116,188	(56,336)	5,563,412
Accumulated depreciation and amortization				
Building	(706,833)	(53,136)	1,570	(758,399)
Improvements other than building	(28,577)	(3,698)	88	(32,187)
Artwork	(1,079)	(205)	-	(1,284)
Right of way	(1,145)	(218)	-	(1,363)
Infrastructure	(578,134)	(47,881)	3,243	(622,772)
Equipment	(661,414)	(58,314)	35,826	(683,902)
Software development	(32,830)	(1,901)	-	(34,731)
Total depreciation and amortization	(2,010,012)	(165,353)	40,727	(2,134,638)
Depreciable assets - net	3,493,548	(49,165)	(15,609)	3,428,774
Total capital assets - net	$ 4,081,544	$ 122,182	$ (125,941)	$ 4,077,785

Note 7 – Environmental Remediation

Water Quality operations are subject to rules and regulations enacted by the Washington State Department of Ecology (DOE) and the U.S. Environmental Protection Agency (EPA).

Water Quality follows GASB Statement No. 49, *Accounting and Financial Reporting for Pollution Remediation Obligations* (GASB 49), which mandates the disclosure of “obligations to address current or potential detrimental effects of existing pollution by participating in pollution remediation activities.” GASB 49 establishes five events, any one of which obligates Water Quality to record a liability for pollution remediation expenditures. Liabilities are related to ongoing projects, which include the sediment management of aquatic habitats along Elliot Bay and the clean-up of certain sites along the Lower Duwamish Waterway (LDW). Environmental remediation costs are capitalized and amortized over 30 years.

Note 7 – Environmental Remediation (continued)

The Sediment Management Project was obligated when the Metropolitan King County Council approved the pollution remediation program. The LDW project became a Water Quality obligation when King County entered into an Administrative Order on Consent (AOC) with the DOE and EPA. This AOC also includes The Boeing Company, the City of Seattle and the Port of Seattle as parties conduct the studies on which to base the cleanup decision. Each party has agreed to pay one fourth of the costs under the AOC.

Both projects may result in additional cleanup efforts as a result of future regulatory orders. These potential cleanup liabilities cannot be currently estimated. Ongoing, regulatory action has identified and may identify other Potentially Responsible Parties (PRP) for the LDW cleanup.

There are no estimated recoveries at this time that will reduce the amount of Water Quality's pollution remediation obligations. The total environmental remediation liability at December 31, 2018, stands at $46.6 million and $46.5 million in 2017.

The pollution remediation obligation is an estimate and subject to changes resulting from price increases or reductions, technology, or changes in applicable laws or regulations.

The methodology for estimating liabilities continues to be based on Water Quality engineering analysis, program experience and cost estimates for the remediation activities scheduled to be undertaken in future years as programmed under Water Quality's Regional Wastewater Services Plan. Certain costs were developed by consulting engineers. Costs were estimated using the expected cash flow method set out by GASB 49. For the LDW project, a weighted average method is used to calculate the liability. The Sediment Management Plan does not employ weighted average cost estimation because the remaining work is well-defined and negates the utility of multiple estimates. The cost estimates continue to be re-measured as succeeding benchmarks are reached or when cost assumptions are modified. All pollution remediation obligations are being deferred and amortized over 30 years as permitted by regulatory accounting standards (see Note 8 – Regulatory Assets and Credits).

Note 8 – Regulatory Assets and Credits

The King County Council has taken various regulatory actions resulting in differences between the recognition of revenues for rate-making purposes and their treatment under generally accepted accounting principles for nonregulated entities. Changes to these balances and their inclusion in rates may occur only at the direction of the Council.

Rate stabilization – In 2005, the Council established a Rate Stabilization Reserve. This action created a deferred inflow of resource which deferred operating revenue to be set aside in a reserve and recognized in subsequent years to maintain stable sewer rates. The reserve was $46.3 million in 2017 and remains unchanged in 2018.

Note 8 – Regulatory Assets and Credits (continued)

Pollution remediation – In 2006, the Council approved the application of regulatory accounting to treat pollution remediation obligations as regulatory assets to allow for cost recovery through future rate increases. The portion of regulatory asset costs that have been accrued is being amortized over a recovery period of 30 years.

Rainwise program – In 2013, the Council approved the application of regulatory accounting to treat program payments to Rainwise participants as regulatory assets to allow for cost recovery through future rate increases. The portion of regulatory asset costs that have been accrued is being amortized over a recovery period of 7 years.

Strategic planning costs – In 2016, the Council approved the application of regulatory accounting to treat strategic planning costs as regulatory assets to allow for cost recovery through future rate increases. The portion of regulatory asset costs that have been accrued is amortized over a 7- to 10-year recovery period.

Note 9 – Employee Benefit Plans

In accordance with GASB Statement No. 68, *Accounting and Financial Reporting for Pensions*, the County elected to use June 30, 2018 and 2017, respectively, as the measurement date for reporting net pension liability at 2018 and 2017 year-end, respectively.

The following table represents the aggregate pension amounts allocated to Water Quality for all pension plans subject to the requirements of GASB Statement No. 68 for the years 2018 and 2017 (in thousands):

	Aggregate Pension Amounts—All Plans	
	2018	2017
Pension liabilities	$ 17,200	$ 35,112
Deferred outflows of resources	4,797	5,767
Deferred inflows of resources	12,012	7,825
Pension expense	(4,501)	1,837

Pension plans –Substantially all full-time and qualifying part-time employees of Water Quality participate in one of the following retirement plans: Public Employees' Retirement System (PERS) Plan 1, 2, and 3.

PERS is administered by the Washington State Department of Retirement Systems (DRS) under cost-sharing, multiple-employer public employee defined benefit and defined contribution retirement plans. The state Legislature establishes, and amends, laws pertaining to the creation and administration of all statewide public retirement systems.

The DRS, a department within the primary government of the State of Washington, issues a publicly available comprehensive annual financial report (CAFR) that includes financial statements and required supplementary information for each plan.

Note 9 – Employee Benefit Plans (continued)

The DRS CAFR may be obtained by writing to:

Department of Retirement Systems
Communications Unit
P.O. Box 48380
Olympia, WA 98540-8380

Or the DRS CAFR may be downloaded from the DRS website at www.drs.wa.gov.

Public Employees Retirement System – PERS members include elected officials; state employees; employees of the Supreme, Appeals and Superior Courts; employees of the legislature; employees of district and municipal courts; employees of local governments; and higher education employees not participating in higher education retirement programs. PERS is comprised of three separate pension plans for membership purposes. PERS plans 1 and 2 are defined benefit plans, and PERS plan 3 is a defined benefit plan with a defined contribution component.

PERS Plan 1 provides retirement, disability, and death benefits. Retirement benefits are determined as two percent of the member’s average final compensation (AFC) times the member’s years of service. The AFC is the average of the member’s 24 highest consecutive service months. Members are eligible for retirement from active status at any age with at least 30 years of service, at age 55 with at least 25 years of service, or at age 60 with at least five years of service. Members retiring from active status prior to the age of 65 may receive actuarially reduced benefits. Retirement benefits are actuarially reduced to reflect the choice of a survivor benefit. Other benefits include duty and non-duty disability payments, an optional cost-of-living adjustment (COLA), and a one-time duty-related death benefit, if found eligible by the Department of Labor and Industries. PERS 1 members were vested after the completion of five years of eligible service. The plan was closed to new entrants on September 30, 1977.

The PERS Plan 1-member contribution rate is established by State statute at 6 percent. The employer contribution rate is developed by the Office of the State Actuary and includes an administrative expense component that is currently set at 0.18 percent. Each biennium, the state Pension Funding Council adopts Plan 1 employer contribution rates. The PERS Plan 1 required contribution rates (expressed as a percentage of covered payroll) for 2018 and 2017 were as follows:

PERS Plan 1

	Employer	Employee
Actual contribution rates		
January - August 2018	12.70%	6.00%
September - December 2018	12.83%	6.00%
January - June 2017	11.18%	6.00%
July - December 2017	12.70%	6.00%

Note 9 – Employee Benefit Plans (continued)

Water Quality's actual contributions to the plan were as follows for the years ended December 31 (in thousands):

	PERS Plan 1
2018	$ 26
2017	58

PERS Plan 2/3 provides retirement, disability, and death benefits. Retirement benefits are determined as two percent of the member's average final compensation (AFC) times the member's years of service for Plan 2 and 1 percent of AFC for Plan 3. The AFC is the average of the member's 60 highest-paid consecutive service months. There is no cap on years of service credit. Members are eligible for retirement with a full benefit at 65 with at least five years of service credit. Retirement before age 65 is considered an early retirement. PERS Plan 2/3 members who have at least 20 years of service credit and are 55 years of age or older, are eligible for early retirement with a benefit that is reduced by a factor that varies according to age for each year before age 65. PERS Plan 2/3 members who have 30 or more years of service credit and are at least 55 years old can retire under one of two provisions:

- With a benefit that is reduced by three percent for each year before age 65; or
- With a benefit that has a smaller (or no) reduction (depending on age) that imposes stricter return-to-work rules.

PERS Plan 2/3 members hired on or after May 1, 2013, have the option to retire early by accepting a reduction of five percent for each year of retirement before age 65. This option is available only to those who are age 55 or older and have at least 30 years of service credit. PERS Plan 2/3 retirement benefits are also actuarially reduced to reflect the choice of a survivor benefit. Other PERS Plan 2/3 benefits include duty and non-duty disability payments, a cost-of-living allowance (based on the CPI), capped at three percent annually and a one-time duty related death benefit, if found eligible by the Department of Labor and Industries. PERS 2 members are vested after completing five years of eligible service. Plan 3 members are vested in the defined benefit portion of their plan after ten years of service; or after five years of service if 12 months of that service are earned after age 44.

PERS Plan 3 defined contribution benefits are totally dependent on employee contributions and investment earnings on those contributions. PERS Plan 3 members choose their contribution rate upon joining membership and have a chance to change rates upon changing employers. As established by statute, Plan 3 required defined contribution rates are set at a minimum of 5 percent and escalate to 15 percent with a choice of six options. Employers do not contribute to the defined contribution benefits. PERS Plan 3 members are immediately vested in the defined contribution portion of their plan.

Note 9 – Employee Benefit Plans (continued)

The PERS Plan 2/3 employer and employee contribution rates are developed by the Office of the State Actuary to fully fund Plan 2 and the defined benefit portion of Plan 3. The Plan 2/3 employer rates include a component to address the PERS Plan 1 UAAL and an administrative expense that is currently set at 0.18 percent. Each biennium, the state Pension Funding Council adopts Plan 2 employer and employee contribution rates and Plan 3 contribution rates. The PERS Plan 2/3 required contribution rates (expressed as a percentage of covered payroll) for 2018 and 2017 were as follows:

PERS Plan 2/3		
	Employer	Employee
Actual contribution rates		
January - August 2018	12.70%	7.38%
September - December 2018	12.83%	7.41%
2018 Employee PERS Plan 3		Varies
January - June 2017	11.18%	6.12%
July - December 2017	12.70%	7.38%
2017 Employee PERS Plan 3		Varies

Water Quality's actual contributions to the plan were as follows for the years ended December 31 (in thousands):

	PERS Plans 2/3
2018	$ 8,227
2017	7,546

Actuarial assumptions – The total pension liability (TPL) for each of the DRS plans was determined using the most recent actuarial valuation completed in 2018 with a valuation date of June 30, 2017. The actuarial assumptions used in the valuation were based on the results of the Office of the State Actuary's (OSA) *2007-2012 Experience Study* and the *2017 Economic Experience Study*.

Additional assumptions for subsequent events and law changes are current as of the 2017 actuarial valuation report. The TPL was calculated as of the valuation date and rolled forward to the measurement date of June 30, 2018. Plan liabilities were rolled forward from June 30, 2017, to June 30, 2018, reflecting each plan's normal cost (using the entry-age cost method), assumed interest and actual benefit payments.

- Inflation: 2.75% total economic inflation; 3.50% salary inflation.
- Salary increases: In addition to the base 3.50% salary inflation assumption, salaries are also expected to grow by promotions and longevity.
- Investment rate of return: 7.4%.

Note 9 – Employee Benefit Plans (continued)

Mortality rates were based on the RP-2000 report's Combined Healthy Table and Combined Disabled Table, published by the Society of Actuaries. The OSA applied offsets to the base table and recognized future improvements in mortality by projecting the mortality rates using 100 percent Scale BB. Mortality rates are applied on a generational basis; meaning, each member is assumed to receive additional mortality improvements in each future year throughout his or her lifetime.

There were minor changes in methods and assumptions since the last valuation.

- Lowered the valuation interest rate from 7.70% to 7.50% for all systems except Law Enforcement Officers' and Fire Fighters' Retirement System (LEOFF) Plan 2. For LEOFF 2 the valuation interest rate was lowered from 7.50% to 7.40%.
- Lowered the assumed general salary growth from 3.75% to 3.50% for all plans.
- Lowered assumed inflation from 3.00% to 2.75% for all plans.
- Modified how the valuation software calculates benefits paid to remarried duty-related death survivors of LEOFF 2 members.
- Updated the trend that the valuation software uses to project medical inflation for LEOFF 2 survivors of a duty-related death, and for certain LEOFF 2 medical-related duty disability benefits.

Discount rate – The discount rate used to measure the total pension liability for all DRS plans was 7.4 percent.

To determine that rate, an asset sufficiency test included an assumed 7.5 percent long-term discount rate to determine funding liabilities for calculating future contribution rate requirements. (All plans use 7.5 percent except LEOFF 2, which has assumed 7.4 percent). Consistent with the long-term expected rate of return, a 7.4 percent future investment rate of return on invested assets was assumed for the test. Contributions from plan members and employers are assumed to continue being made at contractually required rates (including PERS 2/3 employers, whose rates include a component for the PERS 1 plan liabilities). Based on these assumptions, the pension plans' fiduciary net position was projected to be available to make all projected future benefit payments of current plan members. Therefore, the long-term expected rate of return of 7.4 percent was used to determine the total liability.

Long-term expected rate of return – The long-term expected rate of return on the DRS pension plan investments of 7.4 percent was determined using a building-block-method. In selecting this assumption, the Office of the State Actuary (OSA) reviewed the historical experience data, considered the historical conditions that produced past annual investment returns, and considered capital market assumptions and simulated expected investment returns provided by the Washington State Investment Board (WSIB). The WSIB uses the capital market assumptions and their target asset allocation to simulate future investment returns over various time horizons.

Note 9 – Employee Benefit Plans (continued)

Estimated rates of return by asset class – Best estimates of arithmetic real rates of return for each major asset class included in the pension plan's target asset allocation as of June 30, 2018, are summarized in the table below. The inflation component used to create the table is 2.2 percent and represents the WSIB's most recent long-term estimate of broad economic inflation.

Asset Class	Target Allocation	% Long-Term Expected Real Rate of Return Arithmetic
Fixed income	20.00%	1.70%
Tangible assets	7.00%	4.90%
Real estate	18.00%	5.80%
Global equity	32.00%	6.30%
Private equity	23.00%	9.30%
	100.00%	

Sensitivity of NPL – The table below presents Water Quality's proportionate share of the net pension liability calculated using the discount rate of 7.4 percent, as well as what Water Quality's proportionate share of the net pension liability/(asset) would be if it were calculated using a discount rate that is 1-percentage point lower (6.4 percent) or 1-percentage point higher (8.4 percent) than the current rate (in thousands).

Year	Pension Plan	1% Decrease (6.4%)	Current Discount Rate (7.4%)	1% Increase (8.4%)
2018	PERS 1	$ 8,547	$ 6,955	$ 5,576
2018	PERS 2/3	46,861	10,245	(19,776)

Year	Pension Plan	1% Decrease (6.5%)	Current Discount Rate (7.5%)	1% Increase (8.5%)
2017	PERS 1	$ 16,503	$ 13,547	$ 10,987
2017	PERS 2/3	58,097	21,565	(8,368)

Pension plan fiduciary net position – Detailed information about the State's pension plans' fiduciary net position is available in the separately issued DRS financial report.

Note 9 – Employee Benefit Plans (continued)

Pension liabilities, pension expense, and deferred outflows of resources and deferred inflows of resources related to pensions – At June 30, 2018 and 2017, Water Quality reported a total pension liability of $17.2 million and $35.1 million, respectively, for its proportionate share of the net pension liabilities as follows (in thousands):

	Liability	
	2018	2017
PERS 1	$ 6,955	$ 13,547
PERS 2/3	10,245	21,565

At June 30, Water Quality's proportionate share of the collective net pension liabilities was as follows:

	Proportionate Share 6/30/17	Proportionate Share 6/30/18	Change in Proportion
PERS 1	0.29%	0.16%	(0.13%)
PERS 2/3	0.62%	0.60%	(0.02%)

	Proportionate Share 6/30/16	Proportionate Share 6/30/17	Change in Proportion
PERS 1	0.36%	0.29%	(0.07%)
PERS 2/3	0.64%	0.62%	(0.02%)

Employer contribution transmittals received and processed by the DRS for its fiscal year ended June 30 are used as the basis for determining each employer's proportionate share of the collective pension amounts reported by the DRS in the Schedules of Employer and Nonemployer Allocations for all plans except Law Enforcement Officers' and Fire Fighters' Retirement System (LEOFF) Plan 1.

The collective net pension liability was measured as of June 30, 2018 and 2017, respectively, and the actuarial valuation date on which the total pension liability is based was as of June 30, 2017 and 2016, respectively, with update procedures used to roll forward the total pension liability to the measurement date.

Pension expense – For the year ended December 31, 2018 and 2017, Water Quality recognized pension expense as follows (in thousands):

	Pension Expense	
	2018	2017
PERS 1	$ (6,391)	$ (4,509)
PERS 2/3	1,890	6,346
Total	$ (4,501)	$ 1,837

Note 9 – Employee Benefit Plans (continued)

Deferred outflows of resources and deferred inflows of resources – At December 31, 2018 and 2017, Water Quality reported deferred outflows of resources and deferred inflows of resources related to pensions from the following sources (in thousands):

PERS 1	2018 Deferred Outflows of Resources	2018 Deferred Inflows of Resources	2017 Deferred Outflows of Resources	2017 Deferred Inflows of Resources
Net difference between projected and actual investment earnings on pension plan investments.	$ -	$ 276	$ -	$ 505
Contributions subsequent to the measurement date.	549	-	953	-
Total	$ 549	$ 276	$ 953	$ 505

PERS 2/3	2018 Deferred Outflows of Resources	2018 Deferred Inflows of Resources	2017 Deferred Outflows of Resources	2017 Deferred Inflows of Resources
Difference between expected and actual experience.	$ 1,256	$ 1,794	$ 2,186	$ 710
Net difference between projected and actual investment earnings on pension plan investments.	-	6,287	-	5,749
Changes of assumptions	120	2,915	229	-
Changes in proportion and differences between contributions and proportionate share of contributions.	423	740	23	861
Contributions subsequent to the measurement date.	2,449	-	2,376	-
Total	$ 4,248	$ 11,736	$ 4,814	$ 7,320

Note 9 – Employee Benefit Plans (continued)

Deferred outflows of resources related to pensions resulting from Water Quality's contributions subsequent to the measurement date will be recognized as a reduction of the net pension liability in the years ended December 31, 2018 and 2017. Other amounts reported as deferred outflows and deferred inflows of resources related to pensions will be recognized in pension expense as follows (in thousands):

	2018	
Year Ending December 31,	PERS 1	PERS 2/3
2019	$ 12	$ (1,043)
2020	(60)	(2,141)
2021	(181)	(3,912)
2022	(47)	(1,489)
2023	-	(591)
Thereafter	-	(761)

	2017	
Year Ending December 31,	PERS 1	PERS 2/3
2018	$ (342)	$ (2,416)
2019	108	485
2020	(25)	(635)
2021	(246)	(2,449)
2022	-	58
Thereafter	-	75

Note 10 – Other Post-Employment Benefits

GASB Statement No. 75, *Accounting and Financial Reporting for Postemployment Benefits Other Than Pensions*, establishes standards for recognizing and measuring other postemployment benefits (OPEB) liabilities, deferred outflows of resources, deferred inflows of resources, and expenses. The following table represents Water Quality's allocated OPEB amounts subject to the requirements of GASB Statement No. 75 for the year 2018 (in thousands):

	OPEB Amounts 2018
OPEB liabilities	$ 1,533
Deferred outflows of resources	41
Deferred inflows of resources	119
OPEB expense	50

Note 10 – Other Post-Employment Benefits (continued)

Plan description – The County administers a single-employer defined-benefit postemployment healthcare plan (the Plan). The Plan provides healthcare insurance for eligible retirees and their spouses and children through the County's health insurance plan, which covers retired members. The plan provides healthcare insurance benefits and prescription coverage. The plan offers dental and vision benefits, but the retiree premiums are assumed to cover the full cost of those benefits.

As a self-insurer, the County establishes a monthly premium rate for insurance benefits each budget year. Eligible retirees may continue to receive insurance benefits by contributing 100% of the Consolidated Omnibus Budget Reconciliation Act or COBRA rate for these benefits. The program provides the same level of healthcare benefits to retirees as the active group plan. LEOFF1 retirees are not required to contribute as the County pays 100% of their medical costs. The County pays benefits as they come due.

Employees covered by benefit terms – At December 31, 2018 (the census date), the benefit terms covered the following employees:

Category	Count
Inactive employees, spouses, or beneficiaries currently receiving benefit payments	450
Inactive employees entitled to but not yet receiving benefit payment	-
Active employees	14,378
Total	14,828

Net OPEB liability – The County's net OPEB liability was measured as of December 31, 2018, and the total OPEB liability used to calculate the net OPEB liability was determined by an actuarial valuation as of December 31, 2018.

Actuarial assumptions – The total OPEB liability in the December 31, 2018, actuarial valuation was determined using the following actuarial assumptions, applied to all periods included in the measurement, unless otherwise specified:

- Inflation: 2.50%.
- Salary increases: 3.00%.
- Healthcare cost trend rates: 7.00% in the first year, trending down to 3.84% over 56 years.
- Mortality rates were based on tables from the Society of Actuaries.
- Discount rate: The discount rate used to measure the total OPEB liability is 3.75%. The County's OPEB Plan is an unfunded plan, therefore the discount rate was set to the rate of tax-exempt, high-quality 20-year municipal bonds, as of the valuation date.

Note 10 – Other Post-Employment Benefits (continued)

Changes in total OPEB liability – Water Quality's allocated changes in the total OPEB liability for the year ended December 31, 2018, was as follows (in thousands):

	2018
Total OPEB liability - beginning of year	$ 1,652
Service cost	29
Interest	57
Difference between expected and actual experience	46
Change of assumptions	(133)
Benefit payments	(72)
Implicit rate subsidy fulfilled	(19)
Other changes	(27)
Net changes	(119)
Total OPEB liability - end of year	$ 1,533

Sensitivity of the net OPEB lability to changes in the discount rate – The table below presents Water Quality's proportionate share of the net OPEB liability as well as what Water Quality's proportionate share of the net OPEB liability would be if it were calculated using a discount rate that is one percentage point lower (2.75%) or one percentage point higher (4.75%) than the current rate (in thousands).

Year	1% Decrease (2.75%)	Current Discount Rate (3.75%)	1% Increase (4.75%)
2018	$ 1,676	$ 1,533	$ 1,407

Sensitivity of the net OPEB lability to changes in the healthcare cost trend rates – The table below presents Water Quality's proportionate share of the net OPEB liability as well as what Water Quality's proportionate share of the net OPEB liability would be if it were calculated using healthcare cost trend rates that are one percentage point lower (6.00%) or one percentage point higher (8.00%) than current healthcare cost trend rates rate (in thousands).

Year	1% Decrease (6.00% Decreasing to 2.84%)	Trend Rate (7.00% Decreasing to 3.84%)	1% Increase (8.00% Decreasing to 4.84%%)
2018	$ 1,396	$ 1,533	$ 1,691

Note 10 – Other Post-Employment Benefits (continued)

Deferred outflows of resources and deferred inflows of resources – At December 31, 2018, Water Quality reported deferred outflows of resources and deferred inflows of resources related to OPEB from the following sources (in thousands):

	2018	
	Deferred Outflows of Resources	Deferred Inflows of Resources
Difference between expected and actual experience.	$ 41	$ -
Changes of assumptions	-	119
Total	$ 41	$ 119

Amounts reported as deferred outflows of resources and deferred inflows of resources related to OPEB will be recognized as OPEB expense as follows (in thousands):

Year Ending December 31,	Amount
2019	$ (9)
2020	(9)
2021	(9)
2022	(9)
2023	(10)
Thereafter	(32)

Note 11 – Interfund Balances and Transfers

Water Quality is an enterprise fund of the County and reports in its financial statements interfund balances and transfers as a result of intra-county activity with other County agencies.

Interfund balances – The balances result from the time lag between the dates when interfund goods and services were provided or reimbursable expenditures incurred and when interfund payments were made, Water Quality reported total due from other funds of $2.5 million and due to other funds of $37 thousand at December 31, 2018. Water Quality reported total due from other funds of $2.1 million and due to other funds of $25 thousand at December 31, 2017.

Interfund transfers – The King County Council approves ordinances and/or motions authorizing Water Quality to contribute and receive amounts to and from various County funds. During 2018 and 2017, the transfers from Water Quality to other funds were $982 thousand and $741 thousand, respectively.

Note 12 – Commitments and Contingencies

Construction and maintenance programs – To ensure the continued operation, reliability, and compliance with regulatory standards of existing wastewater treatment facilities, Water Quality is committed to expending approximately $242.9 million on active construction contracts as of December 31, 2018.

Contingencies and claims – The following litigation, or potential litigation, may involve claims for material damages against the King County Water Quality Enterprise Fund for which Water Quality is unable to provide an opinion as to the ultimate outcome or the amount of damages that may be found:

- An administrative order issued by the Environmental Protection Agency (EPA) that required King County, the City of Seattle, Boeing, and the Port of Seattle to conduct studies to determine the nature and extent of contamination in the Lower Duwamish Waterway. The County and the other three parties have agreed with EPA to amend the administrative order on a number of occasions to conduct additional studies, and have most recently negotiated a further amendment to design the remedy for one portion of the river. EPA issued a Record of Decision (ROD) in the latter part of 2014. The ROD contains EPA's final plan for cleanup of the Lower Duwamish Waterway. The County and a number of other parties are participating in an alternative dispute resolution process, called an allocation, to determine shares of liability for the costs of the cleanup. If parties that participate in the allocation accept their allotted shares, they then expect to enter into a settlement agreement and to negotiate a consent decree with EPA to implement the cleanup. Due to the fact that the parties do not yet know their respective shares of cleanup costs and no consent decree has been negotiated with EPA, the County is unable to determine the schedule or cost of any required remediation. In addition, the County is unable to determine the extent to which the County and Water Quality will be responsible for the cost of such remediation.

- A potential requirement for more cleanup in the area contaminated when the Denny Way combined sewer outflow was replaced in 2005. Water Quality has performed interim cleanup costing $3.6 million to comply with a formal agreement with the Washington State Department of Ecology (DOE). Water Quality recently has had discussions with DOE and stakeholders regarding site conditions and next steps toward final cleanup. The County is unable to determine an amount, if any, for which Water Quality may be responsible.

- Potential claims for past and future cleanup costs at the Harbor Island Superfund Site. Certain removal costs already incurred by the Port of Seattle are expected to be defrayed by the County and the City of Seattle. The City of Seattle, Port of Seattle and the County intend to negotiate the amount, if any, that the City and the County will contribute. This is an extremely complex negotiation for which the County is unable to determine an amount that Water Quality may be responsible for, if any. The parties have also agreed to share the cost of a supplemental investigation and feasibility study (RI/FS) required by the EPA. The supplemental RI/FS is now complete and awaiting final approval from EPA. A three-way agreement with the Port, the City and the County allocates to Water Quality a one-third pro rata share of the study costs although the costs may be reallocated among the parties or with other Potentially Responsible Parties (PRP) who may agree to participate in the study. The parties may also seek contribution from other PRP for the cost of the study. The EPA will not determine if, or the nature of, any additional remediation until the study is completed and approved. The County and three other PRP have negotiated a memorandum of agreements to implement a search for other responsible parties.

Note 12 – Commitments and Contingencies (continued)

- A claim submitted by the County against a contractor and its performance bond surety over the project to repair and replace two miles of pipeline serving the rapidly developing area in the vicinity of Canyon Park. Pursuant to an agreement with DOE, Water Quality had to install a bypass system because the capital project was not completed by the onset of the 2016 wet season. The contractor submitted a request for change order of approximately $1.5 million based on its assertion that the contract dewatering and open-faced shield tunneling specifications were defective. The contractor also asserted that it was constructively suspended and stopped tunneling. Water Quality found the contractor in default, terminated the contract, made demand upon the performance bond surety, and procured a $20.0 million completion contract. Water Quality's additional costs to complete the project and to repair consequential damages amounted to approximately $28.0 million. In December 2016, the County initiated a suit in King County Superior Court to recover the additional costs to complete the project from the contractor and its insurance company. The trial date expected to be set in June of 2020.

Note 13 – Restatements of Beginning Balances

Due to Water Quality's adoption of GASB Statement 75, *Accounting and Financial Reporting for Postemployment Benefits other than Pensions*, the 2017 financial statements and its net position as of January 1, 2017, were restated to conform to the reporting requirements.

Revised balances are shown in the following schedule (in thousands):

	As Previously Reported	Effect of Restatement	As Restated
STATEMENT OF NET POSITION			
NONCURRENT LIABILITIES			
Other post-employment benefits	$ 1,631	$ 21	$ 1,652
NET POSITION - end of year	696,579	(21)	696,558
STATEMENT OF REVENUES, EXPENSES, AND CHANGES IN NET POSITION			
OPERATING EXPENSES			
General and administrative	39,583	(1,142)	38,441
NET POSITION - beginning of year	639,359	(1,163)	638,196

Note 14 – Subsequent Event

On January 2, 2019, Water Quality redeemed $1.7 million of the outstanding principal of Junior Lien Variable Rate Sewer Revenue bond, Series 2015A and 2015B (the Bonds). The amount of this redemption was applied in equal amounts of $835 thousand to each series of the Bonds.

Required Supplementary Information

Schedule of the County's Proportionate Share of the Net Pension Liability
Public Employees' Retirement System (PERS) Plan 1
Measurement Date of June 30*
(dollars in thousands)

	2018	2017	2016	2015
County's proportion of the net pension liability	8.56%	8.45%	8.90%	8.76%
County's proportionate share of the net pension liability	$ 382,129	$ 400,803	$ 477,872	$ 458,477
Covered payroll	$ 13,346	$ 15,426	$ 18,793	$ 22,880
County's proportionate share of the net pension liability as a percentage of covered payroll	2863.25%	2598.23%	2542.82%	2243.04%
Plan fiduciary net position as a percentage of the total pension liability	63.22%	61.24%	57.03%	59.10%

* This schedule is to be built until it contains ten years of data.

Schedule of the County's Proportionate Share of the Net Pension Liability
Public Employees' Retirement System (PERS) Plan 2/3
Measurement Date of June 30*
(dollars in thousands)

	2018	2017	2016	2015
County's proportion of the net pension liability	10.29%	10.14%	10.52%	10.36%
County's proportionate share of the net pension liability	$ 175,728	$ 352,361	$ 529,855	$ 370,294
Covered payroll	$ 1,072,968	$ 995,800	$ 953,254	$ 949,860
County's proportionate share of the net pension liability as a percentage of covered payroll	16.38%	35.38%	55.58%	39.68%
Plan fiduciary net position as a percentage of the total pension liability	95.77%	90.97%	85.82%	89.20%

* This schedule is to be built until it contains ten years of data.

Schedule of the County's Contributions
Public Employees' Retirement System (PERS) Plan 1
For the Year Ended December 31*
(dollars in thousands)

	2018	2017	2016	2015
Contractually required contributions	$ 1,448	$ 1,738	$ 1,901	$ 2,076
Contributions in relation to the contractually required contributions	1,448	1,738	1,901	2,076
Contribution deficiency (excess)	$ -	$ -	$ -	$ -
Covered payroll	$ 11,362	$ 14,569	$ 17,003	$ 20,440
Contributions as a percentage of covered payroll	12.74%	11.93%	11.18%	10.16%

* This schedule is to be built until it contains ten years of data.

Schedule of the County's Contributions
Public Employees' Retirement System (PERS) Plan 2/3
For the Year Ended December 31*
(dollars in thousands)

	2018	2017	2016	2015
Contractually required contributions	$ 140,712	$ 123,333	$ 109,269	$ 95,176
Contributions in relation to the contractually required contributions	140,712	123,333	109,269	95,176
Contribution deficiency (excess)	$ -	$ -	$ -	$ -
Covered payroll	$ 1,103,984	$ 1,031,418	$ 977,342	$ 933,304
Contributions as a percentage of covered payroll	12.75%	11.96%	11.18%	10.20%

* This schedule is to be built until it contains ten years of data.

Notes to Pension Required Supplementary Information

The assumption changes that were used to measure the June 30, 2018, total pension liability include the lowering of the valuation interest rate to 7.50 percent, the assumed inflation to 2.75 percent, the assumed general salary growth to 3.50 percent, and the discount rate to 7.40 percent. Additional actuarial method and assumption information is located in Note 9 to the Financial Statements.

The Office of the State Actuary (OSA) calculates the actuarially determined contributions (ADC) based on the results of an actuarial valuation consistent with the state's funding policy defined in Chapter 41.45 the Revised Code of Washington (RCW). Consistent with the state's contribution-rate adoption process, the results of an actuarial valuation with an odd-numbered year valuation date determine the ADC for the biennium that ensues two years later. For example, the actuarial valuation with a June 30, 2015, valuation date, completed in the fall of 2016, determines the ADC for the period beginning July 1, 2017, and ending June 30, 2019.

OSA calculates the ADC consistent with the methods described above. Adopted contribution rates could be different pending the actions of the governing bodies. For instance, for the period beginning July 1, 2017, and ending June 30, 2019, the contribution rates the Pension Funding Council adopted, which the Legislature did not change, reflect a phasing in of the increase to contribution rates that resulted from a change to the mortality assumption. This is the second of three biennia over which this increase is expected to be phased-in for PERS 1, PERS 2/3, and other pension plans. For cost-sharing plans, OSA calculates the contractually required contributions (CRC) using the same assumptions and methods as the ADC, except the CRC reflect the adopted contribution rates for the time period shown, which might differ from the contribution rates produced for the ADC.

	2018
Total OPEB liability - beginning of year	$ 118,120
Service cost	2,092
Interest	4,147
Changes of benefit terms	-
Differences between expected and actual experience	3,332
Changes of assumptions	(9,652)
Benefit payments	(5,244)
Implicit rate subsidy fulfilled	(1,383)
Other changes	-
Net change in total OPEB liability	(6,708)
Total OPEB liability - end of year	$ 111,412
Covered-employee payroll	$ 1,217,867
Total OPEB liability as a percentage of covered payroll	9.15%

* This schedule is to be built until it contains ten years of data.

Notes to OPEB Required Supplementary Information

The plan does not have assets in trusts or equivalent arrangements and is funded on a pay-as-you-go basis. Potential factors that may significantly affect trends in amounts reported include changes to the discount rate, health care trend rates, salary projections, and participation percentages.

Other Information

Water Quality is obligated by applicable bond ordinances to set sewage disposal rates at a level adequate to provide net revenue equal to at least 1.15 times the annual debt service requirements for sewer revenue and general obligation bonds payable from revenues of Water Quality. It is an adopted policy of Water Quality to achieve a debt service coverage ratio of 1.25.

Coverage (1.15 required by covenant, adopted policy 1.25)	1.72

In 2001, Water Quality adopted a new debt service target of 1.15 times the annual debt service for bonds, obligations, notes, and loans of Water Quality.

Coverage (1.15 adopted target)	1.49

Water Quality is required to generate revenues sufficient to pay all costs of operation of the sewage treatment system and debt service on obligations of Water Quality.

Coverage (1.00 required by covenant)	1.37

In 2001, Water Quality issued an additional tier of revenue bonds. The bond covenants of the Junior Lien Variable Rate Demand Sewer Revenue Bonds, Series 2001A and Series 2001B, require that sewage disposal rates provide net revenue equal to at least 1.10 times the annual debt service requirements for all junior lien obligations after payment of senior lien requirements. All of Water Quality Junior Lien Variable Rate Sewer Revenue Bonds and Multi-Modal Limited Tax General Obligation Revenue Bonds incorporate the identical requirement stated in the 2001 bond covenant requirements. In 2018, short-term interest rates rose to 2.07 percent in 2018 from 1.73 percent in 2017.

Coverage (1.10 required by covenant)	13.36

King County Water Quality Enterprise Fund
Supplemental Information
Supplemental Schedule of Historical Debt Service Coverage Ratios (Unaudited)

DEBT SERVICE COVERAGE FOR THE WATER QUALITY ENTERPRISE
LAST TEN FISCAL YEARS
(dollars in thousands)

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Residential Customer and Residential Customer Equivalents (RCEs) (annual average, rounded)	703,795	704,400	707,300	708,900	718,160	725,844	736,090	756,430	756,916	760,571
Percentage Annual Change	-0.43%	0.09%	0.41%	0.23%	1.31%	1.07%	1.41%	2.76%	0.06%	0.48%
Operating Revenues										
Sewage disposal fees	$ 271,558	$ 269,498	$ 306,430	$ 307,143	$ 342,850	$ 346,591	$ 371,253	$ 381,513	$ 401,650	$ 403,589
Rate stabilization	(15,398)	(15,814)	(25,523)	13,923	10,350	18,000	(12,000)	-	-	-
Capacity charge revenues	40,827	41,363	48,693	51,411	58,660	59,522	62,479	71,200	82,615	86,836
Other operating revenues	9,869	9,778	7,830	9,398	10,126	11,675	11,674	11,828	18,308	19,125
Total Operating Revenues	306,856	304,825	337,430	381,875	421,986	435,788	433,406	464,541	502,573	509,550
Operating and Maintenance Expenses [1]	103,118	103,682	103,995	114,939	117,183	122,014	127,211	138,698	142,263	139,585
Add: GAAP adjustment [2]	-	-	-	-	-	2,187	1,715	(2,377)	5,936	13,004
Net Operating and Maintenance Expenses	103,118	103,682	103,995	114,939	117,183	124,201	128,926	136,321	148,199	152,589
Net Operating Revenue	203,738	201,143	233,435	266,936	304,803	311,587	304,480	328,220	354,374	356,961
Interest Income [3]	5,613	3,426	2,725	1,697	2,682	2,822	2,863	4,549	6,055	8,956
Net Revenue Available for Debt Service	209,351	204,569	236,160	268,633	307,485	314,409	307,343	332,769	360,429	365,917
Debt Service										
Parity Bonds	118,925	118,817	132,664	157,117	172,959	175,463	167,694	160,957	159,761	163,967
Parity Lien Obligations	26,042	26,838	32,910	38,626	43,064	42,876	40,348	53,164	52,650	49,121
Subordinate Debt Service	12,150	12,182	12,769	14,087	15,039	17,477	18,318	21,316	26,277	33,139
Total Debt Service	$ 157,117	$ 157,837	$ 178,343	$ 209,830	$ 231,062	$ 235,816	$ 226,360	$ 235,437	$ 238,688	$ 246,227
Debt Service Coverage										
On Parity Bonds	1.76	1.72	1.78	1.71	1.78	1.79	1.83	2.07	2.26	2.23
On Parity Bonds and Parity Lien Obligations	1.44	1.40	1.43	1.42	1.36	1.44	1.48	1.55	1.70	1.72
On All Sewer System Obligations	1.33	1.30	1.32	1.28	1.33	1.33	1.36	1.41	1.51	1.49

1) 2014 operating expenses were restated as part of GASB Statements 68 and 71 implementation.
2) Non-cash GAAP adjustments consist of pension, other post-employment benefits and compensated absence accruals.
3) Interest Income excludes unrealized gains in the GASB Statement 31 market valuation adjustment.

See report of independent auditors.

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