



# Hidden Valley Lake Community Services District

## Finance Committee Meeting

### AGENDA

DATE: August 20, 2019  
TIME: 12:30 pm  
PLACE: Hidden Valley Lake CSD  
Administration Office, GM Office  
19400 Hartmann Road  
Hidden Valley Lake, CA

1. CALL TO ORDER
2. PLEDGE OF ALLEGIANCE
3. ROLL CALL
4. APPROVAL OF AGENDA
5. DISCUSS AND REVIEW: Committee Charter
6. DISCUSS AND RECOMMEND: Credit Card Fees
7. DISCUSS AND RECOMMEND: Rate Increase Recommendation
8. DISCUSS AND RECOMMEND:
  - GASB 75 Report
  - Budget Actuals/ Accruals
  - Sewer Report
  - Revenue Report
  - Financial Statement
9. PUBLIC COMMENT
10. COMMITTEE MEMBER COMMENT
11. ITEMS FOR NEXT AGENDA
12. ADJOURNMENT

Public records are available upon request. Board Packets are posted on our website at [www.hvllcsd.org/Meetings](http://www.hvllcsd.org/Meetings).

In compliance to the Americans with Disabilities Act, if you need special accommodations to participate in or attend the meeting please contact the District Office at 987-9201 at least 48 hours prior to the scheduled meeting.

Public shall be given the opportunity to comment on each agenda item before the Governing Board acts on that item, G.C. 54953.3. All other comments will be taken under Public Comment.



## HIDDEN VALLEY LAKE COMMUNITY SERVICES DISTRICT FINANCE COMMITTEE CHARTER

Name of Committee	Hidden Valley Lake CSD Finance Committee
Date of last revision	02/13/2019
Purpose (Summary)	The finance committee provides ongoing review of the financial status of the District for the purpose of ensuring continued economic stability in accordance with the laws governing California, public agencies and with the District's Strategic Plan
Specific responsibilities	<ul style="list-style-type: none"> <li>-Review monthly financial reports and compare monthly figures to projected budget</li> <li>-Initiate an annual Financial Audit or review and recommend auditor</li> <li>-Review investments and make investment recommendation to the Board</li> <li>-Review and recommend an annual Budget</li> <li>-Review and recommend budget adjustments</li> <li>-Review Insurance coverage on an annual basis to ensure adequate coverage</li> <li>-Discuss, deliberate and make recommendation on all Financial issues impacting the District as brought to the committee by the General Manger and or Board of Directors</li> </ul>
Meeting schedule (regular date, time, place)	Second Wednesday of the month, 12:30-1:30 PM and as needed At the Admin Office
Composition (number and type-board members, or others?)	2 Board Members, General Manager, Full Charge Bookkeeper
Other important details	Directors assigned to the Finance Committee are responsible for the signing of the Accounts Payable on a weekly basis

ETS - Corporation Credit Card Fees

2018-2019	Register -25			Website -27			Draft -29			ETS Grand	
	ETS Fee	No. Sales	Amt Sales	ETS Fee	No. Sales	Amt Sales	ETS Fee	No. Sales	Amt Sales	Total	Total
July	\$ 851.43	379	\$ 42,840.76	\$ 1,156.36	549	\$ 58,460.84	\$ 431.94	183	\$ 17,269.04	\$ 2,439.73	\$ 3,125.98
August	\$ 942.57	399	\$ 48,896.06	\$ 1,205.54	549	\$ 61,422.32	\$ 458.44	182	\$ 18,530.07	\$ 2,606.55	\$ 3,292.80
September	\$ 979.12	391	\$ 51,535.30	\$ 1,338.77	570	\$ 68,896.68	\$ 488.79	184	\$ 19,929.27	\$ 2,806.68	\$ 3,519.18
October	\$ 980.37	387	\$ 49,276.94	\$ 1,310.21	587	\$ 66,019.84	\$ 447.19	178	\$ 18,170.47	\$ 2,737.77	\$ 3,471.52
November	\$ 952.65	389	\$ 47,237.82	\$ 1,218.57	569	\$ 60,511.75	\$ 433.24	178	\$ 17,339.80	\$ 2,604.46	\$ 3,315.71
December	\$ 951.93	423	\$ 48,556.85	\$ 1,220.30	608	\$ 63,637.34	\$ 431.97	179	\$ 17,704.79	\$ 2,604.20	\$ 3,364.20
January	\$ 959.12	409	\$ 49,515.96	\$ 1,180.52	581	\$ 56,851.10	\$ 402.15	182	\$ 15,583.06	\$ 2,541.79	\$ 3,268.04
February	\$ 866.31	386	\$ 43,575.74	\$ 1,186.76	615	\$ 58,735.99	\$ 398.21	183	\$ 15,822.67	\$ 2,451.28	\$ 3,220.03
March	\$ 909.44	409	\$ 45,464.69	\$ 1,181.39	622	\$ 58,637.56	\$ 370.13	179	\$ 14,743.18	\$ 2,460.96	\$ 3,238.46
April	\$ 917.61	401	\$ 44,759.85	\$ 1,314.54	651	\$ 61,614.21	\$ 384.46	175	\$ 14,712.23	\$ 2,616.61	\$ 3,430.36
May	\$ 948.24	416	\$ 46,413.91	\$ 1,188.13	613	\$ 58,270.03	\$ 374.02	171	\$ 14,624.32	\$ 2,510.39	\$ 3,276.64
June	\$ 446.91	466	\$ 54,747.10	\$ 510.56	649	\$ 66,710.15	\$ 322.36	170	\$ 16,226.84	\$ 1,279.83	\$ 2,091.08
<b>Total</b>	<b>\$ 10,258.79</b>	<b>4855</b>	<b>\$ 2.11</b>	<b>\$ 13,501.09</b>	<b>7163</b>	<b>\$ 1.88</b>	<b>\$ 8,953.75</b>	<b>2144</b>	<b>\$ 2.31</b>	<b>\$ 28,702.78</b>	<b>\$ 38,614.00</b>

Pay Qtrly  
1.25

Tyler Fee

\$ 2.11

\$ 3.13

\$ 2.31

\*Merchant Services took over ETS

Avg fee	\$ 7.55
div 3	\$ 2.52
<b>Flat Fee</b>	<b>\$2.50</b>
Customers	14,162
<b>Revenue</b>	<b>\$35,405.00</b>
<b>Expense</b>	<b>\$37,656.53</b>
<b>Difference</b>	<b>\$(2,251.53)</b>



**HIDDEN VALLEY LAKE**  
**COMMUNITY SERVICES DISTRICT**

## **WATER, SEWER & RECYCLED WATER RATE STUDY REPORT**

*Administrative Draft Report*

**April 2019**

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## SECTION 1. BACKGROUND, PURPOSE AND OVERVIEW OF THE STUDY

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### BACKGROUND

In 2014, the Hidden Valley Lake Community Services District (“District”) retained NBS to complete a water and sewer rate study which resulted in a March 2015 rate study report, and new rates were implemented soon afterwards. However, within a month, the San Juan Capistrano court decision was issued; this decision had significant implications for how tiered rates are designed. Essentially, the decision required water agencies to “*demonstrate that the tiers correspond to the actual cost of providing service at a given level of usage.*” In addition, severe drought and mandated conservation throughout California prompted the District to replace its four-tiered rates with a new uniform (single tier) rate and new drought surcharges.

***“Significant declines in water use have impacted the District’s revenues and reserves.”***

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Since then, the District has been evaluating changes in consumption patterns, water supply limitations, future CIP funding requirements, and the desire to continue to improve the fairness and equity of rates. In light of these considerations, an updated rate study was needed. This revised rate study presents significant changes related to funding assumptions for planned water and sewer capital projects along with significant increases in recorded commercial water consumption due to meter reading issues.

### PURPOSE

This re-evaluation of the District’s water, sewer and recycled water rates is intended to ensure these rates meet basic Proposition 218 (Prop 218) requirements, industry standards, reflect the District’s current priorities, and promote transparent communications between the District and its ratepayers.

### OVERVIEW OF THE STUDY

In developing the proposed new water and sewer rates, NBS and District Staff worked cooperatively to develop new financial plan and rate alternatives, with the intent that the District Board will provide direction on these alternatives. The proposed rates summarized in this report represent a conservative or worst-case scenario based on current uncertainty of grant and/or State Revolving Fund (SRF) loan funding. Using revenue bonds instead of grant or SRF funding results in significant rate increases over the next five years of almost 100% for water and 50% for sewer. If grant and/or SRF funding become available during this time, the recommended rate increases could be reduced. Also, because there is insufficient time to implement new rates this July, this study has assumed that currently adopted water and sewer rates for FY 2019/20 will be implemented as planned on July 1, 2019. However, the “proposed” new water rates will be implemented mid-fiscal year (January 1, 2020) and every January 1 thereafter. Proposed new sewer rate increases will continue to be implemented July 1 each year.

**Key Issues Addressed** – In addition to ensuring that water and sewer rates collect sufficient revenue to meet the annual operating costs and capital improvement plans, other key issues addressed included:

- The need to use new revenue bonds instead of grant and low-interest State revolving fund loans to fund approximately \$19 million of water capital improvement projects and approximately \$1.65 million of sewer capital improvement projects
- Lower water sales over the last few years due to the drought and conservation concerns
- Consumption records also indicate that commercial water use significantly increased while residential use has significantly decreased
- Water supply limitations and the potential need to build a new well

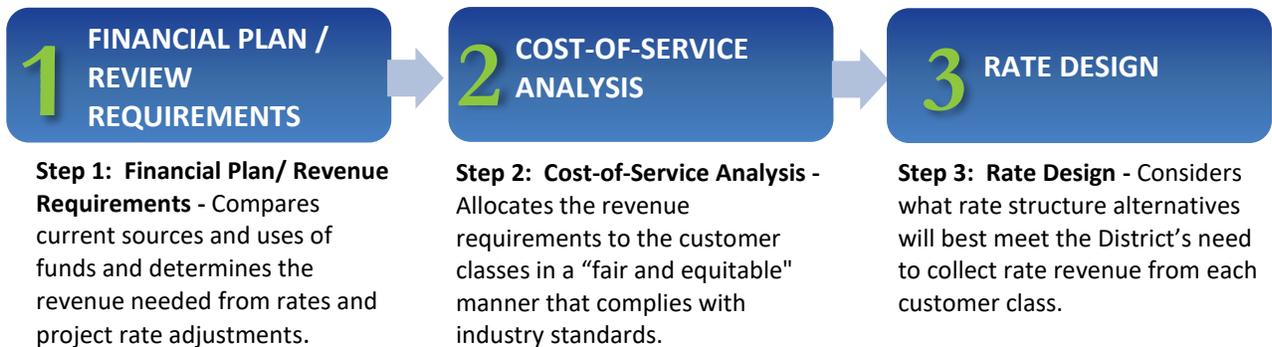
- Changes in annual operating costs, including adjustments resulting from the District’s salary survey
- The need to build adequate CIP and replacement reserves

**Recommendations** – As a part of the water and sewer financial plans, NBS evaluated projected revenues and expenditures to determine net revenue requirements. In light of the water utility’s decreased water sales and planned capital improvements, it will be critical to issue new revenue bonds to fund capital projects and rebuild reserves. Likewise, the sewer utility will also need to issue additional debt in order to cover projected deficits, fund capital projects and rebuilt reserves. NBS recommends the District Board review the rate increases described below and determine the District’s priorities for capital improvements vs. the tradeoff of the higher rates needed to fund these improvements.

## RATE STUDY METHODOLOGY

**Components of the Rate Study Methodology** – A comprehensive utility rate study typically has three major components: (1) the utility’s overall revenue requirements and financial plan, (2) the cost-of-service for each customer class, and (3) rate structure design, as shown in **Figure 1**. These components reflect industry standards, primarily from the American Water Works Association (AWWA)<sup>1</sup>, and address the general requirements for equity and fairness. In terms of the chronology of the study, these three steps represent the order they were performed in this study.

**Figure 1: Primary Components of a Rate Study**



The following sections in this report present an overview of the methodologies, assumptions, and data used along with the financial plans and rates developed.

**Rate Design Criteria** – Several criteria are typically considered in setting rates and developing sound rate structures. The fundamentals of this process have been documented in several rate-setting manuals. For example, the foundation for evaluating rate structures is generally credited to James C. Bonbright in the *Principles of Public Utility Rates*<sup>2</sup>, which outlines pricing policies, theories, and economic concepts along with various rate designs. The other common industry standard is AWWA Manual M1. The following is a simplified list of the attributes of a sound rate structure:

- Rates should be easy to understand from the customer’s perspective.
- Rates should be easy to administer from the utility’s perspective.
- Rates should promote the efficient allocation of the resource.
- Rates should be equitable and non-discriminating (e.g., cost based).

<sup>1</sup> *Principles of Water Rates, Fees, and Charges*, Manual of Water Supply Practices, M1, AWWA, seventh edition, 2017.

<sup>2</sup> James C. Bonbright; Albert L. Danielsen and David R. Kamerschen, *Principles of Public Utility Rates*, (Arlington, VA: Public Utilities Report, Inc., Second Edition, 1988), p. 383-384.

- There should be continuity in the rate making philosophy over time.
- Other utility policies should be considered (e.g., encouraging conservation & economic development).
- Rates should consider the customer's ability to pay.
- Rates should provide month-to-month and year-to-year revenue stability.

The following section covers basic rate design criteria that NBS and District staff considered as a part of their review of the rate structure alternatives.

**Rate Structure Issues** – The relationship between fixed costs and variable costs is one of the most fundamental rate structures considerations. Fixed costs typically do not vary with the amount of water consumed. Debt service and District personnel are examples of fixed costs. In contrast, variable costs such as the cost of chemicals and electricity, tend to change with the quantity of water sold. The vast majority of rate structures contain a fixed or minimum charge in combination with a volumetric charge.

The District's rate design objectives are not necessarily the same as those in other communities. For example, some communities, particularly those with very expensive purchased water costs, place a very high priority on conservation-oriented rates. Other communities who have many low-income customers may want to implement low-income subsidies.

The District's 2015 rate study considered various combinations of fixed vs. variable charges and determined that collecting 60 percent of rate revenue from fixed charges and 40 percent from variable charges was preferred. Additionally, the previous four-tiered volumetric rates were replaced with a single-tier (uniform) volumetric rate. This water rate design still appears to be a good fit in light of the District's projected water sales and the need to emphasize revenue sufficiency going forward.

### Key Financial Assumptions

Following are the key assumptions used in the water, sewer and recycled water rate analyses:

- **Funding of Capital Projects** – After extensive review of the planned capital improvement projects (CIP) and funding requirements by the District and its engineering consultant, the District has decided that the water utility lacks any guarantees that SRF loans and Prop 1 Grants will be available to fund CIP costs over the next several years, and therefore needs to assume the use of additional debt (revenue bonds). The sewer utility will also need new revenue bonds, although a much smaller amount.
- **Reserve Targets** – The water and sewer utility reserves are currently below target levels. Going forward, the target reserves for operations and maintenance (O&M) and capital rehabilitation and replacement (R&R) follow general utility industry standards. This includes approximately 90-days of O&M expenses for both the water and sewer O&M Reserves, and approximately 3% of net assets as the target reserve level for the R&R Reserves.
- **Inflation and Growth Projections:**
  - ✓ Customer growth is assumed to be 0.25% annually. While some additional growth may occur<sup>3</sup>, NBS did not rely on any additional growth during the next five years.
  - ✓ General cost inflation is about 3% annually.
  - ✓ Operating expenses, which include among other things labor costs, health benefits, and retirement benefits, are inflated at a rate of approximately 3% to 4% annually.
  - ✓ No inflation is added to other costs.

The next two sections discuss the water, sewer and recycled water rate studies.

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<sup>3</sup> The District has roughly 700 undeveloped lots, but these are not expected to develop within the timeframe of this study.

## SECTION 2. WATER RATE STUDY

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### A. KEY WATER RATE STUDY ISSUES

The revised water rate analysis was undertaken with a few specific objectives, including:

- Restructuring the District’s approach to funding capital improvements, which total about \$19 million over the next five years.
- Analyzing and adjusting for recorded consumption changes over past several years.
- Generating additional revenue to meet projected funding requirements and rebuild reserve funds.
- In light of recent conservation, continuing to collect approximately 60% of water rate revenue from fixed charges and 40% from volumetric rates continues to be a reasonable approach to rate design.
- Update fixed charges and volumetric rates to reflect changes in consumption patterns.

NBS developed several water rate alternatives over the course of this study based on industry standards and cost-of-service principles. The fixed and volumetric charges were calculated based on the net revenue requirements, number of customer accounts, water consumption, and other District-provided information. The following are the basic components included in this analysis:

- **Developing Unit Costs:** The water revenue requirements were “functionalized” into three categories: (1) fixed capacity costs; (2) variable costs (or volume-based), and; (3) customer service costs, such as meter reading, billing, mailing, and responding to customer questions. Unit costs for each of these categories were then allocated to functional areas, including water consumption, peaking factors, number of accounts by meter size, and customer class.
- **Determining Revenue Requirements by Customer Class:** The total revenue collected from customer classes (i.e., groups of customers with similar consumption patterns) was determined using the unit costs and the total units belonging to each class. For example, volume-related costs are allocated based on the water consumption for each class, while customer costs are allocated based on number of meters. Once the revenue requirement for each customer class is determined, collecting these revenue requirements from each customer class is addressed in the rate design task.
- **Rate Design and Fixed vs. Variable Costs:** The revenue required from each customer class are collected from fixed charges and volumetric rates. The cost of service analysis indicated that an allocation of 60% of the costs to fixed and 40% to variable rates is a reasonable basis for rate design. State agencies, such as the California Water Efficiency Partnership, would like water utilities to collect at least 70% of rate revenue from volumetric rates. However, many utilities prefer to collect less than 70% from volumetric rates because of the revenue instability that can and has resulted when water use drops unexpectedly.

*“The best way to promote financial stability is to collect fixed costs through fixed charges.”*

### B. WATER UTILITY REVENUE REQUIREMENTS

Rate increases for municipal utilities are governed by the need to meet operating and capital costs, and maintain adequate reserves and meet required debt coverage. These are important in order to handle minor emergencies, fund working capital, maintain a good credit rating, and generally follow sound financial management practices. The current financial state of the District’s water utility is as follows:

**Capital Improvement Costs:** The \$19 million in planned capital projects for FY 2019/20 through FY 2024/25 shown in **Figure 2** are a major driver of the water utility's projected annual costs. These costs are in current year dollars; future inflation of 3% is assumed for actual funding of these revenue requirements.

**Figure 2. Summary of Water Capital Project Costs**

Project Description	FY 2019/20	FY 2020/21	FY 2021/22	FY 2022/23	FY 2023/24	FY 2024/25
<b>Tanks (Tank 9 - HVLCS Priority #1)</b>	\$ 220,000	\$ 979,800	\$ 979,800	\$ 979,800	\$ 979,800	\$ 979,800
<b>Generators (HVLCS Priority #4)</b>	\$ -	\$ 434,400	\$ 434,400	\$ 434,400	\$ 434,400	\$ 434,400
<b>AMI (HVLCS Priority #3)</b>	\$ 100,000	\$ 300,000	\$ 300,000	\$ 300,000	\$ 300,000	\$ 300,000
Admin Vehicle	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
MMN Water Main	\$ 150,000	\$ -	\$ -	\$ -	\$ -	\$ -
DS Line Replacement	\$ -	\$ 541,800	\$ 541,800	\$ 541,800	\$ 541,800	\$ 541,800
Backhoe	\$ -	\$ 60,000	\$ -	\$ -	\$ -	\$ -
Dump Truck <sup>1</sup>	\$ -	\$ 75,000	\$ -	\$ -	\$ -	\$ -
Hydrants	\$ -	\$ 748,400	\$ 748,400	\$ 748,400	\$ 748,400	\$ 748,400
IT Upgrades <sup>1</sup>	\$ 5,000	\$ 5,000	\$ 5,000	\$ 5,000	\$ 5,000	\$ 5,000
SCADA Replacement <sup>1</sup>	\$ -	\$ 30,000	\$ 30,000	\$ 30,000	\$ 30,000	\$ 30,000
Vacc Truck	\$ 134,000	\$ -	\$ -	\$ -	\$ -	\$ -
Well	\$ -	\$ 728,400	\$ 728,400	\$ 728,400	\$ 728,400	\$ 728,400
<b>Total: Planned CIP Costs</b>	<b>\$ 609,000</b>	<b>\$ 3,902,800</b>	<b>\$ 3,767,800</b>	<b>\$ 3,767,800</b>	<b>\$ 3,767,800</b>	<b>\$ 3,767,800</b>

1. Full CIP costs split between water and sewer funds. This is the amount allocated to water fund.

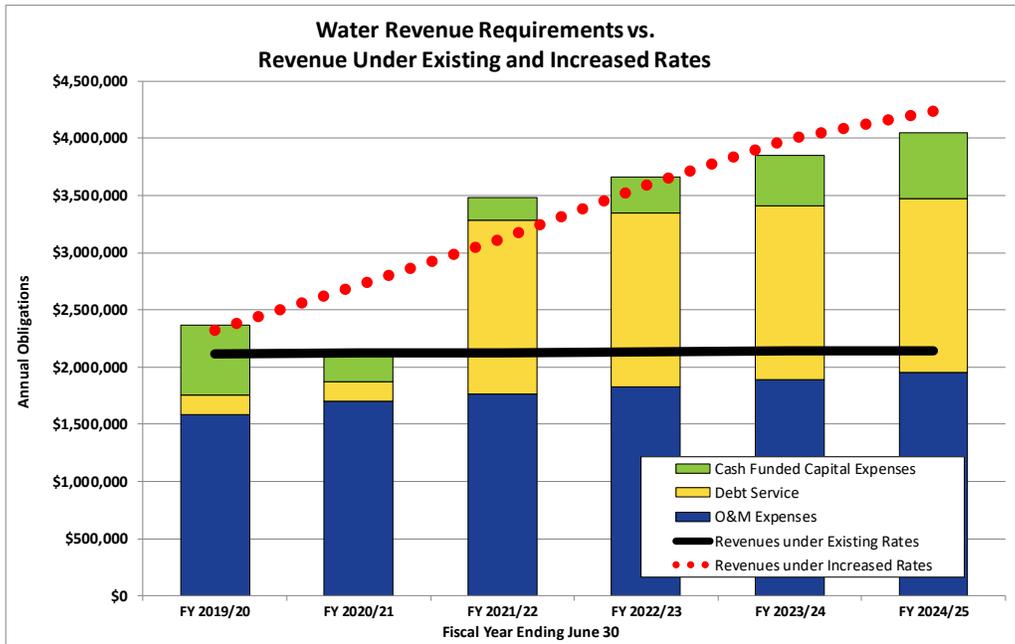
**Meeting Net Revenue Requirements:** For Fiscal Years 2019/20 through 2024/25, the projected net revenue requirement that must be recovered from rates increases by more than 74%, from \$2.28 million to \$3.98 million, as shown in **Figures 3 and 4**. Without additional rate increases, the water utility would run annual deficits that grow to about \$1.9 million by the end of FY 2024/25. (Note: since FY 2018/19 numbers are not yet available and estimates would need to be revised within a few months, only FY 2019/20 through FY 2024/25 are shown. Also, the five years of proposed January 1 rate increases encompass FY 2019/20 through FY 2023/24, and assume the currently adopted July 1, 2019 increase is implemented. The FY 2024/25 numbers are shown for information only.)

**Figure 3. Summary of Water Revenue Requirements**

Summary of Sources and Uses of Funds and Net Revenue Requirements <sup>1</sup>	Adopted		Projected			
	FY 2019/20	FY 2020/21	FY 2021/22	FY 2022/23	FY 2023/24	FY 2024/25
<b>Sources of Water Funds</b>						
Rate Revenue Under Existing Rates	\$ 2,050,434	\$ 2,055,560	\$ 2,060,699	\$ 2,065,851	\$ 2,071,015	\$ 2,076,193
Other Operating Revenue	68,600	66,704	66,808	66,913	67,018	67,123
Interest Earnings	-	-	-	-	-	-
<b>Total Sources of Potable Funds</b>	<b>\$ 2,119,034</b>	<b>\$ 2,122,264</b>	<b>\$ 2,127,507</b>	<b>\$ 2,132,764</b>	<b>\$ 2,138,033</b>	<b>\$ 2,143,316</b>
<b>Uses of Water Funds</b>						
Salaries & Benefits	\$ 796,528	\$ 870,325	\$ 904,591	\$ 943,049	\$ 983,658	\$ 1,026,573
Water Rights	70,000	72,100	74,191	76,342	78,480	80,521
Repair & Replacement	185,000	190,550	196,076	201,762	207,411	212,804
Electricity	120,000	122,400	124,848	127,345	129,892	132,490
All Other Expenses	413,450	448,491	462,281	476,523	490,799	504,646
Potable System Debt Service <sup>1</sup>	171,065	170,746	1,521,287	1,520,946	1,520,592	1,520,226
Rate-Funded Capital Expenses	597,462	219,884	-	140,938	440,692	567,913
<b>Total Use of Potable Water Funds</b>	<b>\$ 2,353,505</b>	<b>\$ 2,094,496</b>	<b>\$ 3,283,274</b>	<b>\$ 3,486,906</b>	<b>\$ 3,851,525</b>	<b>\$ 4,045,173</b>
<b>Surplus/(Deficiency) before Rate Increase</b>	<b>\$ (234,471)</b>	<b>\$ 27,768</b>	<b>\$ (1,155,766)</b>	<b>\$ (1,354,142)</b>	<b>\$ (1,713,492)</b>	<b>\$ (1,901,857)</b>
Additional Revenue from Rate Increases	205,043	596,112	996,348	1,458,542	1,859,879	2,097,941
<b>Surplus/(Deficiency) after Rate Increase</b>	<b>\$ (29,427)</b>	<b>\$ 623,881</b>	<b>\$ (159,419)</b>	<b>\$ 104,400</b>	<b>\$ 146,388</b>	<b>\$ 196,084</b>
<b>Projected Annual Potable Rate Revenue Increase</b>	<b>20.00%</b>	<b>15.00%</b>	<b>15.00%</b>	<b>15.00%</b>	<b>8.00%</b>	<b>4.00%</b>
<b>Net Revenue Requirement - Potable System</b>	<b>\$ 2,284,905</b>	<b>\$ 2,027,792</b>	<b>\$ 3,216,465</b>	<b>\$ 3,419,993</b>	<b>\$ 3,784,507</b>	<b>\$ 3,978,050</b>
<b>Overall Debt Coverage Ratio</b>	<b>8.92</b>	<b>10.82</b>	<b>1.45</b>	<b>1.74</b>	<b>1.98</b>	<b>2.11</b>

1. Assumes \$19 million (net proceeds) in new revenue bonds is issued in FY'20/21 and debt service begins in FY'21/22.

**Figure 4. Water Revenue Requirements through FY 2022/23**



The District was previously planning on using SRF funding as well as Prop 1 Grant funding to pay for capital improvement projects. Since those funds are not guaranteed to be available, a new \$19 million revenue bond is assumed to cover these costs. The bonds would be issued in FY 19/20 and debt service would start in FY 20/21. To meet the considerable increase in debt service payments and other annual costs, five years of annual rate increases of 20%, 15%, 15%, 15% and 8% are needed starting January 1, 2020.

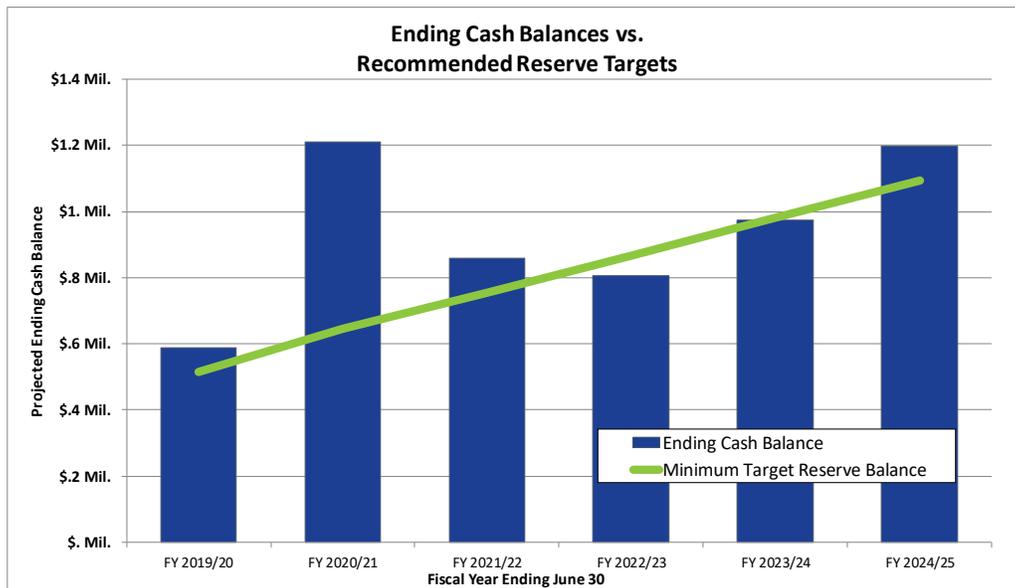
Figure 5 summarizes the projected reserve fund balances and reserve targets for the next five years. Figure 6 indicates that, assuming the proposed rate increases are adopted, the District’s reserves will increase over the next five years, and will keep up with the reserve fund target, which is growing to account for the additional capital improvements the District will be building.

**Figure 5. Summary of Water Reserve Funds**

Beginning Reserve Fund Balances and Recommended Reserve Targets	Adopted	Projected				
	FY 2019/20	FY 2020/21	FY 2021/22	FY 2022/23	FY 2023/24	FY 2024/25
<b>Operating Reserve</b>						
Ending Balance	\$ 396,000	\$ 426,000	\$ 269,514	\$ 393,449	\$ 473,000	\$ 489,000
<i>Recommended Minimum Target</i>	<i>396,000</i>	<i>426,000</i>	<i>440,000</i>	<i>456,000</i>	<i>473,000</i>	<i>489,000</i>
<b>Water Capital Fund</b>						
Ending Balance	\$ 191,417	\$ 785,298	\$ 588,039	\$ 411,800	\$ 502,019	\$ 709,328
<i>Recommended Minimum Target</i>	<i>118,600</i>	<i>219,000</i>	<i>315,300</i>	<i>411,800</i>	<i>508,700</i>	<i>605,800</i>
<b>Debt Reserve <sup>1</sup></b>						
Ending Balance	\$ 171,065	\$ 1,523,219	\$ 1,535,518	\$ 1,535,177	\$ 1,534,823	\$ 1,534,457
<i>Recommended Minimum Target</i>	<i>171,065</i>	<i>1,535,848</i>	<i>1,535,518</i>	<i>1,535,177</i>	<i>1,534,823</i>	<i>1,534,457</i>
<b>Total Ending Balance</b>	<b>\$ 758,482</b>	<b>\$ 2,734,516</b>	<b>\$ 2,393,071</b>	<b>\$ 2,340,427</b>	<b>\$ 2,509,842</b>	<b>\$ 2,732,785</b>
<i>Total Recommended Minimum Target</i>	<i>685,665</i>	<i>2,180,848</i>	<i>2,290,818</i>	<i>2,402,977</i>	<i>2,516,523</i>	<i>2,629,257</i>

1. Assume reserves for a new \$19 million revenue bond will be funded by the revenue bond in FY 20/21.

**Figure 6. Water Reserve Funds through FY 2022/23**



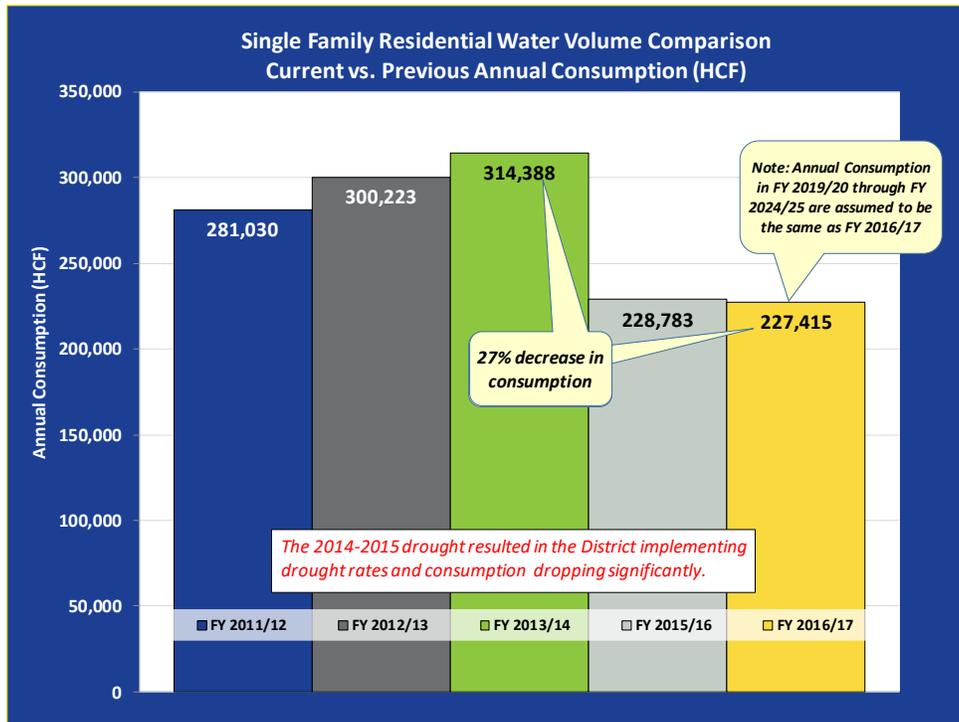
**Building and Maintaining Reserve Funds:** The Water Utility should maintain sufficient reserves. NBS recommends the District adopt and maintain the following reserve fund target balances:

- ✓ **Operating Reserve** should normally be equal to 25% of the Utility’s budgeted annual operating expenses, which is equal to a three-month (or 90-day) cash cushion for normal operations. An Operating Reserve is intended to promote financial viability in the event of any short-term fluctuation in revenues and/or expenditures. Fluctuations might be caused by weather patterns, the natural inflow and outflow of cash during billing cycles, natural variability in demand-based revenue streams (e.g., volumetric charges), local natural disasters and – particularly in periods of economic distress – changes or trends in age of receivables.
- ✓ **Capital Rehabilitation and Replacement (R&R) Reserve** are typically about 3% of net depreciable capital assets, which equates to a 33-year replacement cycle for capital assets.
- ✓ **Debt Reserve** is the reserve requirement for the CEIDB loan of approximately \$170,000. We assume the new \$19 million revenue bond would require one-year of debt service as a reserve.
- ✓ **OPEB<sup>4</sup> Reserve** – The District’s is establishing this reserve fund to begin addressing its current liability for post-retirement benefits, with the intent of increasing annual contributions in the future.

**Summary of Changing Consumption Patterns:** NBS confirmed that customer billing data indicate that the District has experienced lower than expected water rate revenues. This was primarily related to the drop in residential water use shown in **Figure 7**, which indicates that residential consumption decreased by 27%. This reflects the drought and drought-related conservation mandates that impacted water supplies throughout most of California. An additional factor that affected consumption was the drought surcharges that the District implemented from 2015 until April 2017.

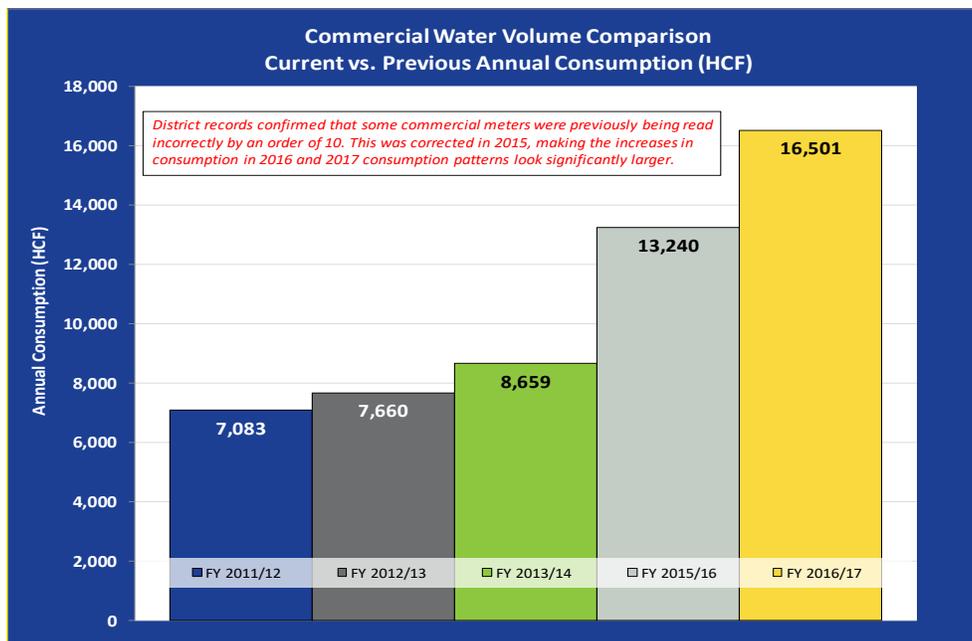
<sup>4</sup> OPEB refers to “Other Post-Employment Benefits”.

**Figure 7: Annual Water Consumption for Single Family Residential Customers from 2011-2017**



District staff also became aware of an issue of incorrect meter readings for some commercial customers. The lower than actual readings gives the impression that there were significant increases in commercial water use after 2013-14, as shown in **Figure 8**. However, District staff believe that the previous consumption was just under-recorded. Going forward, District staff are comfortable assuming that future residential and commercial consumption will be similar to that recorded for FY 2016/17.

**Figure 8: Annual Water Consumption for Commercial Customers from 2011-2017**



### C. CURRENT VS. PROPOSED WATER RATES

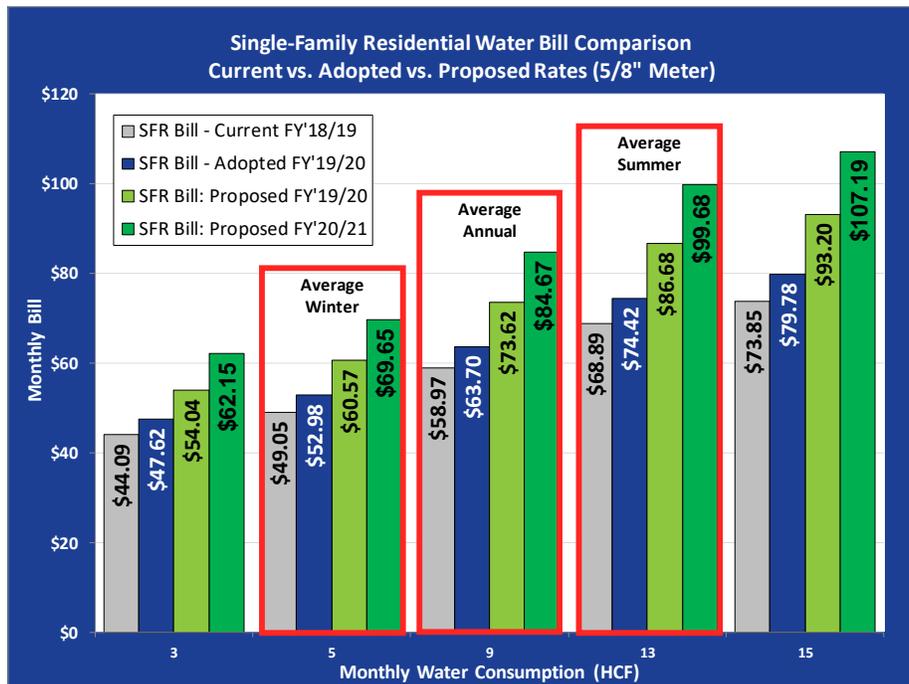
Currently, the District charges all customer classes with a standard 5/8" meter a monthly fixed charge of \$36.65, plus a uniform commodity rate of \$2.48/hcf for all water consumed. The proposed new rates follow this same rate design. **Figure 9** compares the current (FY 2018/19) and proposed rates for FY 2019/20 through 2022/23. Regarding the "Increase in Rate Revenue" shown in Figure 9, these are increases in total rate revenue that are not applied across-the-board to fixed and volumetric charges in the first year (i.e., the test year) due to cost-of-service calculations. However, after the test year, they are applied as a straight percentage to both fixed and volumetric charges.

**Figure 9. Current and Proposed Water Rates for FY 2018/19 through 2022/23**

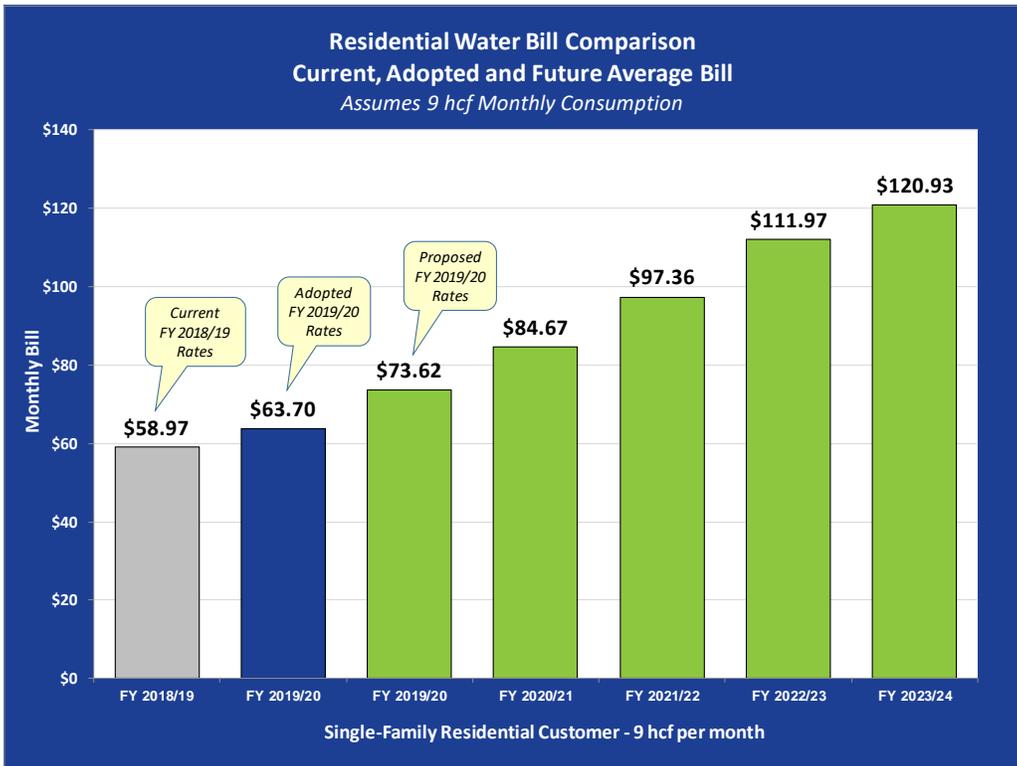
Water Rate Schedule	Current Rates ('18/19)	Adopted '19/20 Rates	Proposed Rates				
			FY 2019/20	FY 2020/21	FY 2021/22	FY 2022/23	FY 2023/24
<i>Increase in Rate Revenue:</i>			20.00%	15.00%	15.00%	15.00%	8.00%
<b>Fixed Service Charge</b>							
<i>Monthly Fixed Service Charge:</i>							
5/8 inch	\$36.65	\$39.58	\$44.25	\$50.89	\$58.52	\$67.30	\$72.68
3/4 inch	\$53.72	\$58.02	\$44.25	\$50.89	\$58.52	\$67.30	\$72.68
1 inch	\$87.88	\$94.91	\$107.20	\$123.28	\$141.78	\$163.04	\$176.09
1.5 inch	\$173.25	\$187.11	\$212.13	\$243.95	\$280.54	\$322.62	\$348.43
2 inch	\$275.71	\$297.75	\$338.04	\$388.74	\$447.06	\$514.11	\$555.24
<b>Water Commodity Charges</b>							
<i>Volumetric Rates</i>							
Single & Multi-Family	\$2.48	\$2.68	\$3.26	\$3.75	\$4.32	\$4.96	\$5.36
Commercial	\$2.48	\$2.68	\$3.99	\$4.59	\$5.27	\$6.07	\$6.55
Municipal	\$2.48	\$2.68	\$5.08	\$5.84	\$6.72	\$7.73	\$8.35

**Figure 10** compares monthly bills for residential customers under current and proposed rates at varying levels of water consumption, **Figure 11** shows projected water bills under average consumption, and **Figure 12** provides a comparison of water bills for other regional communities.

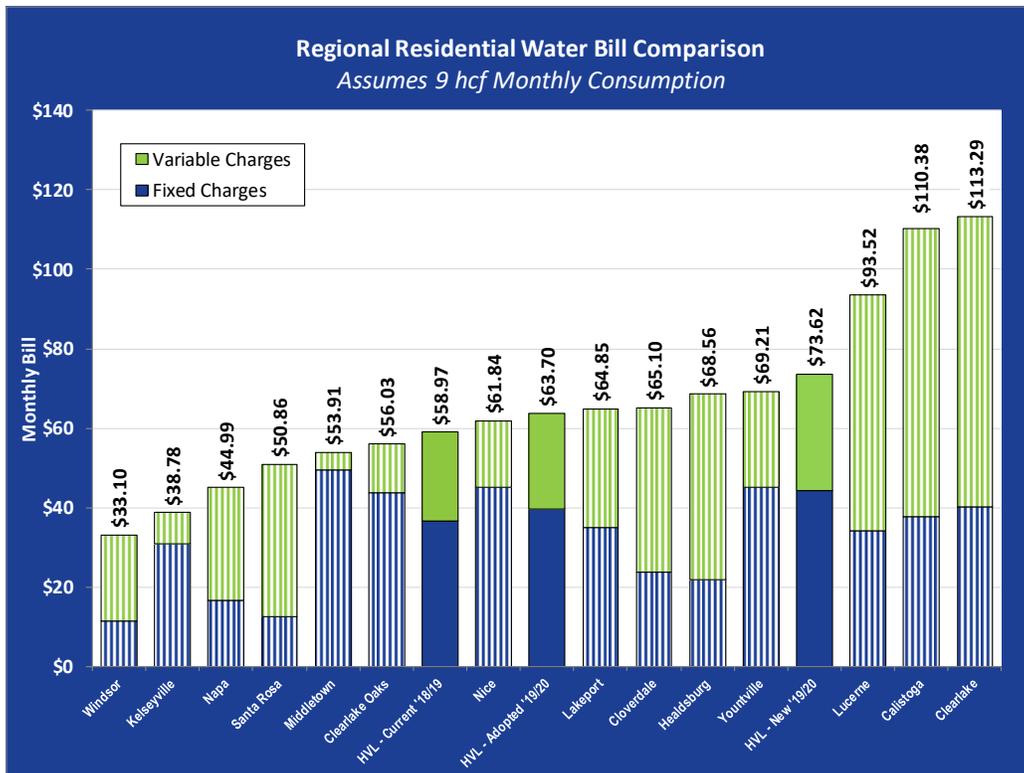
**Figure 10. Comparison of Monthly Water Bills for Single-Family Residential Customers**



**Figure 11. Projected Monthly Single-Family Water Bills – Average Water Use**



**Figure 12. Regional Comparison of Monthly Water Bills for Single-Family Residential**



## D. DROUGHT RATES

The District has emergency drought plans with four drought emergency stages requiring progressively greater reductions in water use by 10% through 40%. Assuming consumption is reduced by these amounts, the District will lose revenue from volumetric rates, although there will be some cost savings as production costs are slightly lower. NBS estimated these cost savings along with revenue losses to calculate drought rates.

The objectives of these drought rates are to meet the revenue requirement under drought conditions, after accounting for both cost savings and revenue losses. **Figure 13** summarizes these drought rates, which reflect the differences in volumetric rates for single-family and multi-family residential (SFR and MFR), commercial and municipal customers.

**Figure 13. Proposed Drought Rates**

Water Rate Schedule	Current Rates ('18/19)	Adopted '19/20 Rates	Proposed Rates				
			FY 2019/20	FY 2020/21	FY 2021/22	FY 2022/23	FY 2023/24
<b>Fixed Service Charge</b>							
Monthly Fixed Service	<i>(Same as Non-Drought fixed Service Charges)</i>						
<b>Commodity Charges for All Water Consumed</b>							
<b>SFR and MFR:</b>							
Drought Stage 1	\$3.10	\$3.35	\$3.56	\$4.09	\$4.70	\$5.41	\$5.84
Drought Stage 2	\$3.47	\$3.75	\$4.05	\$4.66	\$5.36	\$6.16	\$6.65
Drought Stage 3	\$3.72	\$4.02	\$4.68	\$5.39	\$6.19	\$7.12	\$7.69
Drought Stage 4	\$4.14	\$4.47	\$5.53	\$6.36	\$7.31	\$8.41	\$9.08
<b>Commercial</b>							
Drought Stage 1	\$2.48	\$3.35	\$4.35	\$5.00	\$5.75	\$6.61	\$7.14
Drought Stage 2	\$2.48	\$3.75	\$4.95	\$5.69	\$6.55	\$7.53	\$8.13
Drought Stage 3	\$2.48	\$4.02	\$5.72	\$6.58	\$7.57	\$8.70	\$9.40
Drought Stage 4	\$2.48	\$4.47	\$6.75	\$7.77	\$8.93	\$10.27	\$11.10
<b>Municipal</b>							
Drought Stage 1	\$2.48	\$3.35	\$5.54	\$6.37	\$7.32	\$8.42	\$9.10
Drought Stage 2	\$2.48	\$3.75	\$6.31	\$7.25	\$8.34	\$9.59	\$10.36
Drought Stage 3	\$2.48	\$4.02	\$7.29	\$8.38	\$9.64	\$11.09	\$11.98
Drought Stage 4	\$2.48	\$4.47	\$8.61	\$9.90	\$11.38	\$13.09	\$14.13

## SECTION 3. SEWER AND RECYCLED WATER RATE STUDY

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### A. KEY SEWER AND RECYCLED WATER RATE STUDY ISSUES

Some of the specific objectives addressed in the sewer rate analysis included:

- Generating additional revenue needed to meet projected funding requirements.
- Updating the volumetric-based charge for residential customers that maintains the average winter water use basis. This is more equitable than a 100-percent flat rate because it reflects the differences in effluent generation and therefore better aligns with the cost of service.
- Updating the volumetric rate for commercial customers that relies on average winter water use for improving equity, as explained below there have been significant changes in consumption data and the cost-basis for commercial customers that NBS believes is better represented by winter water use.
- Updating recycled water rates for the one customer within the District, which is the Golf Course.

As with the water rates, the proposed sewer rates were developed based on industry standards and cost-of-service principles, and reflect input from District staff and the District Board. However, it is ultimately the District Board that decides whether to adopt and implement these recommended rates.

The proposed rate structure for residential customers continues to include a fixed monthly charge per housing equivalent unit (HEU) plus a volumetric rate based on their average winter water consumption. This volumetric charge is used to set the volumetric charge each month for the subsequent 12 months and, in this respect, acts like a fixed charge except it varies based on each customer's winter consumption. The rate structure for commercial customers is similar, with a fixed monthly charge per HEU plus a volumetric rate based on *average monthly* water consumption (not average winter use).

The updated rates were set based on the net revenue requirements, number of customer accounts and housing equivalent units, water consumption, and the estimated volume and strength of the effluent. The following are the basic components of this analysis:

- **Customer classes:** Customer classes are typically determined by grouping customers with similar flow and strength characteristics in order to reflect the cost differences in serving each type of customer. The District's existing customer classes have been retained in the proposed rates developed:
  - **Residential** – Consists of single- and multi-family residential customers<sup>5</sup>; multi-family accounts are assessed fixed charges based on the number of housing equivalent units (HEUs), with a single-family account representing one HEU<sup>6</sup>.
  - **Commercial** – Includes all commercial and industrial users, who are assigned HEUs based on their effluent characteristics (e.g., there are 15 accounts and 35 HEUs in commercial).
  - **Recycled Water** – The District has only one recycled water meter, which is at the golf course. The recycled water rate represents the additional treatment costs of recycled water, which should not be paid by sewer customers.

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<sup>5</sup> The District's one municipal customer (the fire department) was included in residential because its consumption and strength characteristics are better represented in residential than in commercial.

<sup>6</sup> An HEU is the typical (average) winter water use of SFR. It's applied to all SFR, and doesn't vary with number of bedrooms. For example, 3-5 people in a home aren't assumed to generate more or less effluent (on average) if they are in a 2- vs. 5- bedroom home. Commercial HEUs are estimates of how they compare to SFR effluent.

- **Cost Allocation Factors:** For the purpose of allocating costs to customer classes, the sewer revenue requirements were “functionalized” into five categories:
  1. Flow (volume) related costs
  2. Strength costs related to biochemical oxygen demand (BOD)
  3. Strength costs related to total suspended solids (TSS)
  4. Customer service related costs, and
  5. Recycled water related costs.

These cost allocation factors represent varying levels of the cost of service. For example, effluent with higher levels of BOD and TSS is costlier to treat and, therefore, should be allocated a greater proportion of treatment costs. Details documenting these cost allocations are shown in Appendix B.

- **Determining Revenue Requirements by Customer Class:** Based on these cost allocation factors, revenue requirements were allocated to each customer class. For example, customer costs are allocated based on number of accounts and billable units, flow-related costs are allocated based on the estimated effluent generated by each class, and strength-related costs are allocated based on estimated strength of wastewater discharged by each customer class. Once the revenue requirement for each customer class is determined, collecting these revenue requirements from each customer class is reflected in the rate design.
- **Rate Design:** The revenue requirements collected from residential customers were based on the number of housing equivalent units and, for residential customers, the average winter water consumption. Average winter water use is the best means of estimating potential flow to the wastewater treatment plant because outdoor irrigation is typically at its lowest during the winter months. Revenue requirements recovered from commercial and industrial customers through fixed charges are based on the number of HEUs; their monthly water consumption is applied to monthly water use. This is because the amount of wastewater discharged by commercial users is generally assumed to be better correlated to their monthly vs. average winter water use.

## B. SEWER UTILITY REVENUE REQUIREMENTS

Rate increases are governed by the need to meet the operating and capital costs, debt service payments and reserves included in the revenue requirements. The District’s sewer utility is summarized as follows:

**Capital Improvement Costs:** As with the water utility, sewer capital projects are a major driver of the projected annual costs. The planned capital improvement costs for FY 2019/20 through FY 2024/25 shown in **Figure 14** total more than \$2.3 million, and are shown in current year dollars. Future inflation of 3% is assumed for actual funding requirements.

**Figure 14. Summary of Sewer Capital Project Costs**

Project Description	FY 2019/20	FY 2020/21	FY 2021/22	FY 2022/23	FY 2023/24	FY 2024/25
CS Line Replacement - I&I (HVLCS Priority #2)	\$ 160,000	\$ 100,000	\$ 100,000	\$ 100,000	\$ 100,000	\$ 100,000
RAINS 2019 (HVLCS Priority #5) <sup>1</sup>	\$ -	\$ 550,001	\$ 550,001	\$ -	\$ -	\$ -
Backhoe	\$ -	\$ 60,000	\$ -	\$ -	\$ -	\$ -
Chlorine Tank Auto Shut Off	\$ 32,000	\$ -	\$ -	\$ -	\$ -	\$ -
Aquatic Harvesting	\$ 35,000	\$ 34,000	\$ 34,000	\$ 34,000	\$ 34,000	\$ 34,000
Admin vehicle	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Construction Truck <sup>2</sup>	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Vacc Truck	\$ 201,000	\$ -	\$ -	\$ -	\$ -	\$ -
Dump Truck <sup>2</sup>	\$ -	\$ 75,000	\$ -	\$ -	\$ -	\$ -
IT Upgrades <sup>2</sup>	\$ 5,000	\$ 5,000	\$ 5,000	\$ 5,000	\$ 5,000	\$ 5,000
Manhole Rehab	\$ -	\$ 50,000	\$ 50,000	\$ 50,000	\$ 50,000	\$ 50,000
Preliminary Design - Chlorine Disinfection Facility	\$ 45,000	\$ -	\$ -	\$ -	\$ -	\$ -
SCADA Replacement <sup>2</sup>	\$ 30,000	\$ 30,000	\$ 30,000	\$ 30,000	\$ 30,000	\$ 30,000
Tideflex - Stormwater <sup>3</sup>	\$ -	\$ 131,600	\$ 131,600	\$ 131,600	\$ 131,600	\$ 131,600
<b>Total: CIP Program Costs* (Current-Year Dollars)</b>	<b>\$508,000</b>	<b>\$904,001</b>	<b>\$769,001</b>	<b>\$219,000</b>	<b>\$219,000</b>	<b>\$219,000</b>

\* Total does **not** include Tideflex project costs.

1. Per District staff (call of 4/11/19), \$300k was spent in '19/20 and the remaining \$1.1 million must be spent over the following 2 years.

2. Full CIP costs split between water and sewer funds. This is the amount allocated to sewer fund.

3. This project will not be funded unless Grant/SRF Funds are available and, therefore, is not included in the total costs.

**Meeting Net Revenue Requirements:** The District’s sewer utility is currently running a small structural deficit that is likely to increase to over \$870,000 per year with no rate increases. The proposed rate increases would stabilize this deficit over the next five years. Projected net revenue requirements (i.e., total annual expenses less non-rate revenue) increase by approximately 45% in Fiscal Years 2020/21 through 2024/25 from about \$1.5 million to \$2.2 million.

**Building and Maintaining Reserve Funds:** The District should maintain sufficient reserves for the Utility. NBS recommends that the District adopt and maintain the following reserve fund targets:

- ✓ **Operating Reserve** equal to 25% of the Utility’s budgeted annual operating expenses. This reserve target is equal to a three-month (or 90-day) cash cushion for normal operations. An Operating Reserve is intended to promote financial viability in the event of any short-term fluctuation in revenues and/or expenditures.
- ✓ **Capital Facilities Reserve** equal to a minimum of 3% of net depreciable capital assets (or approximately \$100,000 based on a total system asset value of approximately \$3.4 million). This reserve provides for capital repair and replacement needs.
- ✓ **Debt Reserve** equal to the reserve requirements for the existing and planned debt, which is approximately \$160,000 annually after the new revenue bonds are issued.

**Figures 15 and 16** summarize the sources and uses of funds, including net revenue requirements, and the recommended annual percent increases in total rate revenue for the next five years. This figure shows the small deficit in FY 2019/20 and, without rate increases, grows to over \$870,000 by FY 2024/25. With rate increases, the deficit turns into small net surpluses over the next five years.

**Figure 15. Summary of Sewer Revenue Requirements**

Summary of Sources and Uses of Funds and Net Revenue Requirements	Adopted	Projected				
	FY 2019/20	FY 2020/21	FY 2021/22	FY 2022/23	FY 2023/24	FY 2024/25
<b>Sources of Sewer Funds</b>						
Rate Revenue Under Current Rates - Sewer	\$ 1,201,016	\$ 1,204,019	\$ 1,207,029	\$ 1,210,046	\$ 1,213,071	\$ 1,216,104
Rate Revenue Under Current Rates - RW	110,000	110,000	110,000	110,000	110,000	110,000
Non-Rate Revenues	27,200	42,506	42,612	42,719	42,826	42,933
Interest Earnings	1,500	-	-	-	-	-
<b>Total Sources of Funds</b>	<b>\$ 1,339,716</b>	<b>\$ 1,356,525</b>	<b>\$ 1,359,641</b>	<b>\$ 1,362,765</b>	<b>\$ 1,365,897</b>	<b>\$ 1,369,037</b>
<b>Uses of Sewer Funds</b>						
Operating Expenses	\$ 1,502,741	\$ 1,486,100	\$ 1,533,579	\$ 1,582,639	\$ 1,632,819	\$ 1,683,602
Existing Debt Service	32,258	32,255	32,238	32,205	32,158	32,095
New Debt Service	-	-	121,065	124,931	128,913	128,913
Rate Funded Capital Expenses	-	38,298	190,308	146,486	256,441	396,933
<b>Total Use of Funds</b>	<b>\$ 1,534,998</b>	<b>\$ 1,556,653</b>	<b>\$ 1,877,190</b>	<b>\$ 1,886,262</b>	<b>\$ 2,050,331</b>	<b>\$ 2,241,542</b>
<b>Surplus (Deficiency) before Rate Increase</b>	<b>\$ (195,282)</b>	<b>\$ (200,129)</b>	<b>\$ (517,549)</b>	<b>\$ (523,497)</b>	<b>\$ (684,434)</b>	<b>\$ (872,505)</b>
Additional Revenue from Rate Increases (Sewer) <sup>1</sup>	174,027	323,310	455,381	598,589	753,853	922,171
Additional Revenue from Rate Increases (Recycled) <sup>2</sup>	-	11,000	20,680	31,134	42,425	54,619
<b>Surplus (Deficiency) after Rate Increase</b>	<b>\$ (21,255)</b>	<b>\$ 134,182</b>	<b>\$ (41,488)</b>	<b>\$ 106,226</b>	<b>\$ 111,845</b>	<b>\$ 104,285</b>
<b>Projected Annual Rate Revenue Adjustment - Sewer<sup>1</sup></b>	<b>7.00%</b>	<b>10.00%</b>	<b>8.00%</b>	<b>8.00%</b>	<b>8.00%</b>	<b>8.00%</b>
<b>Projected Annual Rate Revenue Increase - RW<sup>2</sup></b>	<b>0.00%</b>	<b>10.00%</b>	<b>8.00%</b>	<b>8.00%</b>	<b>8.00%</b>	<b>8.00%</b>
<b>Net Revenue Requirement<sup>3</sup></b>	<b>\$ 1,506,298</b>	<b>\$ 1,514,147</b>	<b>\$ 1,834,578</b>	<b>\$ 1,843,543</b>	<b>\$ 2,007,505</b>	<b>\$ 2,198,609</b>

1. The FY 2019/20 rate increase is assumed to be implemented on July 1, 2019, and future increases are also implemented July 1 each year.
2. The FY 2019/20 rate increase is assumed to not be implemented on July 1, 2019, but future potable increases are implemented on recycled water July 1 each year.
3. Total Use of Funds less non-rate revenues and interest earnings. This is the annual amount needed from rates.

**Figure 16. Sewer Revenue Requirements through FY 2024/25**

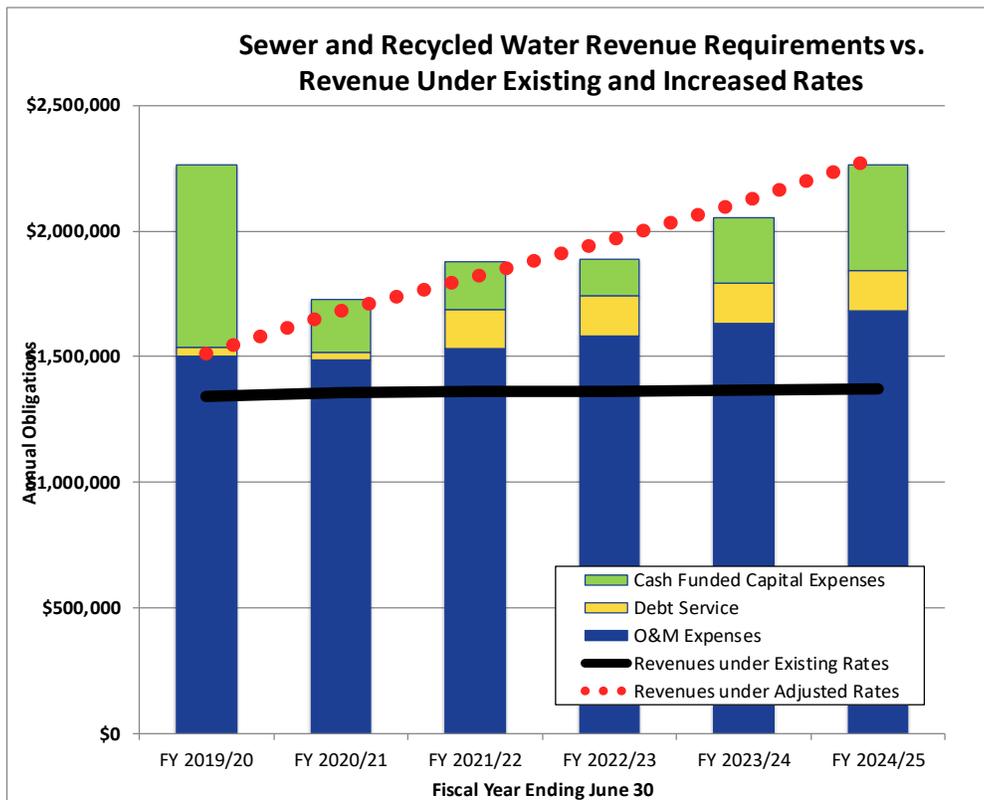


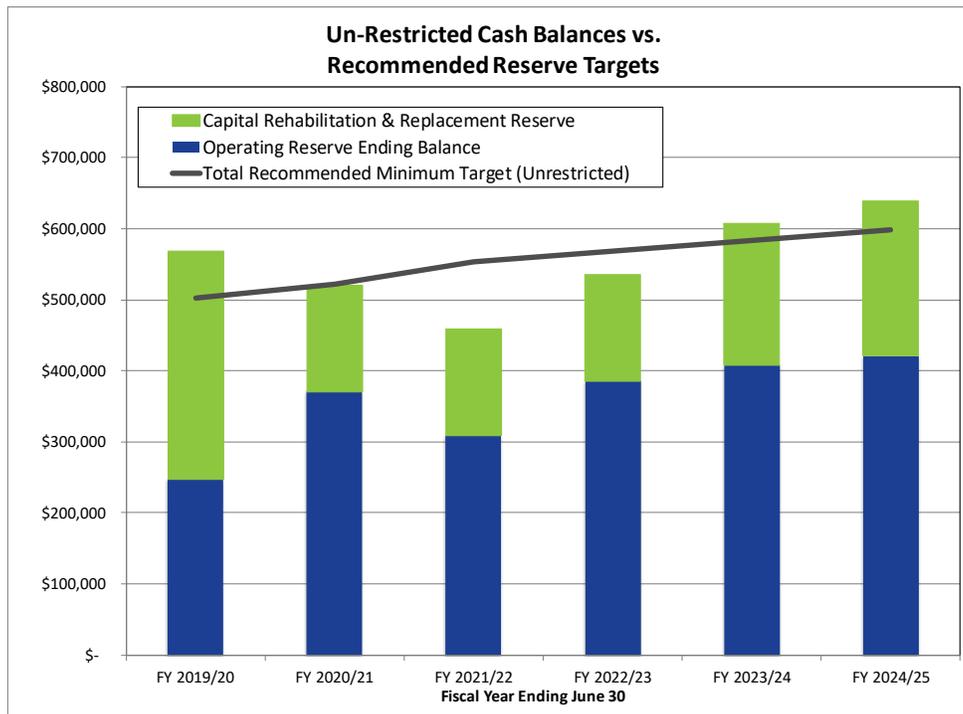
Figure 17 summarizes the projected reserve fund balances and reserve targets, for the next five years. Figure 18 indicates that, assuming the proposed rate increases are adopted, the District’s initial small

surplus of reserves will be drawn down over the next two years, but will then rebound to meet the target reserve fund the last two years.

**Figure 17. Summary of Sewer Reserve Funds**

Beginning Reserve Fund Balances and Recommended Reserve Targets	Adopted		Projected			
	FY 2019/20	FY 2020/21	FY 2021/22	FY 2022/23	FY 2023/24	FY 2024/25
<b>Operating Reserve</b>						
Ending Balance	\$ 247,337	\$ 370,760	\$ 308,915	\$ 385,924	\$ 408,000	\$ 421,000
<i>Recommended Minimum Target</i>	<i>376,000</i>	<i>372,000</i>	<i>383,000</i>	<i>396,000</i>	<i>408,000</i>	<i>421,000</i>
<b>Capital Rehabilitation &amp; Replacement Reserve</b>						
Ending Balance	\$ 320,756	\$ 150,000	\$ 150,000	\$ 150,000	\$ 199,702	\$ 217,487
<i>Recommended Minimum Target</i>	<i>126,000</i>	<i>150,000</i>	<i>170,000</i>	<i>173,000</i>	<i>175,000</i>	<i>178,000</i>
<b>Debt Reserve</b>						
Ending Balance	\$ 32,310	\$ 32,310	\$ 153,375	\$ 157,241	\$ 161,223	\$ 161,223
<i>Recommended Minimum Target</i>	<i>32,310</i>	<i>32,310</i>	<i>153,375</i>	<i>157,241</i>	<i>161,223</i>	<i>161,223</i>
<b>Total Ending Balance</b>	<b>\$ 600,402</b>	<b>\$ 553,070</b>	<b>\$ 612,291</b>	<b>\$ 693,165</b>	<b>\$ 768,925</b>	<b>\$ 799,710</b>
<i>Total Recommended Minimum Target</i>	<i>\$ 534,310</i>	<i>\$ 554,310</i>	<i>\$ 706,375</i>	<i>\$ 726,241</i>	<i>\$ 744,223</i>	<i>\$ 760,223</i>
<i>Total Recommended Minimum Target (Unrestricted)</i>	<i>\$ 502,000</i>	<i>\$ 522,000</i>	<i>\$ 553,000</i>	<i>\$ 569,000</i>	<i>\$ 583,000</i>	<i>\$ 599,000</i>

**Figure 18. Sewer Reserve Funds Through FY 2024/25**



A summary of the sewer utility’s proposed 5-year financial plan is included in Appendix B – Sewer Rate Study Summary Tables. These tables include revenue requirements, reserve funds, revenue source and proposed rate increases for the 5-year period.

**C. SEWER CUSTOMER CHARACTERISTICS**

The five factors used in allocating costs as a part of the sewer cost-of-service analysis are effluent (flow), BOD, TSS, customer costs, and recycled water costs. Water consumption data from January 2017 through December 2017 was used to estimate the flows to the District’s wastewater treatment plant, and District

staff believe this data is representative of future conditions. Residential bills reflect average winter consumption because it is correlated to the amount of residential effluent going to the treatment plant.

For residential customers, the average winter water consumption used to calculate their bills is assumed to include four billing periods; December 2016 - March 2017 were considered the “winter” months because consumption is lowest in these months. Based on water consumption records summarized in **Figure 19** residential customers account for approximately 95.6% of effluent at the plant (i.e., single-family = 93% and multi-family = 2.6%). Commercial customers account for the remaining 4.4% of the flow. Effluent strength factors for individual customer classes<sup>7</sup> are shown in **Figure 20** and described below.

**Figure 19. Summary of Estimated Flow to Treatment Plant**

Development of the FLOW Allocation Factor						
Customer Class	Number of HEUs <sup>1</sup>	Annual Volume (hcf)	Average Winter Monthly Consumption <sup>2</sup> (hcf)	Annual Winter Average Based Volume (hcf)	Adjusted Annual Volume (hcf)	Percentage of Adjusted Volume
Single Family Residential <sup>3</sup>	1,445	150,324	7,348	88,171	124,640	93.1%
Multi-Family Residential	54	3,615	201	2,417	3,416	2.6%
Commercial	35	10,224	347	4,158	5,878	4.4%
<b>Total <sup>4</sup></b>	<b>1,534</b>	<b>164,163</b>	<b>7,895</b>	<b>94,745</b>	<b>133,934</b>	<b>100.0%</b>
					133,934	Flow (hcf/yr.)
					1.41	Flow Adj. Factor

1. Consumption and Meters from source files: *NBS 2018 - #17\_Manipulated Sewer Billing Data.xlsx* (data combined and summarized in pivot tables).  
Note: The adjusted annual flow per HEU for commercial customers is approximately twice that of SFR. In this sense, these are not truly "HEU's".
2. Includes months of December 2016 through March 2017.
3. Includes the one Municipal account (fire department) which has the same consumption as residential.
4. Recycled Water excluded from flow allocation factor. One customer only in the District, volumetric rate only.

**Figure 20. Summary of Annual Flow and Strength Characteristics by Customer Class**

Development of the STRENGTH Allocation Factor									
Customer Class	Adjusted Annual Flow (hcf)	Biochemical Oxygen Demand (BOD)				Total Suspended Solids (TSS)			
		Average Strength Factor (mg/l) <sup>2</sup>	Calculated BOD (lbs./yr.)	Adjusted BOD (lbs./yr.)	Percent of Total	Average Strength Factor (mg/l) <sup>2</sup>	Calculated TSS (lbs./yr.)	Adjusted TSS (lbs./yr.)	Percent of Total
Single Family Residential	124,640	200	155,509	181,546	93.1%	180	139,958	150,410	93.1%
Multi Family Residential	3,416	200	4,262	4,976	2.6%	180	3,836	4,123	2.6%
Commercial <sup>1</sup>	5,878	200	7,334	8,562	4.4%	180	6,601	7,094	4.4%
<b>Total</b>	<b>133,934</b>		<b>167,105</b>	<b>195,084</b>	<b>100%</b>		<b>150,395</b>	<b>161,627</b>	<b>100%</b>
			Target, from WWTP Data			195,084 BOD (lbs./yr.)		161,627 TSS (lbs./yr.)	
						1.17 BOD Adj. Factor		1.07 TSS Adj. Factor	

1. Commercial was previously billed on monthly water use, now if billed on average winter; as a result it is more typical of indoor/residential strengths.
2. Typical strength factors for BOD and TSS are derived from the State Water Resources Control Board Revenue Program Guidelines, Appendix G.

- **Residential** customers, including single-family, multi-family and municipal, have BOD and TSS strength factors of 200 mg/l, which is within the normal range for residential users.
- **Commercial** customers can have individual strength factors that are higher or lower than residential, depending on the particular type of commercial uses. In the District’s case, NBS and the District believe that commercial effluent is, on average, consistent with residential strengths. Therefore, strength factors assigned to commercial class customers are the same as residential customers.

<sup>7</sup> Strength factors for each customer class were derived from the State Water Resources Control Board Revenue Program Guidelines, Appendix G, page G-21 “Commercial User Strength Characteristics.”

Figure 21 compares the total number of accounts and billing units (depending on how customers are billed) by customer class. Figure 22 then summarizes the total rate revenue requirements by customer class resulting from the cost-of-service cost allocation components previously shown in Figures 19 and 20 (Flow and Strength Characteristics), and Figure 21 (Customer Costs).

**Figure 21. Number of Accounts and Billing Units by Customer Class**

Development of the CUSTOMER Allocation Factor					
Customer Class	Number of Accounts <sup>4</sup>	Percentage of Accounts	Number of HEUs <sup>4</sup>	Percentage of Assigned HEUs	Average HEUs per Account
Single Family Residential	1,445	97.1%	1,445	94.2%	1.00
Multi-Family Residential	27	1.8%	54	3.5%	2.00
Commercial & Industrial	15	1.0%	35	2.3%	2.30
Recycled Irrigation <sup>2</sup>	1	0.1%	0	0.0%	0.00
<b>Total <sup>2</sup></b>	<b>1,488</b>	<b>100.0%</b>	<b>1,534</b>	<b>100.0%</b>	<b>1.03</b>

1. Consumption and Meters from source files: NBS 2018 - #17\_Manipulated Sewer Billing Data.xlsx

2. Recycled Water excluded from customer allocation factor. One customer only in the District, volumetric rate only.

**Figure 22. Summary of Rate Revenue Requirements by Customer Class**

Allocation of FY 2020/21 Revenue Requirements by Customer Class							
Customer Class	Cost Classification Components					Cost-of-Service Net Revenue Req't.	% of COS Net Revenue Req't.
	Volume	Treatment		Customer Related	Recycled Water		
		BOD	TSS				
<b>Net Revenue Requirements <sup>1</sup></b>	<b>\$ 654,698</b>	<b>\$ 330,445</b>	<b>\$ 330,445</b>	<b>\$ 172,017</b>	<b>\$ 149,724</b>	<b>\$ 1,637,329</b>	<b>--</b>
	40.0%	20.2%	20.2%	10.5%	9.1%	100.0%	
Single-, Multi-Family & Municipal	\$ 625,964	\$315,942	\$315,942	\$170,167	\$ -	\$1,428,015	87.2%
Commercial	28,734	14,503	14,503	1,734	-	59,475	3.6%
Recycled Irrigation	-	-	-	116	149,724	149,839	9.2%
<b>Total</b>	<b>\$ 654,698</b>	<b>\$ 330,445</b>	<b>\$ 330,445</b>	<b>\$ 172,017</b>	<b>\$ 149,724</b>	<b>\$1,637,329</b>	<b>100%</b>

1. Revenue requirement for each customer class is determined by multiplying the revenue requirement from each cost classification by the allocation factors for each customer class.

#### D. CURRENT VS. PROPOSED SEWER RATES

Currently, all customers pay the same fixed monthly charge based on their number of household equivalent units (HEUs). Both residential and commercial customers also pay a volumetric monthly rate, but the uniform volumetric rate for residential customers is applied to average winter water use, while commercial customers pay a slightly higher volumetric rate that is applied to monthly water use.

**Changes in Residential vs. Commercial Sewer Rates** – The proposed rates retain the same customer classes, which combine single- and multi-family residential customers<sup>8</sup>, and combine commercial with industrial customers. However, as previously noted, water consumption for commercial customers is now significantly higher than previously thought due to meter misreads that have now been corrected. That new consumption data has increased the costs allocated to commercial customers and, as a result, NBS is recommending realigning commercial fixed and volumetric rates to account for these higher costs as follows: (1) since fixed charges for commercial costs are allocated on the basis of HEUs, they should be the same as residential customer, and (2) the volumetric rate for commercial was set to recover all remaining costs not collected through the fixed charges; this increased the commercial volumetric rate.

<sup>8</sup> And the one municipal customer (the fire department).

In other words, higher fixed costs are partially collected from commercial as they are assigned, on average, more HEUs per account, as well as through higher volumetric charges.

**Figure 23** shows current and proposed sewer rates for FY 2018/19 through FY 2022/23. Regarding the “% Increase in Annual Rate Revenue” shown in Figure 23, these are the percent increases in total rate revenue that are not applied in an across-the-board manner to fixed and volumetric charges in the first year (i.e., the test year) due to cost-of-service calculations. However, after the test year, they are applied as a straight percentage to both fixed and volumetric charges. **Figure 24** compares the average monthly sewer bills for residential customers under current and proposed rates. **Figure 25** compares commercial bills under current vs. proposed rates. **Figure 26** provides a comparison of monthly sewer bills for other communities in the region.

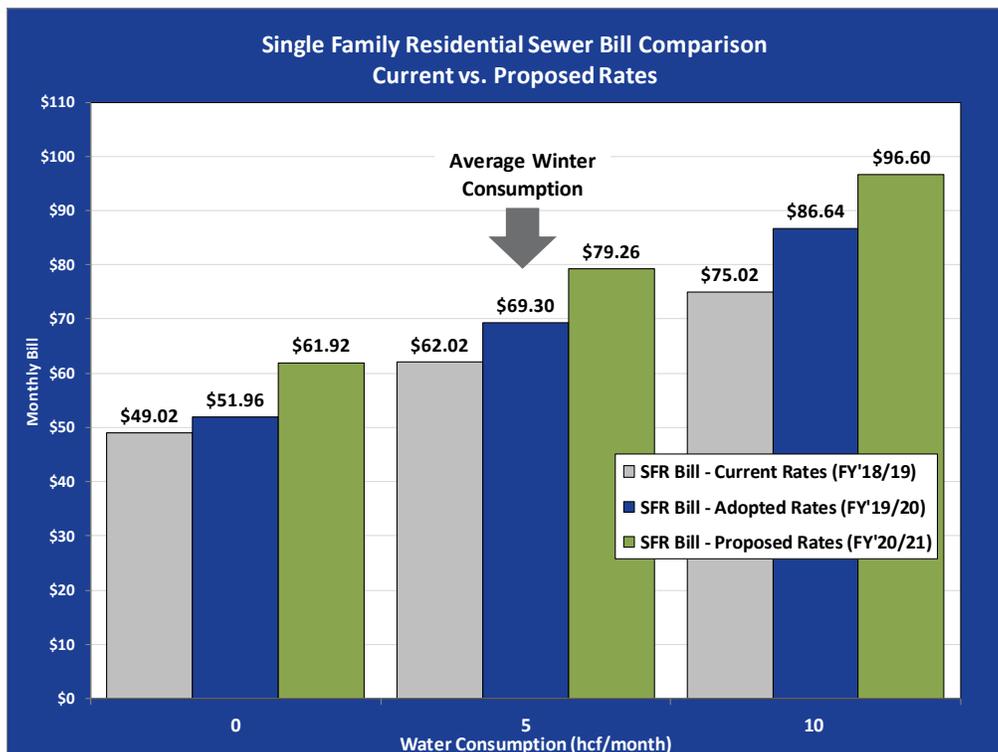
**Figure 23. Current vs. Proposed Sewer Rates**

Sewer Rate Schedule	Current Rates ('18/19)	Adopted Rates ('19/20)	Proposed Sewer Rates				
			FY 2020/21	FY 2021/22	FY 2022/23	FY 2023/24	FY 2024/25
% Increase in Annual Rate Revenue:			10.00%	8.00%	8.00%	8.00%	8.00%
<b>Fixed Service Charge per HEU</b>							
Residential & Municipal	\$49.02	\$51.96	\$61.92	\$66.88	\$72.23	\$78.00	\$84.24
Commercial	\$49.02	\$51.96	\$61.92	\$66.88	\$72.23	\$78.00	\$84.24
<b>Volumetric Charge (\$/hcf)</b>							
Residential & Municipal (Applied to Average Winter Water Use)	\$2.60	\$2.76	\$3.47	\$3.75	\$4.05	\$4.37	\$4.72
Commercial (Applied to Average Winter Water Use) <sup>2</sup>	\$2.83	\$3.00	\$3.31	\$3.57	\$3.86	\$4.17	\$4.50

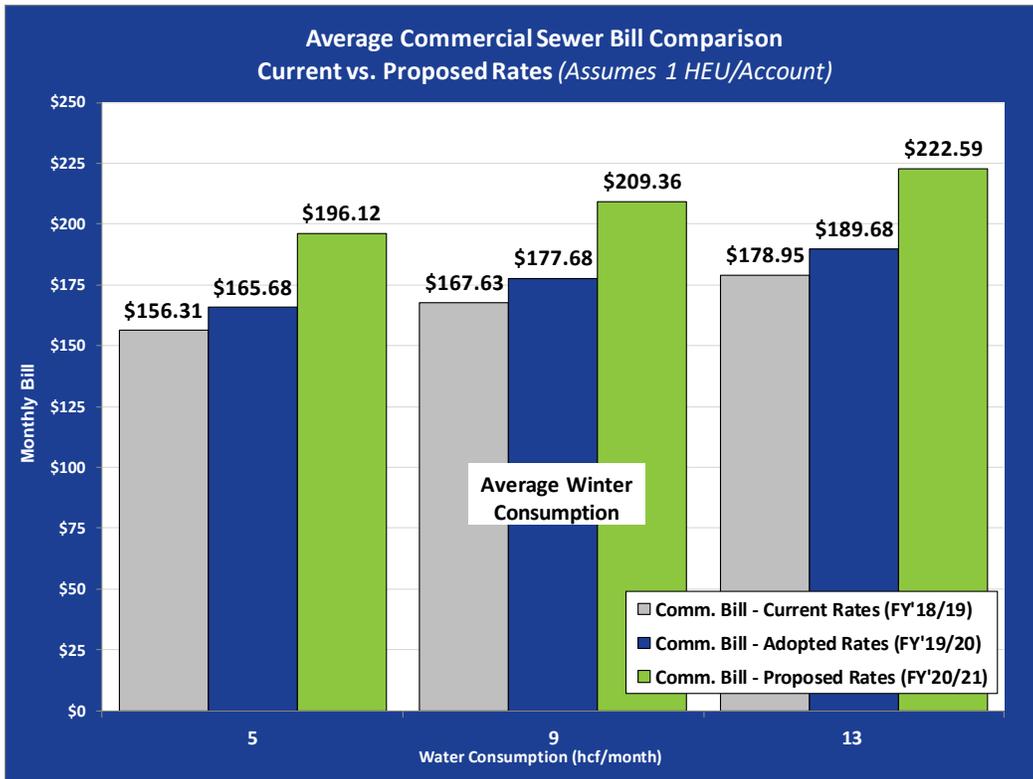
1. Sewer customers are charged on the basis of their number of assigned Housing Equivalent Units (HEUs).

2. Proposed commercial volumetric charges, currently use average winter water use, but now use average monthly water use.

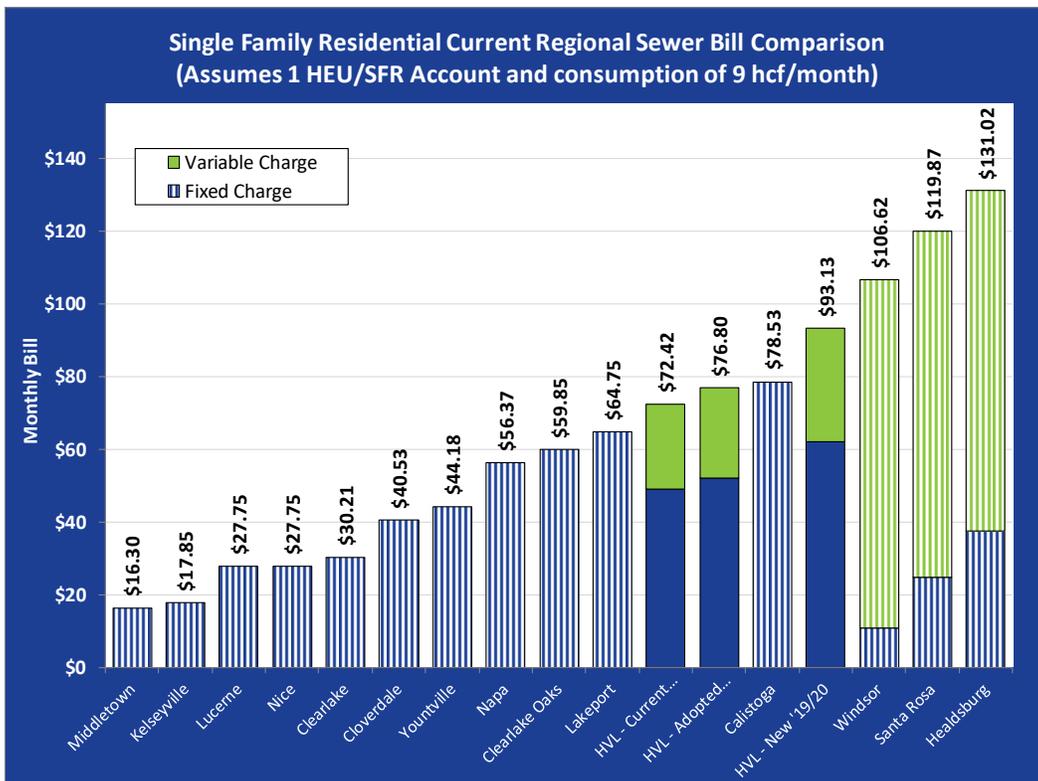
**Figure 24. Residential Sewer Bill Comparison – Current vs. Proposed Rates**



**Figure 25. Commercial Sewer Bill Comparison – Current vs. Proposed Rates**



**Figure 26. Regional Sewer Bill Comparison – Single Family Residential**



**E. CURRENT VS. PROPOSED RECYCLED WATER RATES.**

The District has maintained one recycled water customer and has not evaluated the rate structure since its inception. The current rate is \$291.64 per acre foot. NBS considered the sewer utility’s annual expenses and how those expenses might be allocated to the recycled water customer. The District’s one recycled water customer, the golf course, is owned by the homeowner’s association, who are to a large extent the same properties receiving water and sewer service provided by the District.

**Basis for Setting Recycled Water Rate** – There is no established industry standard for setting recycled water rates, and many agencies arbitrarily set rates at some percent below potable volumetric rates. There is also no clear allocation of benefits accruing from a recycled water program: Are there benefits to using recycled water instead of discharging effluent from the treatment plant? Do the lower water quality standards for recycled water make it less valuable than potable water? Do the additional constituents in recycled water translate into higher costs for recycled water irrigation systems? The answers to these questions are generally “yes”.

Whether there is an issue of allocating recycled water costs to individuals within the homeowner’s association, such as golfers vs. non-golfers, is an issue that would be more appropriately addressed by the homeowner’s association rather than the District.<sup>9</sup>

**Proposed Recycled Water Rate** – In view of these factors, the current recycled water rate is, in NBS’ opinion, a reasonable and fair rate. However, we did calculate an updated rate using the annual recycled water consumption and a reasonable allocation of the sewer annual revenue requirements, which have increased for a number of reasons. A recommended volumetric rate is \$341.04 per acre foot. **Figure 27** Summarizes the calculation of the recycled water charge. Recycled water rates should be adjusted annual by the same adjustments as sewer rates, as shown in **Figure 28**.

**Figure 27. Calculation of Recycled Water Rate**

Customer Class	Total Annual RW Use <sup>1</sup>	Annual Rev. Req't			Monthly Fixed Charge	Volumetric Charge
		Total	Fixed	Volumetric		
Recycled Irrigation (hcf)	191,386					
Recycled Irrigation (Acre Ft)	439	\$149,839	\$0	\$149,839	\$0.00	\$0.78/hcf \$341.04/AF

1. Actual 2017 consumption

**Figure 28. Proposed Recycled Water Rate**

Recycled Water Rate Schedule	Current Rates ('18/19)	Adopted Rates ('19/20)	Proposed Recycled Water Rates				
			FY 2020/21	FY 2021/22	FY 2022/23	FY 2023/24	FY 2024/25
% Increase in Annual Rate Revenue:			10.00%	8.00%	8.00%	8.00%	8.00%
<b>Fixed Service Charge per HEU</b>							
Recycled Irrigation (hcf)	\$291.64	\$291.64	\$341.04	\$368.32	\$397.79	\$429.61	\$463.98

<sup>9</sup> For example, recycled water costs could be incorporated into green fees and/or other charges paid by golfers.

## SECTION 4. RECOMMENDATIONS AND NEXT STEPS

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### CONSULTANT RECOMMENDATIONS

A number of factors have impacted the District’s water and sewer rates in the last several years. The drought and its mandated conservation efforts, the corresponding lower water sales, and the correction of some commercial water reading problems have been notable. However, the greatest impact is from issuing new revenue bonds to cover the cost of planned capital improvements, which had previously been assumed to be funded from grants and low-interest loans. In light of these factors, NBS has reevaluated water, sewer and recycled water rates and made adjustments that, in our opinion, best represent the overall rate objectives of the District in a fair, equitable, and defensible manner. However, the District Board will need to make some tough decisions about the tradeoff between higher rates and funding capital projects.

***“The District Board will need to make tough decisions about the tradeoff between higher rates and funding capital projects.”***

The following are NBS’ recommendations for the District’s consideration:

- **Approve and Accept This Study Report:** NBS recommends the District Board formally approve and adopt this report, its recommendations, and accompanying appendices as documentation of the rate study analyses and the basis for recommended rates. Whether the significantly higher proposed rates required to fund the planned capital improvements are acceptable to the Board and community is a decision only the District Board can make.
- **Complete a Review by a Qualified Attorney:** This rate study outlines proposed new rates. Because NBS are not attorneys, we do not provide legal opinions and, therefore, must defer to the review by legal counsel with respect to compliance with Proposition 218 and related State laws, as well as legal assistance developing acceptable language for new resolutions to implement these rates.
- **Implement Recommended Levels of Rate Increases and Proposed Rates:** Based on the analysis presented in this report, the District Board should implement the proposed rates recommended in this report (see Figures 9, 13, 23, and 28) for the next five years. These rate adjustments are structured based on industry standards and are necessary to ensure the following objectives are met:
  - Water rates that promote water conservation and reflect the cost of providing water service to each customer class.
  - Drought rates that offer revenue stability during the District’s four drought stages.
  - Sewer rates that more appropriately reflect the cost of providing sewer service to each customer class; in particular, commercial fixed charges based on better consumption data to improve equity between customers in the sewer utility.
  - Maintaining the financial health of the District’s water and sewer utilities.
  - Recycled water rates that can reasonably be considered fair and equitable to both the golf course and the District.
- **Adopt Reserve Fund Targets:** NBS recommends the District Board adopt the proposed reserve fund targets described in Sections 2 and 3 of this report for the water and sewer utilities. The District should periodically evaluate reserve fund levels and make it a long-term goal to achieve and maintain these levels for the Operating, Capital, and Debt Reserves.

## NEXT STEPS

**Annually Review Rates and Revenue** – Any time an Agency adopts new utility rates or rate structures, those new rates should be closely monitored over the next several years to ensure the revenue generated is sufficient to meet the annual revenue requirements. Changing economic factors, water consumption patterns, new regulatory mandates, and unplanned capital improvements all underscore the need for this annual review.

**Update Capital Funding Plans** – This analysis identifies the rates needed to meet projected O&M and capital costs, but the District will need to carefully consider the timing and amount of funding from new revenue bonds. This should be provided by an experienced financial advisor and underwriter.

*Note: The attached Technical Appendices provide more detailed information on the analysis of the water and sewer revenue requirements, cost of service and rate design analyses that have been summarized in this report.*

## PRINCIPAL ASSUMPTIONS AND CONSIDERATIONS

In preparing this report and the recommendations included herein, NBS has relied on a number of principal assumptions and considerations with regard to financial matters, number of customer accounts, billing records, and other conditions and events that may occur in the future. This information and assumptions, including the District's budgets and customer account information provided by District staff, are sources we believe to be reliable, although NBS has not independently verified this data.

We are also assuming that future water consumption levels, which District staff believe are representative of future conditions, are accurate, and that funding from grants and low-interest loans is largely unavailable or will not be secured in time to construct urgently needed capital projects. We also assume that the District will consider reducing future rate increases if such funding becomes available.

While we believe NBS' use of such information and assumptions is reasonable for the purpose of this report and its recommendations, some assumptions will invariably not materialize as stated herein or may vary significantly due to unanticipated events and circumstances. Therefore, the actual results can be expected to vary from those projected to the extent that actual future conditions differ from those assumed by us or provided to us by others.

**APPENDIX A – WATER RATE ANALYSIS**

## APPENDIX B – SEWER RATE ANALYSIS

# MacLeod Watts

July 31, 2019

Trish Wilkinson  
Full Charge Bookkeeper  
Hidden Valley Lake Community Services District  
19400 Hartmann Rd  
Hidden Valley Lake, CA 95467

Re: Hidden Valley Lake Community Services District Other Post-Employment Benefits  
GASB 75 Actuarial Report for the Fiscal Year Ending June 30, 2019

Dear Ms. Wilkinson:

We are pleased to enclose our report providing actuarial information regarding the other post-employment benefit (OPEB) liabilities of the Hidden Valley Lake Community Services District. The report's text describes our analysis and assumptions in detail.

The primary purpose of this report is to provide information required by GASB 75 ("Accounting and Financial Reporting for Postemployment Benefits Other Than Pension") to be reported in the District's financial statements for the fiscal year ending June 30, 2019. The information included in this report reflects the assumption that the District will continue financing its OPEB liability on a pay-as-you-go basis. Please let us know if we can be of assistance in preparing illustrations of how prefunding impacts the OPEB liability required to be reported under GASB 75.

The results presented are based on the results of an actuarial valuation prepared as of June 30, 2018 and on the employee data, details on plan benefits and retiree benefit payments reported to us for that valuation. The only change reflected in this report relative to the report for the fiscal year ended June 30, 2018 is an update to the discount rate, in keeping with the change in the applicable municipal bond index on which it is based.

The District also provided retiree benefits and payroll paid during the current fiscal year. As with any analysis, the soundness of the report is dependent on the inputs. Please review the information shown in the report to be comfortable that it matches your records.

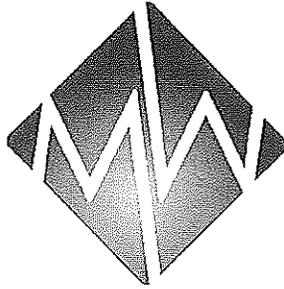
We appreciate the opportunity to work on this analysis. Thank you for your assistance with providing the information we needed to prepare this report. Please let us know if we can be of further assistance.

Sincerely,



Catherine L. MacLeod, FSA, FCA, EA, MAAA  
*Principal & Consulting Actuary*

Enclosure



Hidden Valley Lake Community Services District

GASB 75 Actuarial Report  
Measured as of June 30, 2018  
For Fiscal Year End June 30, 2019 Financial Reporting

Submitted July 2019

MacLeod Watts

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## A. Executive Summary

This report presents actuarial information regarding the other post-employment benefit (OPEB) program of the Hidden Valley Lake Community Services District (the District). The purpose of this valuation is to assess the OPEB liabilities and provide disclosure information as required by Statement No. 75 of the Governmental Accounting Standards Board (GASB 75) for the fiscal year ending June 30, 2019.

Important background information regarding the valuation process can be found in Addendum 1. We recommend users of the report read this information to familiarize themselves with the process and context of actuarial valuations, including the requirements of GASB 75. The pages following this executive summary present various exhibits and other relevant information appropriate for disclosures under GASB 75. We anticipate that the next valuation will be dated June 30, 2020. If there are any significant changes in the employee population, plan benefits provided, or the District's funding policy, please contact us to discuss whether an earlier valuation might be required.

### OPEB Obligations of the District

The District provides continuation of medical coverage to its retiring employees. This benefit creates one or more of the following types of OPEB liabilities:

- **Explicit subsidy liabilities:** An "explicit subsidy" exists when the employer contributes directly toward the cost of retiree healthcare. In this program, the District pays a portion of retiree medical premiums for qualifying retirees. These benefits are described in Supporting Information, Section 2A.

The Patient Protection and Affordable Care Act (ACA) includes a 40% excise tax on high-cost employer-sponsored health coverage. Any portion of such future excise tax paid by the employer is also a form of explicit subsidy. See Supporting Information Section 2B and Section 3 for further description and assumptions about this potential excise tax.

- **Implicit subsidy liabilities:** An "implicit subsidy" exists when the premiums charged for retiree coverage are lower than the expected retiree claims for that coverage. In the SDRMA medical program, the same monthly premiums are charged for active employees and for pre-Medicare retirees. SDRMA underwriters have confirmed to us that the claims experience of these members is considered together in setting premium rates. We determine the implicit rate subsidy for pre-Medicare retirees as the projected difference between (a) retiree medical claim costs by age and (b) premiums charged for retiree coverage. For more information on this process see Section 3 and Addendum 2: MacLeod Watts Age Rating Methodology.

Different monthly premiums are charged for Medicare-eligible members. SDRMA underwriters have confirmed that the premium rates for Medicare eligible members are set at a level intended to cover the expected claims for these members, with no intended subsidy from active plan members. As such, we valued no implicit subsidy liability for Medicare retirees.

### OPEB Funding Policy

The District's OPEB funding policy affects the calculation of liabilities by impacting the discount rate used to develop the plan liability and expense. "Prefunding" is the term used when an agency consistently contributes an amount based on an actuarially determined contribution (ADC) each year.



## Executive Summary

(Continued)

GASB 75 allows prefunded plans to use a discount rate that reflects the expected earnings on trust assets. Pay-as-you-go, or “PAYGO”, is the term used when an agency only contributes the required retiree benefits when due. When an agency finances retiree benefits on a pay-as-you-go basis, GASB 75 requires the use of a discount rate equal to a 20-year high grade municipal bond rate.

Our understanding is that the District is currently financing its OPEB liability on a pay-as-you-go basis. With the District’s approval, the discount rate used in this valuation is based on the Fidelity High Grade 20 Year General Obligation Municipal Index. As of the beginning and end of the Measurement Period, use of this index results in discount rates of 3.56% on June 30, 2017 and 3.62% on June 30, 2018.

## Actuarial Assumptions

The actuarial “demographic” assumptions (i.e. rates of retirement, death, disability or other termination of employment) used in this report were chosen, for the most part, to be the same as the actuarial demographic assumptions used for the most recent valuation of the retirement plan(s) covering District employees. Other assumptions, such as age-related healthcare claims, healthcare trend, retiree participation rates and spouse coverage, were selected based on demonstrated plan experience and/or our best estimate of expected future experience. All these assumptions, and more, impact expected future benefits. Please note that this valuation has been prepared on a closed group basis. This means that only employees and retirees present as of the valuation date are considered. We do not consider replacement employees for those we project to leave the current population of plan participants until the valuation date following their employment.

We emphasize that this actuarial valuation provides a projection of future results based on many assumptions. Actual results are likely to vary to some extent and we will continue to monitor these assumptions in future valuations. See Section 3 for a description of assumptions used in this valuation.

## Important Dates Used in the Valuation

GASB 75 allows reporting liabilities as of any fiscal year end based on: (1) a *valuation date* no more than 30 months plus 1 day prior to the close of the fiscal year end; and (2) a *measurement date* up to one year prior to the close of the fiscal year. The following dates were used for this report:

Fiscal Year End	June 30, 2019
Measurement Date	June 30, 2018
Measurement Period	June 30, 2017 to June 30, 2018
Valuation Date	June 30, 2018

## Significant Results and Differences from the Prior Valuation

No benefit changes nor any material changes in covered plan members were reported to MacLeod Watts from those in place at the time the June 2018 valuation was prepared. Accordingly, no plan experience was recognized and no assumptions were changed, other than an update to the discount rate to reflect the applicable municipal bond rate as of the current measurement date. The discount rate change decreased the Total OPEB Liability by \$12,000 or roughly 0.9%.



**Executive Summary**  
 (Concluded)

**Impact on Statement of Net Position and OPEB Expense for Fiscal 2019**

The accounting impact of the plan as of the District's fiscal year end June 30, 2019 is shown below.

Items	For Reporting At Fiscal Year Ending June 30, 2019
Total OPEB Liability	\$ 1,310,799
Fiduciary Net Position	-
Net OPEB Liability (Asset)	1,310,799
Deferred (Outflows) of Resources	(35,000)
Deferred Inflows of Resources	81,389
Impact on Statement of Net Position	<u>\$ 1,357,188</u>
 <b>OPEB Expense, FYE 6/30/2019</b>	 <u>\$ 182,882</u>

**Recognition Period for Deferred Resources**

Liability changes due to plan experience which differs from what was assumed in the prior year and/or from assumption changes during the year are recognized over the plan's Expected Average Remaining Service Life ("EARSLS"). The EARSLS period is 7.7 years for deferred resources arising in this fiscal year. Changes in the Fiduciary Net Position due to investment performance different from the assumed earnings rate are always recognized over 5 years. Liability changes attributable to benefit changes occurring during the period are recognized immediately.

**Important Notices**

This report is intended to be used only to present the actuarial information relating to other postemployment benefits for the District's financial statements. The results of this report may not be appropriate for other purposes, where other assumptions, methodology and/or actuarial standards of practice may be required or more suitable. We note that various issues in this report may involve legal analysis of applicable law or regulations. The District should consult counsel on these matters; MacLeod Watts does not practice law and does not intend anything in this report to constitute legal advice. In addition, we recommend the District consult with their internal accounting staff or external auditor or accounting firm about the accounting treatment of OPEB liabilities.



**B. Accounting Information (GASB 75)**

The following exhibits are designed to satisfy the reporting and disclosure requirements of GASB 75 for the fiscal year end June 30, 2019. The District is classified for GASB 75 purposes as a single employer.

**Components of Net Position and Expense**

The exhibit below shows the development of Net Position and Expense as of the Measurement Date.

Plan Summary Information for FYE June 30, 2019 <i>Measurement Date is June 30, 2018</i>	<b>Hidden Valley Lake CSD</b>
<b><i>Items Impacting Net Position:</i></b>	
Total OPEB Liability	\$ 1,310,799
Fiduciary Net Position	-
Net OPEB Liability (Asset)	1,310,799
<b><i>Deferred (Outflows) Inflows of Resources Due to:</i></b>	
Assumption Changes	81,389
Plan Experience	-
Investment Experience	-
Deferred Contributions	(35,000)
Net Deferred (Outflows) Inflows of Resources	46,389
<b>Impact on Statement of Net Position, FYE 6/30/2019</b>	<b>\$ 1,357,188</b>
 <b><i>Items Impacting OPEB Expense:</i></b>	
Service Cost	\$ 150,829
Cost of Plan Changes	-
Interest Cost	46,055
Expected Earnings on Assets	-
<b><i>Recognized Deferred Resource items:</i></b>	
Assumption Changes	(14,002)
Plan Experience	-
Investment Experience	-
<b>OPEB Expense, FYE 6/30/2019</b>	<b>\$ 182,882</b>



**Accounting Information**  
 (Continued)

**Change in Net Position During the Fiscal Year**

The exhibit below shows the year-to-year changes in the components of Net Position.

For Reporting at Fiscal Year End <i>Measurement Date</i>	6/30/2018 <i>6/30/2017</i>	6/30/2019 <i>6/30/2018</i>	Change During Period
Total OPEB Liability	\$ 1,159,659	\$ 1,310,799	\$ 151,140
Fiduciary Net Position	-	-	-
Net OPEB Liability (Asset)	1,159,659	1,310,799	151,140
<i>Deferred Resource (Outflows) Inflows Due to:</i>			
Assumption Changes	83,240	81,389	(1,851)
Plan Experience	-	-	-
Investment Experience	-	-	-
Deferred Contributions	(33,593)	(35,000)	(1,407)
Net Deferred (Outflows) Inflows	49,647	46,389	(3,258)
Impact on Statement of Net Position	\$ 1,209,306	\$ 1,357,188	\$ 147,882

**Change in Net Position During the Fiscal Year**

Impact on Statement of Net Position, FYE 6/30/2018	\$ 1,209,306
OPEB Expense (Income)	182,882
Employer Contributions During Fiscal Year	(35,000)
Impact on Statement of Net Position, FYE 6/30/2019	<u>\$ 1,357,188</u>

**OPEB Expense**

Employer Contributions During Fiscal Year	\$ 35,000
Deterioration (Improvement) in Net Position	147,882
OPEB Expense (Income), FYE 6/30/2019	<u>\$ 182,882</u>



**Accounting Information**  
 (Continued)

**Deferred Resources as of Fiscal Year End and Expected Future Recognition**

The exhibit below shows deferred resources as of the fiscal year end June 30, 2019.

Hidden Valley Lake CSD	Deferred Outflows of Resources	Deferred Inflows of Resources
Changes of Assumptions	\$ -	\$ 81,389
Differences Between Expected and Actual Experience	-	-
Net Difference Between Projected and Actual Earnings on Investments	-	-
Deferred Contributions	35,000	-
<b>Total</b>	<b>\$ 35,000</b>	<b>\$ 81,389</b>

The District will recognize the Deferred Contributions in the next fiscal year. In addition, future recognition of these deferred resources is shown below.

For the Fiscal Year Ending June 30	Recognized Net Deferred Outflows (Inflows) of Resources
2020	\$ (14,002)
2021	(14,002)
2022	(14,002)
2023	(14,002)
2024	(14,002)
Thereafter	(11,379)



**Accounting Information**  
 (Continued)

**Sensitivity of Liabilities to Changes in the Discount Rate and Healthcare Cost Trend Rate**

The discount rate used for the fiscal year end 2019 is 3.62%. Healthcare cost trend rate was assumed to start at 7.5% (effective January 2019) and grade down to 5% for years 2024 and thereafter. The impact of a 1% increase or decrease in these assumptions is shown in the chart below.

<b>Sensitivity to:</b>			
<b>Change in Discount Rate</b>	<b>Current - 1% 2.62%</b>	<b>Current 3.62%</b>	<b>Current + 1% 4.62%</b>
<b>Total OPEB Liability</b>	1,537,085	1,310,799	1,130,566
Increase (Decrease)	226,286		(180,233)
% Increase (Decrease)	17.3%		-13.7%
<b>Net OPEB Liability (Asset)</b>	1,537,085	1,310,799	1,130,566
Increase (Decrease)	226,286		(180,233)
% Increase (Decrease)	17.3%		-13.7%
<b>Change in Healthcare Cost Trend Rate</b>	<b>Current Trend - 1%</b>	<b>Current Trend</b>	<b>Current Trend + 1%</b>
<b>Total OPEB Liability</b>	1,082,090	1,310,799	1,629,485
Increase (Decrease)	(228,709)		318,686
% Increase (Decrease)	-17.4%		24.3%
<b>Net OPEB Liability (Asset)</b>	1,082,090	1,310,799	1,629,485
Increase (Decrease)	(228,709)		318,686
% Increase (Decrease)	-17.4%		24.3%



**Accounting Information**

(Continued)

**Schedule of Changes in the District's Net OPEB Liability and Related Ratios**

GASB 75 requires presentation of the 10-year history of changes in the Net OPEB Liability. However, since this is the second year of implementation, results for fiscal years 2018 and 2019 are shown in the following table.

Fiscal Year End Measurement Date	FYE 2019 6/30/2018	FYE 2018 6/30/2017
<b>Total OPEB liability</b>		
Service Cost	\$ 150,829	\$ 168,137
Interest	46,055	35,914
Changes of benefit terms	-	-
Differences between expected and actual experience	-	-
Changes of assumptions	(12,151)	(95,664)
Benefit payments	(33,593)	(20,997)
<b>Net change in total OPEB liability</b>	151,140	87,390
<b>Total OPEB liability - beginning</b>	1,159,659	1,072,269
<b>Total OPEB liability - ending (a)</b>	<u>\$ 1,310,799</u>	<u>\$ 1,159,659</u>
<b>Plan fiduciary net position - beginning</b>	-	-
<b>Plan fiduciary net position - ending (b)</b>	<u>\$ -</u>	<u>\$ -</u>
<b>Net OPEB liability - ending (a) - (b)</b>	<u>\$ 1,310,799</u>	<u>\$ 1,159,659</u>
<b>Covered-employee payroll</b>	\$ 804,618	\$ 770,191
<b>Net OPEB liability as a % of covered-employee payroll</b>	162.91%	150.57%

Fiscal Year Measurement Date	FYE 2019 6/30/2018	FYE 2018 6/30/2017
---------------------------------	-----------------------	-----------------------

*Methods and assumptions used to determine OPEB liability:*

Actuarial cost method	Entry Age Normal, Level % of Pay	
Discount Rate	3.62%	3.56%
Inflation	2.75%	
Healthcare cost trend rates	7.5% in Jan 2019, step down 0.5% per year to 5% by Jan 2024	
Salary increases	3.25%	
Retirement age	50 to 75	
Mortality	CalPERS 2014 Experience Study; Projected with MW Scale 2017	



**Accounting Information**  
 (Continued)

**Detail of Changes to Net Position**

The chart below details changes to all components of Net Position.

Hidden Valley Lake CSD	Total OPEB Liability (a)	Fiduciary Net Position (b)	Net OPEB Liability (c) = (a) - (b)	(d) Deferred Outflows (Inflows) Due to:				Impact on Statement of Net Position (e) = (c) - (d)
				Assumption Changes	Plan Experience	Investment Experience	Deferred Contributions	
<b>Balance at Fiscal Year Ending 6/30/2018</b> <i>Measurement Date 6/30/2017</i>	\$ 1,159,659	-	\$ 1,159,659	\$ (83,240)	\$ -	\$ -	\$ 33,593	\$ 1,209,306
<b>Changes During the Period:</b>								
Service Cost	150,829		150,829					150,829
Interest Cost	46,055		46,055					46,055
Expected Investment Income								
Employer Contributions		33,593	(33,593)					(33,593)
Changes of Benefit Terms								
Benefit Payments	(33,593)	(33,593)						
Assumption Changes	(12,151)		(12,151)	(12,151)				
Plan Experience								
Investment Experience								
Recognized Deferred Resources				14,002			(33,593)	19,591
Employer Contributions in Fiscal Year							35,000	(35,000)
<b>Net Changes in Fiscal Year 2018-2019</b>	151,140	-	151,140	1,851	-	-	1,407	147,882
<b>Balance at Fiscal Year Ending 6/30/2019</b> <i>Measurement Date 6/30/2018</i>	\$ 1,310,799	\$ -	\$ 1,310,799	\$ (81,389)	\$ -	\$ -	\$ 35,000	\$ 1,357,188



**Accounting Information**  
 (Continued)

**Schedule of Deferred Outflows and Inflows of Resources**

A listing of all deferred resource bases used to develop the Net Position and Pension Expense is shown below. Deferred Contributions are not shown.

Measurement Date: June 30, 2018

Date Created	Deferred Resource			Balance as of Jun 30, 2018	Recognition of Deferred Outflow or Deferred (Inflow) in Measurement Period:						
	Cause	Initial Amount	Period (Yrs)		Annual Recognition	2017-18 (FYE 2019)	2018-19 (FYE 2020)	2019-20 (FYE 2021)	2020-21 (FYE 2022)	2021-22 (FYE 2023)	2022-23 (FYE 2024)
6/30/2017	Gain Due To Assumption Changes	\$ (95,664)	7.70	\$ (12,424)	\$ (12,424)	\$ (12,424)	\$ (12,424)	\$ (12,424)	\$ (12,424)	\$ (12,424)	\$ (8,696)
6/30/2018	Gain Due To Assumption Changes	(12,151)	7.70	(1,578)	(1,578)	(1,578)	(1,578)	(1,578)	(1,578)	(1,578)	(2,683)

The Expected Average Remaining Service Life ("EARSL") was 7.7 years. This is the period used to recognize changes in the OPEB Liability arising during the current measurement period *other than* those attributable to investment gains and losses or relating to improvements in plan benefits.



**Accounting Information**

(Continued)

**District Contributions to the Plan**

District contributions to the Plan occur as benefits are paid to or on behalf of retirees. Benefit payments may occur in the form of direct payments for premiums and taxes (“explicit subsidies”) and/or indirect payments to retirees in the form of higher premiums for active employees (“implicit subsidies”). For details, see Addendum 1 – Important Background Information.

Benefits paid by the District during the measurement period and those made in the year following the measurement period but prior to the end of the fiscal year are shown below.

<b>Employer Contributions During the Measurement Period, Jul 1, 2017 thru Jun 30, 2018</b>	<b>Hidden Valley Lake CSD</b>
Employer Contributions to the Trust	\$ -
Employer Contributions in the Form of Direct Benefit Payments (not reimbursed by trust)	20,371
Implicit contributions	13,222
<b><i>Total Employer Contributions During the Measurement Period</i></b>	<b>\$ 33,593</b>

<b>Employer Contributions During the Fiscal Year, Jul 1, 2018 thru Jun 30, 2019</b>	<b>Hidden Valley Lake CSD</b>
Employer Contributions to the Trust	\$ -
Employer Contributions in the Form of Direct Benefit Payments (not reimbursed by trust)	19,842
Implicit contributions	15,158
<b><i>Total Employer Contributions During the Fiscal Year</i></b>	<b>\$ 35,000</b>



**Accounting Information**

(Continued)

**Projected Benefit Payments (15-year projection)**

The following is an estimate of other post-employment benefits to be paid on behalf of current retirees and current employees expected to retire from the District. Expected annual benefits have been projected on the basis of the actuarial assumptions outlined in Section 3.

These projections do not include any benefits expected to be paid on behalf of current active employees *prior to* retirement, nor do they include any benefits for potential *future employees* (i.e., those who might be hired in future years).

Projected Annual Benefit Payments							
Fiscal Year Ending June 30	Explicit Subsidy			Implicit Subsidy			Total
	Current Retirees	Future Retirees	Total	Current Retirees	Future Retirees	Total	
2018	\$ 20,371	\$ -	\$ 20,371	\$ 13,222	\$ -	\$ 13,222	\$ 33,593
2019	19,842	-	19,842	15,158	-	15,158	35,000
2020	22,849	1,887	24,736	17,343	-	17,343	42,079
2021	21,841	2,735	24,576	10,815	-	10,815	35,391
2022	22,664	5,792	28,456	12,614	1,117	13,731	42,187
2023	23,376	11,226	34,602	14,629	3,938	18,567	53,169
2024	23,967	17,324	41,291	16,834	8,198	25,032	66,323
2025	24,482	23,776	48,258	19,250	13,844	33,094	81,352
2026	19,767	30,761	50,528	-	21,245	21,245	71,773
2027	20,015	38,090	58,105	-	30,490	30,490	88,595
2028	20,239	44,676	64,915	-	34,160	34,160	99,075
2029	20,443	52,606	73,049	-	45,649	45,649	118,698
2030	20,633	60,470	81,103	-	58,357	58,357	139,460
2031	20,813	61,680	82,493	-	44,606	44,606	127,099
2032	20,990	63,515	84,505	-	25,752	25,752	110,257

The amounts shown in the Explicit Subsidy section reflect the expected payment by the District toward retiree medical premiums in each of the years shown. The amounts are shown separately, and in total, for those retired on the valuation date ("current retirees") and those expected to retire after the valuation date ("future retirees").

The amounts shown in the Implicit Subsidy section reflect the expected excess of retiree medical and prescription drug claims over the premiums expected to be charged during the year for retirees' coverage. These amounts are also shown separately and in total for those currently retired on the valuation date and for those expected to retire in the future.



**Accounting Information**  
 (Concluded)

**Sample Journal Entries**

**Beginning Account Balances**

As of the fiscal year beginning 7/1/2018

	Debit	Credit
Net OPEB Liability		1,159,659
Deferred Resource -- Assumption Changes		83,240
Deferred Resource -- Plan experience	-	
Deferred Resource -- Investment Experience	-	
Deferred Resource -- Contributions	33,593	
Net Position	1,209,306	

*\* The entries above assume nothing is on the books at the beginning of the year. So to the extent that values already exist in, for example, the Net OPEB Liability account, then only the difference should be adjusted. The entries above represent the values assumed to exist at the start of the fiscal year.*

**Journal entry to recharacterize retiree benefit payments not reimbursed by a trust, and record cash contributions to the trust during the fiscal year**

	Debit	Credit
OPEB Expense	19,842	
Premium Expense		19,842
OPEB Expense	-	
Cash		-

*\* This entry assumes a prior journal entry was made to record the payment for retiree premiums. This entry assumes the prior entry debited an account called "Premium Expense" and credited Cash. This entry reverses the prior debit to "Premium Expense" and recharacterizes that entry as an "OPEB Expense". Also, the entry for cash contributions to the trust is shown.*

**Journal entries to record implicit subsidies during the fiscal year**

	Debit	Credit
OPEB Expense	15,158	
Premium Expense		15,158

*\* This entry assumes that premiums for active employees were recorded to an account called "Premium Expense". This entry reverses the portion of premium payments that represent implicit subsidies and assigns that value to OPEB Expense.*

**Journal entries to record other account activity during the fiscal year**

	Debit	Credit
Net OPEB Liability		151,140
Deferred Resource -- Assumption Changes	1,851	
Deferred Resource -- Plan experience	-	
Deferred Resource -- Investment Experience	-	
Deferred Resource -- Contributions	1,407	
OPEB Expense	147,882	



### **C. Funding Information**

Our understanding is that the District is currently financing its OPEB liability on a pay-as-you-go basis. Prefunding (setting aside funds to accumulate in an irrevocable OPEB trust) has certain advantages, one of which is the ability to (potentially) use a higher discount rate in the determination of liabilities for GASB 75 reporting purposes.

Should the District wish to explore potential future prefunding for this plan we can prepare illustrations of various funding levels and, if appropriate, perform a formal funding valuation at that time. Results under a funding scenario may be materially different from the results presented in this report.



#### D. Certification

The purpose of this report is to provide actuarial information in compliance with Statement 75 of the Governmental Accounting Standards Board (GASB 75) for other postemployment benefits provided by the Hidden Valley Lake Community Services District (the District). We summarized the benefits in this report and our calculations were based on our understanding of the benefits as described herein.

In preparing this report we relied without audit on information provided by the District. This information includes, but is not limited to, plan provisions, census data, and financial information. We performed a limited review of this data and found the information to be reasonably consistent. The accuracy of this report is dependent on this information and if any of the information we relied on is incomplete or inaccurate, then the results reported herein will be different from any report relying on more accurate information.

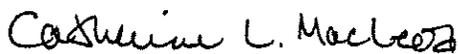
We consider the actuarial assumptions and methods used in this report to be individually reasonable under the requirements imposed by GASB 75 and taking into consideration reasonable expectations of plan experience. The results provide an estimate of the plan's financial condition at one point in time. Future actuarial results may be significantly different due to a variety of reasons including, but not limited to, demographic and economic assumptions differing from future plan experience, changes in plan provisions, changes in applicable law, or changes in the value of plan benefits relative to other alternatives available to plan members.

Alternative assumptions may also be reasonable; however, demonstrating the range of potential plan results based on alternative assumptions was beyond the scope of our assignment except to the limited extent required by GASB 75. Plan results for accounting purposes may be materially different than results obtained for other purposes such as plan termination, liability settlement, or underlying economic value of the promises made by the plan.

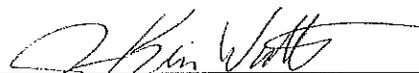
This report is prepared solely for the use and benefit of the District and may not be provided to third parties without prior written consent of MacLeod Watts. Exceptions are: The District may provide copies of this report to their professional accounting and legal advisors who are subject to a duty of confidentiality, and the District may provide this work to any party if required by law or court order. No part of this report should be used as the basis for any representations or warranties in any contract or agreement without the written consent of MacLeod Watts.

The undersigned actuaries are unaware of any relationship that might impair the objectivity of this work. Nothing within this report is intended to be a substitute for qualified legal or accounting counsel. Both actuaries are members of the American Academy of Actuaries and meet the qualification standards for rendering this opinion.

Signed: July 31, 2019



Catherine L. MacLeod, FSA, FCA, EA, MAAA



J. Kevin Watts, FSA, FCA, MAAA



### E. Supporting Information

#### Section 1 - Summary of Employee Data

**Active employees:** The District reported 12 active employees; all were enrolled in a medical plan through the District on the valuation date. Age and service information for the 12 included employees is provided below:

Distribution of Benefits-Eligible Active Employees								
Current Age	Years of Service						Total	Percent
	Under 1	1 to 4	5 to 9	10 to 14	15 to 19	20 & Up		
Under 25							0	0%
25 to 29							0	0%
30 to 34	2 <i>CS</i> <i>BB</i>	1 <i>HS</i>					3	25%
35 to 39	1 <i>BS</i>						1	8%
40 to 44			1 <i>SK</i>		1 <i>DW</i>		1	8%
45 to 49		1 <i>PK</i>					1	8%
50 to 54	2 <i>PC</i> <i>MP</i>	1 <i>KC</i>		1 <i>TV</i>	1		5	42%
55 to 59							0	0%
60 to 64				1 <i>KJ</i>			1	8%
65 to 69							0	0%
70 & Up							0	0%
<b>Total</b>	<b>5</b>	<b>3</b>	<b>1</b>	<b>2</b>	<b>1</b>	<b>0</b>	<b>12</b>	<b>100%</b>
<b>Percent</b>	<b>42%</b>	<b>25%</b>	<b>8%</b>	<b>17%</b>	<b>8%</b>	<b>0%</b>	<b>100%</b>	

<u>Valuation</u>	<u>July 2015</u>	<u>June 2017</u>
Annual Covered Payroll	\$734,856	\$804,618
Average Attained Age for Actives	41.2	45.0
Average Years of Service	5.9	4.6

**Retired members:** There were 4 retirees covered and receiving benefits under this program on the valuation date.

Retirees by Age		
Current Age	Number	Percent
Below 50	0	0%
50 to 54	0	0%
55 to 59	2 <i>KB</i> <i>TI</i>	50%
60 to 64	0	0%
65 to 69	1 <i>DB</i>	25%
70 to 74	0	0%
75 to 79	1 <i>BR</i>	25%
80 & up	0	0%
<b>Total</b>	<b>4</b>	<b>100%</b>
<b>Average Age:</b>		
On 6/30/2017	63.4	
At retirement	59.2	

GASB 75 requires a summary of plan member counts. Here are the counts on the June 30, 2018 valuation date.

Summary of Plan Member Counts	
Number of active plan members	12
Number of inactive plan members currently receiving benefits	4
Number of inactive plan members entitled to but not receiving benefits	*

\* We are not aware of any retirees who are eligible but not currently enrolled.



**Supporting Information**  
 (Continued)

**Section 2A - Summary of Retiree Benefit Provisions**

**OPEB provided:** The District reported that the only OPEB is provided is lifetime retiree medical coverage.

**Access to coverage:** Medical coverage is provided through the District's group health insurance plan. The coverage requires the employee to meet the following requirements:

1. Satisfaction of requirements for retirement under CalPERS, and
2. Retirement from the District having reached at least age 55 and completing a minimum of 5 years of service with the District.

**Benefits provided:** The District provides the following benefits to qualifying retirees who elect to continue medical coverage offered by the District. The benefits continue for the retiree's lifetime:

- 50% of the medical premiums for retiree
- 50% of the medical premiums for the retiree's spouse, if covered, while the retiree is living.

A retiree may elect to cover eligible dependents other than a spouse, provided the retiree pays 100% of any additional premium for their coverage.

Coverage and/or the premium subsidy above are not available in retirement in these circumstances:

- For survivors, after the retiree's death (other than as available under COBRA)
- For retirees eligible for PERS retirement from the District but failing to satisfy the age and service requirements above
- For retirees who meet the age and service requirements but do not continue their medical coverage through the District.

**Current premium rates:** The 2018 monthly healthcare premium rates are shown below:

SDRMA 2018 Rates Northern California			
Plan	Employee Only	Employee & 1	Employee & 2+
Blue Shield PPO Gold	\$ 814.98	\$ 1,630.98	\$ 2,117.52
Gold PPO Medicare	523.26	1,046.52	1,569.78



**Supporting Information**  
(Continued)

**Section 2B - Excise Taxes for High Cost Retiree Coverage**

The Patient Protection and Affordable Care Act (ACA) includes a 40% excise tax on high-cost employer-sponsored health coverage. The tax applies to the aggregate annual cost of an employee's applicable coverage that exceeds a dollar limit. Implementation of this tax has been delayed by subsequent legislation to 2022; while there are discussions in Congress of eliminating or again delaying the tax, this report assumes that it will take effect as current law provides.

For those current and future retirees assumed to retain coverage in the District's medical program, we determined the excess, if any, of projected annual plan premiums for the retiree and his or her covered dependents over the projected applicable excise tax threshold beginning in 2022. The excise tax burden will ultimately fall on the District alone, a combination of the District and plan participants, or be entirely borne by the affected retirees. The practicalities of how the tax will be recovered by insurers will likely affect the eventual cost-sharing result.

See Section 3 for assumptions about this excise tax in the valuation. Please note that any assumptions applied in this valuation are not intended to imply any legal obligation as to the District's current or future liability to absorb this potential tax.



**Supporting Information**  
 (Continued)

**Section 3 - Actuarial Methods and Assumptions**

Valuation Date	June 30, 2018
Measurement Date	Last day of prior fiscal year (June 30, 2018)
Funding Method	Entry Age Normal Cost, level percent of pay
Asset Valuation Method	Market value of assets (\$0; plan is not yet funded)
Municipal Bond Index	Fidelity High Grade 20 Year General Obligation Municipal Index
Discount Rate	3.56% as of June 30, 2017 and 3.62% as of June 30, 2018
Participants Valued	Only current active employees and retired participants and covered dependents are valued. No future entrants are considered in this valuation.
Salary Increase	3.25% per year, since benefits do not depend on salary, this is used only to allocate the cost of benefits between service years
General Inflation Rate	2.75% per year

*Demographic actuarial assumptions used in this valuation are based on the 2014 experience study of the California Public Employees Retirement System using data from 1997 to 2011, except for a different basis used to project future mortality improvements. The representative mortality rates were those published by CalPERS adjusted to back out 20 years of Scale BB to central year 2008.*

Mortality Improvement	MacLeod Watts Scale 2017 applied generationally from 2008.
Healthcare Trend	Medical plan premiums and claims costs by age are assumed to increase once each year. The increases over the prior year's levels are assumed to be effective on the dates shown below:

Effective January 1	Premium Increase	Effective January 1	Premium Increase
2018	Actual	2022	6.00%
2019	7.50%	2023	5.50%
2020	7.00%	2024	5.00%
2021	6.50%	2025 & later	5.00%

Participation rate	<p><i>Active employees:</i> 100% of those currently enrolled are assumed to elect medical coverage through the District in retirement.</p> <p><i>Retired participants:</i> Existing medical plan elections are assumed to be continued until retiree's death.</p>
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**Supporting Information**  
 (Continued)

**Section 3 - Actuarial Methods and Assumptions**

Spouse Coverage

*Active employees:* 75% of employees are assumed to be married and to elect spousal coverage in retirement. Spouse coverage is assumed to continue for the retiree's lifetime. Husbands are assumed to be 3 years older than their wives.

*Retired participants:* Existing elections for spouse coverage are assumed to continue until the retiree's death. Actual spouse ages are used, where known; if not, husbands are assumed to be 3 years older than their wives.

Excise tax on high-cost plans

We assumed the excise tax for high cost plan coverage for retirees will go into effect in the year 2022. Annual threshold amounts under the Affordable Care Act (ACA) are shown below.

2018 Thresholds	Ages 55-64	All Other Ages
Single	11,850	10,200
Other than Single	30,950	27,500

*Note: Thresholds for disability retirements are assumed to be set at a level high enough to prevent taxation on disabled retiree benefits.*

The thresholds are scheduled to increase by CPI plus 1% in 2019 and by CPI annually thereafter. A 40% excise tax rate was applied to the portion of premiums projected to exceed the threshold each year. We assumed that 100% of any excise tax liability for high cost retiree coverage will be borne by the District.

Development of Age-related  
 Medical Premiums

Actual premium rates for retirees and their spouses were adjusted to an age-related basis by applying medical claim cost factors developed from the data presented in the report, "Health Care Costs – From Birth to Death", sponsored by the Society of Actuaries. A description of the use of claims cost curves can be found in MacLeod Watts's Age Rating Methodology provided in Addendum 1 to this report.

Representative claims costs derived from the dataset provided by SDRMA for pre-Medicare retirees are shown below.

Expected Monthly Claims by Medical Plan for Selected Ages				
Medical Plan	Male			
	48	53	58	63
BS Gold PPO Area 2	\$ 656	\$ 866	\$ 1,104	\$ 1,368
Medical Plan	Female			
	48	53	58	63
BS Gold PPO Area 2	\$ 849	\$ 1,000	\$ 1,131	\$ 1,328



**Supporting Information**  
(Concluded)

**Section 3 - Actuarial Methods and Assumptions**

Development of Age-related Medical Premiums (continued)	All current and future Medicare-eligible retirees are assumed to be covered by plans that are rated based solely on the experience of Medicare retirees. Therefore, no implicit subsidy is calculated for Medicare-eligible retirees.
Medicare Eligibility	Absent contrary data, all individuals are assumed to be eligible for Medicare Parts A and B at age 65.

**Changes recognized in the current measurement period:**

Discount rate	Changed from 3.56% as of June 30, 2017 to 3.62% as of June 30, 2018 based on the published change in return for the applicable municipal bond index
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## Addendum 1: Important Background Information

### General Types of Other Post-Employment Benefits (OPEB)

Post-employment benefits other than pensions (OPEB) comprise a part of compensation that employers offer for services received. The most common OPEB are medical, prescription drug, dental, vision, and/or life insurance coverage. Other OPEB may include outside group legal, long-term care, or disability benefits outside of a pension plan. OPEB does not generally include COBRA, vacation, sick leave (unless converted to defined benefit OPEB), or other direct retiree payments.

A direct employer payment toward the cost of OPEB benefits is referred to as an “explicit subsidy”. Upcoming excise taxes under the Affordable Care Act for retirees covered by high cost plans is another potential source of explicit subsidies.

In addition, if claims experience of employees and retirees are pooled when determining premiums, retiree premiums are based on a pool of members which, on average, are younger and healthier. For certain types of coverage such as medical insurance, this results in an “implicit subsidy” of retiree premiums by active employee premiums since the retiree premiums are lower than they would have been if retirees were insured separately. GASB 75 and Actuarial Standards of Practice generally require that an implicit subsidy of retiree premium rates be valued as an OPEB liability.

Expected retiree claims		
Premium charged for retiree coverage		<i>Covered by higher active premiums</i>
Retiree portion of premium	Agency portion of premium Explicit subsidy	Implicit subsidy

*This chart shows the sources of funds needed to cover expected medical claims for pre-Medicare retirees. The portion of the premium paid by the Agency does not impact the amount of the implicit subsidy.*

Under GASB 45, for actuarial valuations dated prior to March 31, 2015, an exception allowed plan employers with a very small membership in a large “community-rated” healthcare program to avoid reporting of implicit subsidy liability. Following a change in Actuarial Standards of Practice and in accordance with GASB 75 requirements, this exception is no longer available.

### Valuation Process

The valuation was based on employee census data and benefits provided by the District. A summary of the employee data is provided in Table 1 and a summary of the benefits provided under the Plan is provided in Section 2. While individual employee records were reviewed to verify that they are reasonable in various respects, the data has not been audited and we have otherwise relied on the District as to its accuracy. The valuation was based on the actuarial methods and assumptions described in Section 3.

In developing the projected benefit values and liabilities, we first determine an expected premium or benefit stream over the employee’s future retirement. Benefits may include both direct employer payments (explicit subsidies) and/or an implicit subsidy, arising when retiree premiums are expected to be subsidized by active employee premiums. The projected benefit streams reflect assumed trends



## Important Background Information

(Continued)

in the cost of those benefits and assumptions as to the expected date(s) when benefits will end. We then apply assumptions regarding:

- The probability that each individual employee will or will not continue in service to receive benefits.
- The probability of when such retirement will occur for each retiree, based on current age, service and employee type; and
- The likelihood that future retirees will or will not elect retiree coverage (and benefits) for themselves and/or their dependents.

We then calculate a present value of these benefits by discounting the value of each future expected benefit payment, multiplied by the assumed expectation that it will be paid, back to the valuation date using the discount rate. These benefit projections and liabilities have a very long time horizon. The final payments for currently active employees may not be made for many decades.

The resulting present value for each employee is allocated as a level percent of payroll each year over the employee's career using the entry age normal cost method and the amounts for each individual are then summed to get the results for the entire plan. This creates a cost expected to increase each year as payroll increases. Amounts attributed to prior fiscal years form the "Total OPEB Liability". The OPEB cost allocated for active employees in the current year is referred to as "Service Cost".

Where contributions have been made to an irrevocable OPEB trust, the accumulated value of trust assets ("Fiduciary Net Position") is applied to offset the "Total OPEB Liability", resulting in the "Net OPEB Liability". If a plan is not being funded, then the Net OPEB Liability is equal to the Total OPEB Liability.

It is important to remember that an actuarial valuation is, by its nature, a projection of one possible future outcome based on many assumptions. To the extent that actual experience is not what we assumed, future results will differ. Some possible sources of future differences may include:

- A significant change in the number of covered or eligible plan members;
- A significant increase or decrease in the future premium rates;
- A change in the subsidy provided by the Agency toward retiree premiums;
- Longer life expectancies of retirees;
- Significant changes in expected retiree healthcare claims by age, relative to healthcare claims for active employees and their dependents;
- Higher or lower returns on plan assets or contribution levels other than were assumed; and/or
- Changes in the discount rate used to value the OPEB liability



## Important Background Information (Continued)

### Requirements of GASB 75

The Governmental Accounting Standards Board (GASB) issued GASB Statement No. 75, *Accounting and Financial Reporting by Employers for Postemployment Benefits Other Than Pensions*. This Statement establishes standards for the measurement, recognition, and disclosure of OPEB expense and related liabilities (assets), note disclosures, and, required supplementary information (RSI) in the financial reports of state and local governmental employers.

### Important Dates

GASB 75 requires that the information used for financial reporting falls within prescribed timeframes. Actuarial valuations of the total OPEB liability are generally required at least every two years. If a valuation is not performed as of the Measurement Date, then liabilities are required to be based on roll forward procedures from a prior valuation performed no more than 30 months and 1 day prior to the most recent year-end. In addition, the net OPEB liability is required to be measured as of a date no earlier than the end of the prior fiscal year (the "Measurement Date").

### Recognition of Plan Changes and Gains and Losses

Under GASB 75, gains and losses related to changes in Total OPEB Liability and Fiduciary Net Position are recognized in OPEB expense systematically over time.

- *Timing of recognition:* Changes in the Total OPEB Liability relating to changes in plan benefits are recognized immediately (fully expensed) in the year in which the change occurs. Gains and Losses are amortized, with the applicable period based on the type of gain or loss. The first amortized amounts are recognized in OPEB expense for the year the gain or loss occurs. The remaining amounts are categorized as deferred outflows and deferred inflows of resources related to OPEB and are to be recognized in future OPEB expense.
- *Deferred recognition periods:* These periods differ depending on the source of the gain or loss.

Difference between projected and actual trust earnings:	5 year straight-line recognition
All other amounts:	Straight-line recognition over the expected average remaining service lifetime (EARSL) of all members that are provided with benefits, determined as of the beginning of the Measurement Period. In determining the EARSL, all active, retired and inactive (vested) members are counted, with the latter two groups having 0 remaining service years.



**Important Background Information**  
 (Continued)

**Implicit Subsidy Plan Contributions**

An implicit subsidy occurs when expected retiree claims exceed the premiums charged for retiree coverage. When this occurs, we expect part of the premiums paid for active employees to cover a portion of retiree claims. This transfer represents the current year's "implicit subsidy". Because GASB 75 treats payments to an irrevocable trust *or directly to the insurer* as employer contributions, each year's implicit subsidy is treated as a contribution toward the payment of retiree benefits.

The following hypothetical example illustrates this treatment:

Hypothetical Illustration of Implicit Subsidy Recognition	For Active Employees	For Retired Employees
<i>Prior to Implicit Subsidy Adjustment</i>		
Premiums Paid by Agency During Fiscal Year	\$ 411,000	\$ 48,000
Accounting Treatment	Compensation Cost for Active Employees	Contribution to Plan & Benefits Paid from Plan
<i>After Implicit Subsidy Adjustment</i>		
Premiums Paid by Agency During Fiscal Year	\$ 411,000	\$ 48,000
Implicit Subsidy Adjustment	(23,000)	23,000
Accounting Cost of Premiums Paid	\$ 388,000	\$ 71,000
Accounting Treatment Impact	Reduces Compensation Cost for Active Employees	Increases Contributions to Plan & Benefits Paid from Plan

The example above shows that total payments toward active and retired employee healthcare premiums is the same, but for accounting purposes part of the total is shifted from actives to retirees. This shifted amount is recognized as an OPEB contribution and reduces the current year's premium expense for active employees.

**Discount Rate**

When the financing of OPEB liabilities is on a pay-as-you-go basis, GASB 75 requires that the discount rate used for valuing liabilities be based on the yield or index rate for 20-year, tax-exempt general obligation municipal bonds with an average rating of AA/Aa or higher (or equivalent quality on another rating scale). When a plan sponsor makes regular, sufficient contributions to a trust in order to prefund the OPEB liabilities, GASB 75 allows use of a rate up to the expected rate of return of the trust. Therefore, prefunding has an advantage of potentially being able to report overall lower liabilities due to future expected benefits being discounted at a higher rate.



**Important Background Information**  
(Continued)

**Actuarial Funding Method and Assumptions**

The “ultimate real cost” of an employee benefit plan is the value of all benefits and other expenses of the plan over its lifetime. These expenditures are dependent only on the terms of the plan and the administrative arrangements adopted, and as such are not affected by the actuarial funding method.

The actuarial funding method attempts to spread recognition of these expected costs on a level basis over the life of the plan, and as such sets the “incidence of cost”. GASB 75 specifically requires that the actuarial present value of projected benefit payments be attributed to periods of employee service using the Entry Age Actuarial Cost Method, with each period’s service cost determined as a level percentage of pay.

The results of this report may not be appropriate for other purposes, where other assumptions, methodology and/or actuarial standards of practice may be required or more suitable.



## **Addendum 2: MacLeod Watts Age Rating Methodology**

Both accounting standards (e.g. GASB 75) and actuarial standards (e.g. ASOP 6) require that expected retiree claims, not just premiums paid, be reflected in most situations where an actuary is calculating retiree healthcare liabilities. Unfortunately, the actuary is often required to perform these calculations without any underlying claims information. In most situations, the information is not available, but even when available, the information may not be credible due to the size of the group being considered.

Actuaries have developed methodologies to approximate healthcare claims from the premiums being paid by the plan sponsor. Any methodology requires adopting certain assumptions and using general studies of healthcare costs as substitutes when there is a lack of credible claims information for the specific plan being reviewed.

Premiums paid by sponsors are often uniform for all employee and retiree ages and genders, with a drop in premiums for those participants who are Medicare-eligible. While the total premiums are expected to pay for the total claims for the insured group, on average, the premiums charged would not be sufficient to pay for the claims of older insureds and would be expected to exceed the expected claims of younger insureds. An age-rating methodology takes the typically uniform premiums paid by plan sponsors and spreads the total premium dollars to each age and gender intended to better approximate what the insurer might be expecting in actual claims costs at each age and gender.

The process of translating premiums into expected claims by age and gender generally follows the steps below.

1. *Obtain or Develop Relative Medical Claims Costs by Age, Gender, or other categories that are deemed significant.* For example, a claims cost curve might show that, if a 50 year old male has \$1 in claims, then on average a 50 year old female has claims of \$1.25, a 30 year male has claims of \$0.40, and an 8 year old female has claims of \$0.20. The claims cost curve provides such relative costs for each age, gender, or any other significant factor the curve might have been developed to reflect. Section 3 provides the source of information used to develop such a curve and shows sample relative claims costs developed for the plan under consideration.
2. *Obtain a census of participants, their chosen medical coverage, and the premium charged for their coverage.* An attempt is made to find the group of participants that the insurer considered in setting the premiums they charge for coverage. That group includes the participant and any covered spouses and children. When information about dependents is unavailable, assumptions must be made about spouse age and the number and age of children represented in the population. These assumptions are provided in Section 3.
3. *Spread the total premium paid by the group to each covered participant or dependent based on expected claims.* The medical claims cost curve is used to spread the total premium dollars paid by the group to each participant reflecting their age, gender, or other relevant category. After this step, the actuary has a schedule of expected claims costs for each age and gender for the current premium year. It is these claims costs that are projected into the future by medical cost inflation assumptions when valuing expected future retiree claims.

The methodology described above is dependent on the data and methodologies used in whatever study might be used to develop claims cost curves for any given plan sponsor. These methodologies and assumptions can be found in the referenced paper cited as a source in the valuation report.



### **Addendum 3: MacLeod Watts Mortality Projection Methodology**

Actuarial standards of practice (e.g., ASOP 35, Selection of Demographic and Other Noneconomic Assumptions for Measuring Pension Obligations, and ASOP 6, Measuring Retiree Group Benefits Obligations) indicate that the actuary should reflect the effect of mortality improvement (i.e., longer life expectancies in the future), both before and after the measurement date. The development of credible mortality improvement rates requires the analysis of large quantities of data over long periods of time. Because it would be extremely difficult for an individual actuary or firm to acquire and process such extensive amounts of data, actuaries typically rely on large studies published periodically by organizations such as the Society of Actuaries or Social Security Administration.

As noted in a recent actuarial study on mortality improvement, key principles in developing a credible mortality improvement model would include the following:

- (1) Short-term mortality improvement rates should be based on recent experience.
- (2) Long-term mortality improvement rates should be based on expert opinion.
- (3) Short-term mortality improvement rates should blend smoothly into the assumed long-term rates over an appropriate transition period.

The **MacLeod Watts Scale 2017** was developed from a blending of data and methodologies found in two published sources: (1) the Society of Actuaries Mortality Improvement Scale MP-2016 Report, published in October 2016 and (2) the demographic assumptions used in the 2016 Annual Report of the Board of Trustees of the Federal Old-Age and Survivors Insurance and Federal Disability Insurance Trust Funds, published June 2016.

MacLeod Watts Scale 2017 is a two-dimensional mortality improvement scale reflecting both age and year of mortality improvement. The underlying base scale is Scale MP-2016 which has two segments – (1) historical improvement rates for the period 1951-2012 and (2) an estimate of future mortality improvement for years 2013-2015 using the Scale MP-2016 methodology but utilizing the assumptions obtained from Scale MP-2015. The MacLeod Watts scale then transitions from the 2015 improvement rate to the Social Security Administration (SSA) Intermediate Scale linearly over the 10 year period 2016-2025. After this transition period, the MacLeod Watts Scale uses the constant mortality improvement rate from the SSA Intermediate Scale from 2025-2039. The SSA's Intermediate Scale has a final step down in 2040 which is reflected in the MacLeod Watts scale for years 2040 and thereafter. Over the ages 100 to 115, the SSA improvement rate is graded to zero.

Scale MP-2016 can be found at the SOA website and the projection scales used in the 2016 Social Security Administrations Trustees Report at the Social Security Administration website.



## Glossary

Actuarial Funding Method – A procedure which calculates the actuarial present value of plan benefits and expenses, and allocates these expenses to time periods, typically as a normal cost and an actuarial accrued liability

Actuarial Present Value of Projected Benefits (APVPB) – The amount presently required to fund all projected plan benefits in the future. This value is determined by discounting the future payments by an appropriate interest rate and the probability of nonpayment.

CalPERS – Many state governments maintain a public employee retirement system; CalPERS is the California program, covering all eligible state government employees as well as other employees of other governments within California who have elected to join the system

Defined Benefit (DB) – A pension or OPEB plan which defines the monthly income or other benefit which the plan member receives at or after separation from employment

Defined Contribution (DC) – A pension or OPEB plan which establishes an individual account for each member and specifies how contributions to each active member's account are determined and the terms of distribution of the account after separation from employment

Discount Rate - Interest rate used to discount future potential benefit payments to the valuation date. Under GASB 75, if a plan is prefunded, then the discount rate is equal to the expected trust return. If a plan is not prefunded (pay-as-you-go), then the rate of return is based on a yield or index rate for 20-year, tax-exempt general obligation municipal bonds with an average rating of AA/Aa or higher.

Expected Average Remaining Service Lifetime (EARSL) – Average of the expected remaining service lives of all employees that are provided with benefits through the OPEB plan (active employees and inactive employees), beginning in the current period

Entry Age Actuarial Cost Method – An actuarial funding method where, for each individual, the actuarial present value of benefits is levelly spread over the individual's projected earnings or service from entry age to the last age at which benefits can be paid

Excise Tax – The Affordable Care Act created an excise tax on the value of employer sponsored coverage which exceeds certain thresholds ("Cadillac Plans"). The tax is first effective in 2022.

Explicit Subsidy – The projected dollar value of future retiree healthcare costs expected to be paid directly by the Employer, e.g., the Employer's payment of all or a portion of the monthly retiree premium billed by the insurer for the retiree's coverage

Fiduciary Net Position – The value of trust assets used to offset the Total OPEB Liability to determine the Net OPEB Liability.

Government Accounting Standards Board (GASB) – A private, not-for-profit organization which develops generally accepted accounting principles (GAAP) for U.S. state and local governments; like FASB, it is part of the Financial Accounting Foundation (FAF), which funds each organization and selects the members of each board

Health Care Trend – The assumed rate(s) of increase in future dollar values of premiums or healthcare claims, attributable to increases in the cost of healthcare; contributing factors include medical inflation, frequency or extent of utilization of services and technological developments.



**Glossary**  
(Continued)

Implicit Subsidy – The projected difference between future retiree claims and the premiums to be charged for retiree coverage; this difference results when the claims experience of active and retired employees are pooled together and a ‘blended’ group premium rate is charged for both actives and retirees; a portion of the active employee premiums subsidizes the retiree premiums.

Net OPEB Liability (NOL) – The liability to employees for benefits provided through a defined benefit OPEB. Only assets administered through a trust that meet certain criteria may be used to reduce the Total OPEB Liability.

Net Position – The Impact on Statement of Net Position is the Net OPEB Liability adjusted for deferred resource items

OPEB Expense – The OPEB expense reported in the Agency’s financial statement. OPEB expense is the annual cost of the plan recognized in the financial statements.

Other Post-Employment Benefits (OPEB) – Post-employment benefits other than pension benefits, most commonly healthcare benefits but also including life insurance if provided separately from a pension plan

Pay-As-You-Go (PAYGO) – Contributions to the plan are made at about the same time and in about the same amount as benefit payments and expenses coming due

PEMHCA – The Public Employees’ Medical and Hospital Care Act, established by the California legislature in 1961, provides community-rated medical benefits to participating public employers. Among its extensive regulations are the requirements that a contracting Agency contribute toward medical insurance premiums for retired annuitants and that a contracting Agency file a resolution, adopted by its governing body, with the CalPERS Board establishing any new contribution.

Plan Assets – The value of cash and investments considered as ‘belonging’ to the plan and permitted to be used to offset the AAL for valuation purposes. To be considered a plan asset, GASB 75 requires (a) contributions to the OPEB plan be irrevocable, (b) OPEB assets to dedicated to providing OPEB benefit to plan members in accordance with the benefit terms of the plan, and (c) plan assets be legally protected from creditors, the OPEB plan administrator and the plan members.

Public Agency Miscellaneous (PAM) – Non-safety public employees.

Select and Ultimate – Actuarial assumptions which contemplate rates which differ by year initially (the select period) and then stabilize at a constant long-term rate (the ultimate rate)

Service Cost – Total dollar value of benefits expected to be earned by plan members in the current year, as assigned by the actuarial funding method; also called normal cost

Total OPEB Liability (TOL) – Total dollars required to fund all plan benefits attributable to service rendered as of the valuation date for current plan members and vested prior plan members; a subset of “Actuarial Present Value”

Vesting – As defined by the plan, requirements which when met make a plan benefit nonforfeitable on separation of service before retirement eligibility

