

**Linden County Water District**

**Cost of Service and Rates Study:  
WATER**

**FINAL**



Submitted:  
December 8, 2020

The following report was prepared by Hansford Economic Consulting LLC.

The analyses and findings contained within this report are based on primary data provided by the Linden County Water District, as well as additional secondary sources of data available as of the date of this report. Updates to information used in this report could change or invalidate the findings contained herein. While it is believed that the primary and secondary sources of information are accurate, this is not guaranteed.

Every reasonable effort has been made in order that the data contained in this study reflect the most accurate and timely information possible. No responsibility is assumed for inaccuracies in reporting by the client, its consultants and representatives, or any other data source used in the preparation of this study. No warranty or representation is made that any of the projected values or results contained in this study will actually be achieved. There will usually be differences between forecasted or projected results and actual results due to changes in events and circumstances.

Changes in economic and social conditions due to events including, but not limited to, major recessions, droughts, major environmental problems or disasters that would negatively affect operations, expenses and revenues may affect the result of the findings in this study. In addition, other factors not considered in the study may influence actual results. Any applications for financing, or bond sales analyses, should re-evaluate the financial health and projection of revenues and expenses at the time of the application or preparation for bond sale.

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# Section 1: INTRODUCTION AND SUMMARY OF FINDINGS

## 1.1 PURPOSE OF THE STUDY

The Linden County Water District (District or LCWD) provides water services to the residents and businesses of the community of Linden, San Joaquin County, California. The purpose of this water rate study (Study) is to determine the level of funding required over the next five and a half fiscal years to adequately fund the water system in a safe manner; providing clean and safe potable water that meets State and Federal regulatory requirements. This study also provides a cost of service analysis pursuant to best management practices and Government Code 54999.7 (c)<sup>1</sup>. The water financial model presented in this report projects revenues and expenses, determines cost of service, and calculates annual property-related fees for the next five and a half years.

The property-related fees (also interchangeably called “rates” in the Study) are exempt from Proposition 26 but are subjected to California Constitution Article XIII D (commonly referred to as Proposition 218) requirements for water, wastewater, and solid waste property-related fees.

This report provides an explanation and justification of the calculated water rates for the next five and a half fiscal years and it documents adherence to the law regarding setting of rates by a special district. Specifically, the California Constitution requires that fees for water service shall not be extended, imposed, or increased by any agency unless all of the following requirements have been met:

- (1) Revenues derived from the fee or charge shall not exceed the funds required to provide the property related service.
- (2) Revenues derived from the fee or charge shall not be used for any purpose other than that for which the fee or charge was imposed.
- (3) The amount of a fee or charge imposed upon any parcel or person as an incident of property ownership shall not exceed the proportional cost of the service attributable to the parcel.
- (4) No fee or charge may be imposed for a service unless that service is actually used by, or immediately available to, the owner of the property in question. Fees or charges based on potential or future use of a service are not permitted.
- (5) No fee or charge may be imposed for general governmental services including, but not limited to, police, fire, ambulance or library, services, where the service is available to the public at large in substantially the same manner as it is to property owners.

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<sup>1</sup> A public agency providing public utility service shall complete a cost of service study at least once every 10 years that addresses the cost of providing public utility service to public schools.

## **1.2 BACKGROUND**

The District last conducted a water rate study in 2015. Water rates were last increased July 1, 2019. A water rate study is necessary at this time to a) ensure revenue sufficiency of the water system for the next five and a half fiscal years, and b) demonstrate cost of service as required by California's Proposition 218.

Rate studies are typically conducted every three to five years to ensure revenue sufficiency. A cost of service analysis, which not only allows for revenue sufficiency, but also examines whether customers are paying for their share of system costs and adjusts rates and customer classifications to achieve equity to the maximum extent practicable, is necessary to demonstrate proportional cost of service to groups of customers. As part of the regular periodic review of the rates, best practices include maintaining a financially self-sustaining water utility, setting policies or guidelines on an appropriate reserve level, including depreciation in the rates, and continual customer outreach to educate on the value of water and need for water conservation.

This study incorporates all three major elements of cost-based rate making; revenue requirement analysis, cost of service analysis, and rate-design analysis. In determining an appropriate rate structure for the District that would meet the requirements of Proposition 218, the following three key objectives were considered:

- Rates must be capable of generating sufficient revenues to meet all annual financial obligations of the water enterprise fund;
- Changes to the rate structure must be administratively feasible (compatible with the existing billing system and straightforward to explain to customers);
- The rate structure should be as reflective of local customer water use as possible; and

This report presents the result of the analysis and rate structure that best meets these objectives under current and projected conditions.

## **1.3 RATE SETTING PRINCIPLES AND ORGANIZATION OF THE REPORT**

This report was prepared using the principles established by the American Water Works Association. The American Water Works Association "Principles of Water Rates, Fees, and Charges: Manual of Water Supply Practices M1 (the "M1 Manual") establishes commonly accepted professional standards for cost of service studies. The M1 Manual general principles of rate structure design and the objectives of the study are described below.

According to the M1 Manual, the first step in the ratemaking analysis is to determine the adequate and appropriate funding of a utility. This is referred to as the "revenue requirements" analysis. This analysis considers the short-term and long-term service objectives of the utility over a given planning horizon, including capital facilities and system operations and maintenance, to determine the adequacy of a utility's existing rates to recover its costs. A number of factors may affect these

projections, including: the number of customers served, water-use trends, nonrecurring sales, weather, conservation, use restrictions, inflation, interest rates, wholesale contracts, capital finance needs, changes in tax laws, and other changes in operating and economic conditions.

After determining a utility's revenue requirements, a utility's next step is determining the cost of service. Utilizing a public agency's approved budget, financial reports, operating data, and capital improvement plans, a rate study generally categorizes (functionalizes) the costs, expenses, and assets of the water system among major operating functions to determine the cost of service.

After the assets and the costs of operating those assets are properly categorized by function, the rate study allocates those "functionalized costs" to the various customer classes (e.g., single-family residential, multi-family residential and commercial) by determining the characteristics of those classes and the contribution of each to incurred costs such as peaking factors or different delivery costs, service characteristics and demand patterns. Rate design is the final part of the M1 Manual's rate-making procedure and generally uses the revenue requirement and cost of service analysis to determine appropriate rates for each customer class.

The study is presented in four sections.

Following this introduction and summary of findings, Section 2 provides information on the water system including the customer base, the water fund, and future infrastructure needs. Section 3 provides the water rate analysis, which starts with calculation of the revenue requirement. The methodology of the water rate analysis and detailed calculations of the water rates are also presented. Section 4 compares calculated water bills under the new rates with current District water bills. Total water bill burden for a typical residential home is compared with water bills in other regional communities.

**Appendix A** includes support tables for the water rates analysis.

## 1.4 MAJOR ASSUMPTIONS

Several major assumptions influence the scope of the report and findings herein. They are summarized here:

- **The District's Water Capital Improvement Projects (CIP) list will be funded through a combination of cash and debt.** The District has secured a loan with a local bank to finance up to \$2.4 million of capital improvements over the next two years. The loan will be used specifically for a tank construction project, and related facilities and accessories necessary to complete that project. The remaining approximately \$0.8 million in CIP improvements to be completed over the next five and a half fiscal years will be financed with cash as it is available.
- **System rehabilitation costs are included in the water rates.** The water rate model includes a calculated annual cost for replacement of facilities. Facilities include existing facilities and new facilities built in the next five and a half fiscal years. Rates should include depreciation

of existing assets so that funds are accumulated and available for replacement of assets on a timely basis, and preferably paid for with cash. The money collected for system rehabilitation is put toward items on the CIP list.

- **Removal of In District and Out of District Customers.** The Linden water system is one unified system with a shared water supply regardless whether a property has annexed into the District or not; as such, there is no distinct cost of service difference between annexed and non-annexed properties that the District serves. All properties pay the same connection fee schedule.
- **Distinction of In Tax Area and Out Tax Area Customers.** All water customers pay property taxes; however, LCWD does not receive a portion of property taxes from all properties it provides water services to. The new rate schedule distinguishes between properties as either 'In Tax Area' or 'Out Tax Area'. Currently, there is no difference in rates for accounts that do or don't contribute property taxes to LCWD. Of the residential customer accounts, 36% are Out Tax Area; of the commercial and schools accounts, 14% are Out Tax Area.
- **Property tax credits.** Properties that contribute financially to the District by way of property taxes (In Tax Area) are given a credit in the customer charges portion of monthly fee calculations. Properties that pay property taxes, but for which no portion is received by LCWD (Out Tax Area), pay the full customer charges portion of monthly fees.
- **No new growth in the financial model.** No new growth is included in the financial projection to be conservative with revenue estimates.
- **The rate structure removes tiered water rates.** Tiered water rates were removed for two reasons: 1) the drought of 2015-2017 proved how effective mandatory watering restrictions and education is on reducing water use, and 2) the tiered rates were intended to fit typical customer usage patterns and promote water efficiency and to proportionately allocate the cost of service to those who place the greatest demands on the system. In 2015, the San Juan Capistrano decision reaffirmed that water rates must be proportional to the costs of service received; however, tiered water rates should be based on higher costs at higher levels of water consumption. As part of the water rate analysis, it was found that LCWD does not experience higher costs at higher levels of water consumption.

Although tiers have been removed from the rate structure, a base allowance has been kept for water "inside the walls"; that is, median monthly water use for a customer class during the wintertime that approximates how much water is necessary for basic sanitary purposes. The District proposes a rate per hundred cubic feet (HCF)<sup>2</sup> that is different for each customer class (residential, schools, and commercial) that is charged for monthly usage above the base allowance for each customer class.

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<sup>2</sup> One hundred cubic feet is the equivalent of 748.052 gallons.



- **Change in monthly base allowance.** Currently, the monthly base allowance depends on whether a customer is In District or Out of District. This distinction is removed as described above. In addition, the base allowance has been changed based on median monthly wintertime water use by customer category as shown:

Customer Class / Category	Current Base Allowance	New Base Allowance
<b>Residential In District</b>	10 HCF	6 HCF
---- In District Dual	20 HCF	12 HCF
<b>Residential Out of District</b>	14 HCF	6 HCF
---- Out of District Dual	28 HCF	12 HCF
<b>Commercial</b>	10 HCF	3 HCF
<b>Schools (LUSD)</b>	358 HCF	381 HCF

- **No change in Drought Stage per District Ordinance 14-01.** Although California is no longer officially in a “drought” stage (as declared by the Governor), the District remains in a state of water supply shortage actions because the Eastern San Joaquin Groundwater Subbasin of which Linden is a part, is defined by the State as being in “critical overdraft”. Water supply surcharges are amended to more closely reflect the intent of Ordinance 14-01, with relief of 13% of use charges credited in the event that the Eastern San Joaquin Groundwater Subbasin is removed from the “critical overdraft” designation.
- **Implementation of New Rate Schedule.** For the current fiscal year which ends June 30, 2021, there is no proposed change to the budgeted revenue to be collected from water rates. The detailed calculation tables show cost of service fee calculations for this fiscal year but new rates are proposed to be implemented with the new fiscal year starting July 1, 2021.

## 1.5 CALCULATED RATES

The study provides a basis for adoption of a new rate schedule for the next five fiscal years. **Table 1** on the next page shows the calculated water rates.

In compliance with California SB-7, effective January 1, 2018, which requires all new multi-family residential development to be individually metered or sub-metered, any newly constructed units will pay the same base rate for a three-quarter inch meter per unit as all current detached residential units unless the owner of the building(s) sub-meters each unit and performs its own internal water billing of each unit.

An illustration of water bills for single family residential customers in Linden using 12 HCF per month is shown in **Figure 1** on page 7. This level of water consumption was used to illustrate bills because about half of monthly water bills are less than 12 HCF, and about half are greater than 12 HCF.

**Table 1**  
**Projected Water Rates Schedule**

Charges	Monthly Allowance	Fiscal Year Ending				
		2022	2023	2024	2025	2026
	Effective	7/1/2021	7/1/2022	7/1/2023	7/1/2024	7/1/2025
<b>METERED RATES</b>						
<b>Service Charge</b>	<b>In Tax</b>	<b>per month</b>				
3/4"	In Tax	\$34.05	\$36.88	\$38.28	\$39.74	\$41.38
1"	In Tax	\$48.35	\$52.17	\$54.09	\$56.10	\$58.33
1.5"	In Tax	\$61.78	\$66.39	\$68.80	\$71.30	\$74.07
2"	In Tax	\$168.84	\$180.80	\$187.13	\$193.68	\$200.92
3"	In Tax	\$345.52	\$369.90	\$382.73	\$396.02	\$410.68
4"	In Tax	\$597.77	\$639.13	\$661.17	\$683.99	\$709.11
6"	In Tax	\$1,220.87	\$1,305.34	\$1,350.24	\$1,396.73	\$1,447.89
8"	In Tax	\$2,679.35	\$2,865.74	\$2,964.24	\$3,066.24	\$3,178.54
<b>Service Charge</b>	<b>Out Tax</b>					
3/4"	Out Tax	\$44.51	\$47.57	\$49.20	\$50.89	\$52.75
1"	Out Tax	\$58.81	\$62.86	\$65.01	\$67.25	\$69.70
1.5"	Out Tax	\$72.24	\$77.08	\$79.72	\$82.45	\$85.44
2"	Out Tax	\$179.30	\$191.49	\$198.05	\$204.83	\$212.29
3"	Out Tax	\$355.98	\$380.59	\$393.65	\$407.17	\$422.05
4"	Out Tax	\$608.23	\$649.82	\$672.09	\$695.14	\$720.48
6"	Out Tax	\$1,231.33	\$1,316.03	\$1,361.16	\$1,407.88	\$1,459.26
8"	Out Tax	\$2,689.81	\$2,876.43	\$2,975.16	\$3,077.39	\$3,189.91
<b>Use Charge</b>	<b>HCF</b>	<b>per HCF greater than base allowance per month</b>				
Residential [1]	6	\$1.90	\$2.04	\$2.11	\$2.19	\$2.27
Commercial	3	\$1.06	\$1.14	\$1.18	\$1.23	\$1.27
Schools	381	\$1.98	\$2.13	\$2.20	\$2.28	\$2.36
<b>Water Conservation, Supply Shortage &amp; Sustainability Program Charges [2]</b>						
Conservation & Sustainability Surcharge			20%		@ Stage 2	
Emergency Supply Surcharge			54%		@ Stage 3	
E. San Joaquin Groundwater Subbasin Relie			-13%		@ Permanent Conservation	
<b>Flat-Rate Customers</b>		<b>FLAT RATES per month</b>				
Commercial 1"		\$48.35	\$52.31	\$54.25	\$56.30	\$58.54
Commercial 2"		\$157.69	\$169.43	\$175.41	\$181.62	\$188.48
Fire Protection 6"		\$95.70	\$102.49	\$106.04	\$109.72	\$113.73
Fire Protection 8"		\$214.37	\$229.58	\$237.52	\$245.77	\$254.75

[1] Residential allowance is per unit. Dual accounts have an allowance of 12 HCF per month.

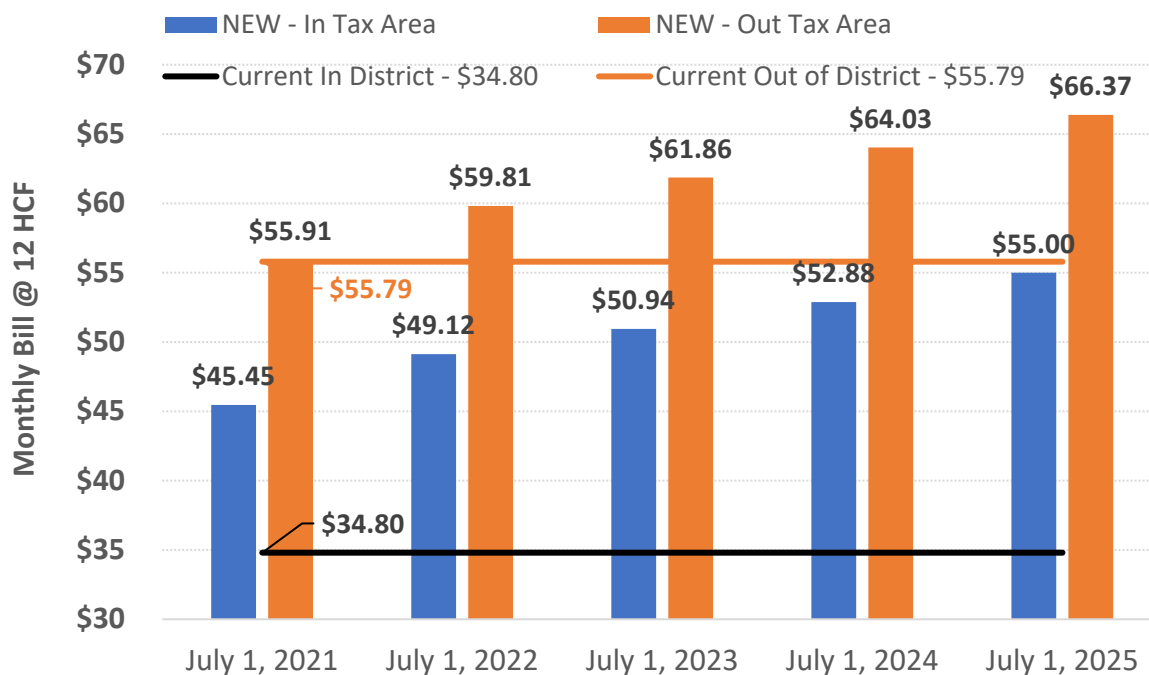
[2] Only applied to consumption.

There are three residential customer groups to consider:

1. Currently In District, the 69% of which will now be In Tax Area
2. Current Out of District, almost all of which will now be Out Tax Area
3. Currently In District, 31% of which will now be Out Tax Area

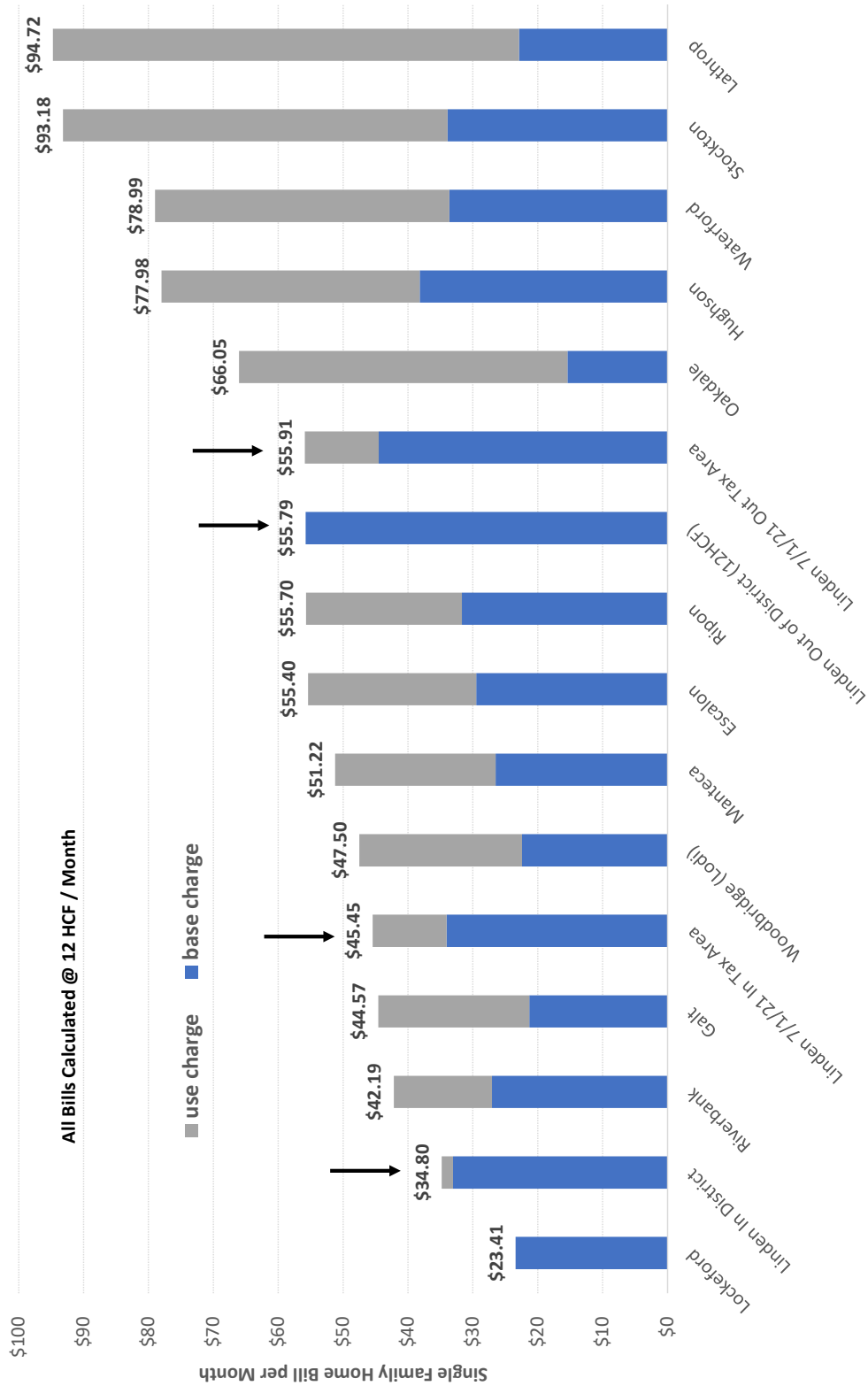
Under cost of service rates, residential group 2 would pay less per month. Residential groups 1. and 3. would pay more. **Figure 1** illustrates bills for groups 1 and 2; customers that are currently In District that will now be Out Tax Area (group 3) currently pay \$34.80 for 12 HCF; starting July 1, 2021 they would pay \$55.91 for 12 HCF.

**Figure 1**  
**Bill Impact for a Home using 12 HCF**



A comparison of Linden’s water bills at 12 HCF with other regional communities is shown in **Figure 2** on the following page. It is important to note that this figure only shows a snapshot in time with current rates of comparison communities; rates are schedule to increase for most of the comparison communities at the same time as Linden (July 1, 2021).

**Figure 2**  
**Comparison Water Bill for a Home**



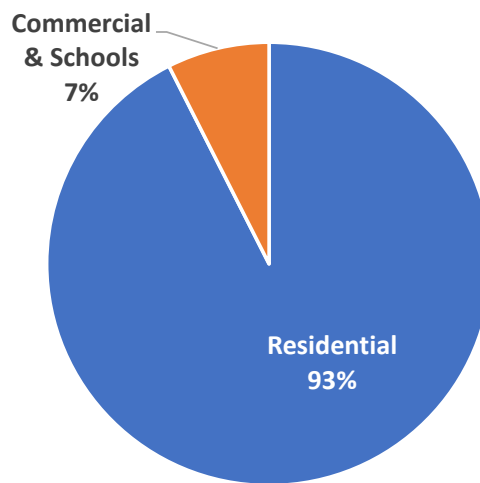
## Section 2: THE WATER SYSTEM

This section describes the water system’s customer base, the water fund, and water system capital improvement needs.

### 2.1 CUSTOMER BASE

The District primarily serves residential water customers, as is shown in **Figure 3** below.

**Figure 3**  
**Water Customers**



In total, the District serves 609 water accounts with 607 water meters. A summary of number of accounts, meters, and units is shown in **Table 2** on the following page. The number of water meters by size is shown in **Appendix A Table A-1**.

The Linden water system is one unified system with a shared water supply regardless whether a property has annexed into the District or not; as such, there is no distinct cost of service difference between annexed and non-annexed properties that the District serves. All properties pay the same connection fee schedule. This rate study proposes removing the In District and Out of District distinction.

Where properties do differ is whether a portion of their property taxes supports LCWD or not. All water customers pay property taxes; however, LCWD does not receive a portion of property taxes from all properties it provides water services to<sup>3</sup>. **Map 1** on page 11 shows properties that are

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<sup>3</sup> The amount of property taxes allocated to special districts such as LCWD is determined by the State and local governments. The percentage allocation of property tax distributed to LCWD has been largely unchanged since Proposition 13 passed in 1978, when a new property tax system in the State was set. While LCWD can advocate for

either In Tax Area or Out of Tax Area<sup>4</sup>. Of the residential customer accounts, 36% are Out Tax Area; of the commercial and schools accounts, 14% are Out Tax Area.

**Table 2**  
**Summary of Water Accounts, Meters, and Units**

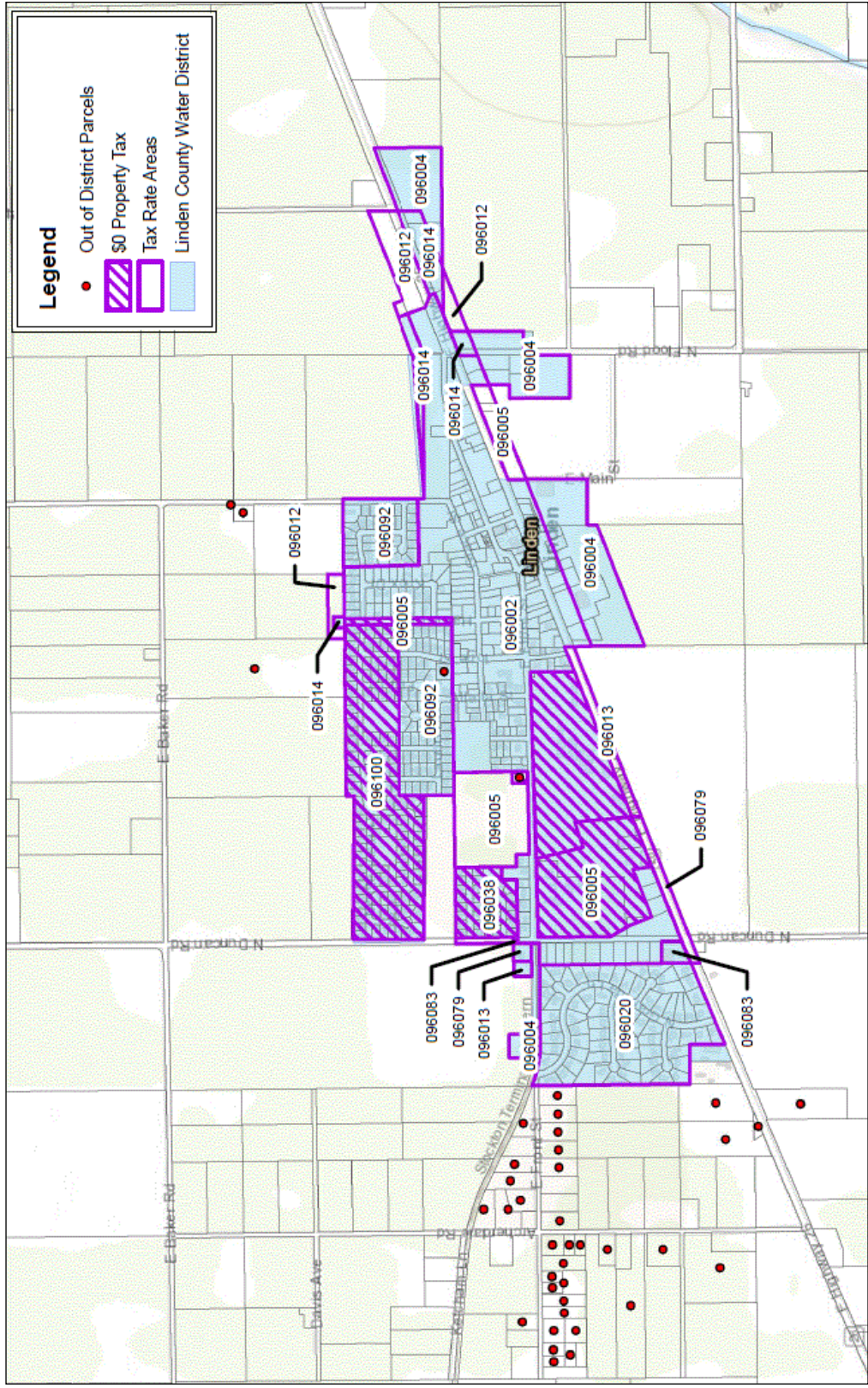
Customer Type	Number of			Meters	Units
	In Tax Accounts	Out Tax Accounts	Total Accounts		
<b>Residential In District</b>					
3/4" Meter	354	160	<b>514</b>	514	514
1" Meter	1	0	<b>1</b>	1	1
3/4" Meter - Dual	4	0	<b>4</b>	4	8
1" Meter - Dual	1	0	<b>1</b>	1	2
<b>Residential Out of District</b>					
3/4" Meter	1	35	<b>36</b>	36	36
1" Meter	0	2	<b>2</b>	2	2
Dual (no meter size)	0	2	<b>2</b>	2	4
<b>TOTAL RESIDENTIAL</b>	<b>361</b>	<b>199</b>	<b>560</b>	<b>560</b>	<b>567</b>
<b>Commercial</b>					
3/4" Meter	21	4	<b>25</b>	25	
3/4" Meter (shared)	2	0	<b>2</b>	1	
1" Meter	8	0	<b>8</b>	8	
1" Meter (shared)	2	0	<b>2</b>	1	
1.5" Meter	2	0	<b>2</b>	2	
2" Meter	4	0	<b>4</b>	4	
3" Meter	1	0	<b>1</b>	1	
<b>TOTAL COMMERCIAL</b>	<b>40</b>	<b>4</b>	<b>44</b>	<b>42</b>	
<b>Schools</b>	<b>0</b>	<b>1</b>	<b>1</b>	<b>5</b>	
<b>Flat-Rate Non-Residential</b>					
Commercial 1"	1	0	<b>1</b>		
Commercial 2"	1	0	<b>1</b>		
Fire Protection 6"	0	1	<b>1</b>		
Fire Protection 8"	0	1	<b>1</b>		
<b>TOTAL</b>	<b>403</b>	<b>206</b>	<b>609</b>	<b>607</b>	

Source: Linden CWD billing records for 2017 through 2019.

a change in allocation, the law directs that the County Board of Supervisors will make decisions on this matter on behalf of the special district. When an area is annexed into LCWD that has not previously been provided service (for water or wastewater), the County does not provide for transfer of any property taxes. As a result, some properties that are served by LCWD do not contribute any property tax revenue to LCWD.

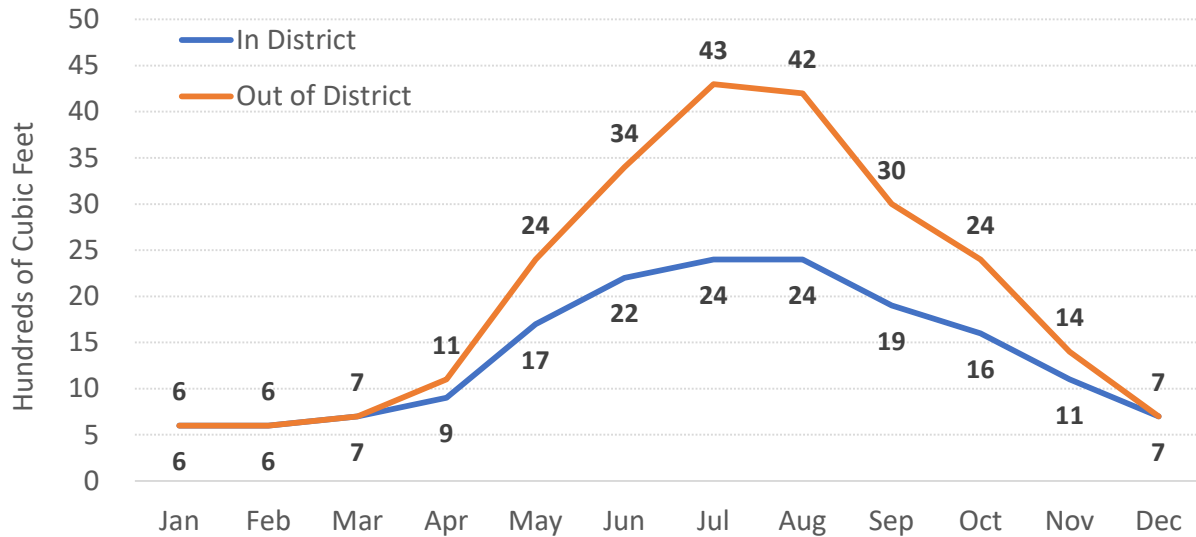
<sup>4</sup> The map is based on data shown in **Appendix A Table A-2** which show the portion of property taxes allocated to LCWD by Tax Rate Area.

**Map 1**  
**In Tax Area and Out of Tax Area Properties Map**



Like most communities in the western U.S., Linden experiences greater water demand in the summer than the winter due to outside applications of water. **Figure 4** illustrates the annual consumption patterns of In District and Out of District water customers. Both customer groups use the same amount of water during the wintertime (no outdoor watering) but their summertime use differs because Out of District water customers typically water larger landscapes.

**Figure 4**  
**In District and Out of District Residential Water Use Patterns**



Combined, residential uses four times as much water during the peak months (July and August) than the off-peak months (January and February). Commercial accounts use twice as much water during these periods, and the LUSD uses almost twelve times the amount. The median water use per off-peak month for each customer class, which is used to determine the base monthly water allowance by customer class, is shown in **Table 3** on the next page



**Table 3**  
**Median Wintertime Use per Unit / Account**

Customer	Annual	Peak (Jul/Aug)	Peak to Off- Peak Ratio	Off-Peak (Jan/Feb)
	<i>per month</i>			<i>per month</i>
	<i>per unit</i>	<i>per unit</i>		<i>per unit</i>
<b>Residential</b>	<b>12</b>	<b>25</b>	<b>4.1</b>	<b>6</b>
	<i>per account</i>			<i>per account</i>
<b>Commercial</b>	<b>5</b>	<b>6</b>	<b>2.0</b>	<b>3</b>
	<i>per account</i>			<i>per account</i>
<b>Schools</b>	<b>1,526</b>	<b>4,405</b>	<b>11.6</b>	<b>381</b>

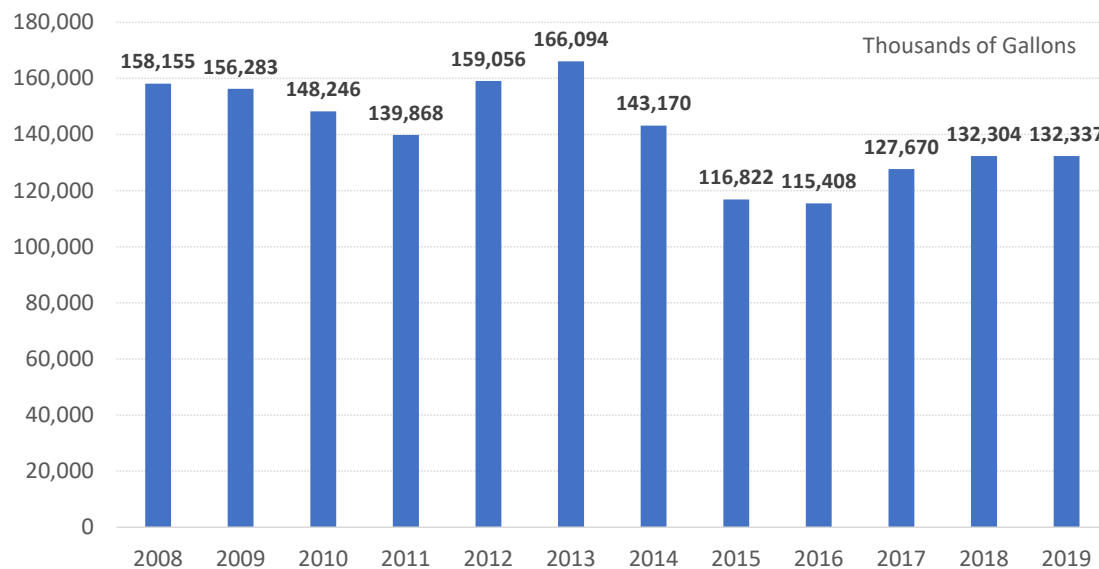
Source: LCWD metered water use data.

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### Historical Water Production and Consumption

The District’s water supply is entirely drawn from groundwater wells. There are two active wells that supply all water customers. Water production from the District’s wells fluctuates from year to year depending on several factors including, but not limited to, growth, the weather, sustained drought, plumbing retrofits, and pricing of water. Historical water production by year and month is shown in **Appendix Table A-3**. On average, approximately 58% of annual water production is for year-round water consumption, and approximately 42% of annual water production is additional water for increased demand during the summer months. System-wide annual water production by month is shown below in **Figure 5**. The effects of mandatory water conservation can be seen in 2015 and 2016. Water production has since rebounded, but not to pre-2015 levels.

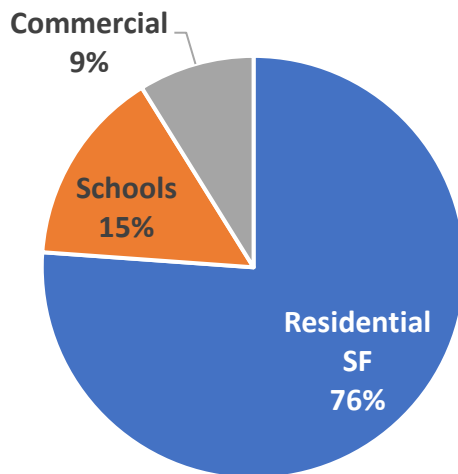
**Figure 5**  
**Historical Well Production**



Historical water sales from 2014 through 2019 are shown in **Appendix Table A-4**. On average, 88% of water produced is consumed and 12% is either lost or not billed in the system (including water used by flat-rate customers). This percentage is within industry-standard acceptability for water systems.

**Appendix Table A-5** shows the total water sold by customer category per year between 2017 and 2019. Water consumed by flat-rate customers is not included; however, it is very minor. The District only has four flat-rate water accounts. Water use by customer category is illustrated in **Figure 6**. Residential customers use 75% of water, schools 15%, and commercial customers 9% of annual consumption.

**Figure 6**  
**Average Annual Use by Customer Category (2017-2019)**



## 2.2 THE WATER FUND

The District's water fund accounts for the revenues and expenses associated with provision of water service. **Appendix Table A-6** shows historical revenues and expenses for the water fund fiscal years 2014 through 2020. Net revenues have been positive since water rates were adjusted in November 2015.

### Revenues

Water system operations are funded through water fees (rates), property tax, and interest income. Water fees comprise 87% of the water fund's revenues. The current water rate schedule that generates water fee revenues is provided in **Table 4** on the next page. Under the current rates schedule, all customers pay a service charge by meter size, and a use charge according to the quantity of water used above their base allowance monthly. Water use is measured in hundreds of cubic feet (HCF).

Currently, customer groups pay use charges in four tiers. The tiers are different for In District and Out of District customers, and the LUSD. The price of water by tier is also different for In District and Out of District customers, and the LUSD.

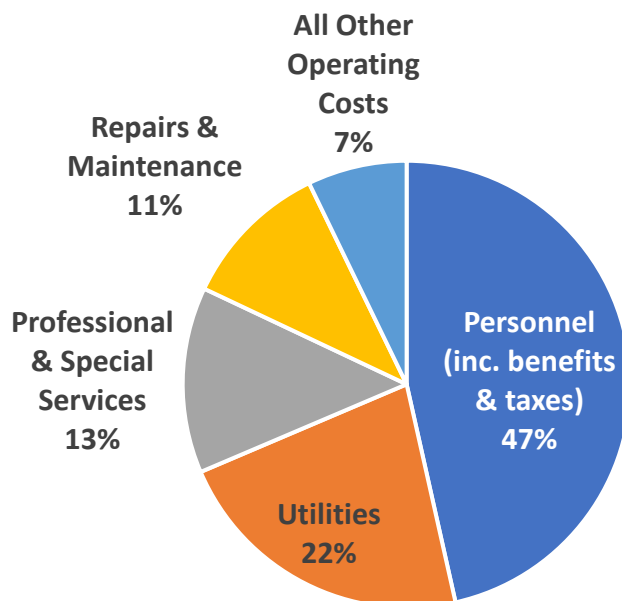
**Table 4**  
**Current Water Rates Schedule**

Customer	Monthly Service Charge	CONSUMPTION CHARGES			
		Tier 1	Tier 2	Tier 3	Tier 4
<b>IN DISTRICT</b>		units	units	units	units
<b>Residential</b>		11-15	16-50	51-80	81+
3/4" Meter	\$33.06	\$0.87	\$1.74	\$2.17	\$2.61
1" Meter	\$49.64	\$0.87	\$1.74	\$2.17	\$2.61
		21-30	31-100	101-160	161+
3/4" Meter - Dual	\$66.12	\$0.87	\$1.74	\$2.17	\$2.61
1" Meter - Dual	\$99.28	\$0.87	\$1.74	\$2.17	\$2.61
<b>Non-Residential</b>					
3/4" Meter	\$33.06	\$0.87	\$1.74	\$2.17	\$2.61
1" Meter	\$49.64	\$0.87	\$1.74	\$2.17	\$2.61
1.5" Meter	\$64.31	\$0.87	\$1.74	\$2.17	\$2.61
2" Meter	\$77.87	\$0.87	\$1.74	\$2.17	\$2.61
3" Meter	\$102.41	\$0.87	\$1.74	\$2.17	\$2.61
<b>Flat-Rate Non-Residential</b>					
Commercial 1	\$39.00	--	Shared 3/4"	\$16.53	--
Commercial 2	\$51.91	--	Shared 1"	\$24.82	--
Commercial 8	\$200.74	--			
Fire Protection 6	\$65.05	--			
		359-535	536+		
Linden Unified School District	\$1,817.40	\$0.97	\$2.61	\$0.00	\$0.00
<b>OUT OF DISTRICT</b>					
<b>Residential</b>		15-20	21-50	51-80	81+
3/4" Meter	\$55.79	\$1.05	\$1.92	\$2.35	\$2.78
1" Meter	\$78.52	\$1.05	\$1.92	\$2.35	\$2.78
		29-40	41-100	101-160	161+
Dual (no meter size)	\$55.79	\$1.05	\$1.92	\$2.35	\$2.78

## Expenses

Annual operating costs include all water system operating expenses and capital outlay. Expenditures were grouped into categories such as personnel, utilities, supplies, and so forth. As is typical of utility funds, personnel costs make up the largest single cost category at 47% of total costs. Personnel costs are followed by utilities (22%), professional and special services (13%), and repairs and maintenance (11%). Percentage share of historical expenses by expense category is shown in **Figure 7**.

**Figure 7**  
**Historical Water Fund Expenditures**



## 2.3 CAPITAL IMPROVEMENT PROJECTS

The District's consulting engineer has identified \$3.02 million in capital improvement costs in today's dollars for needed water system improvements over the next five-and-a-half-year period. Total project costs and estimated schedule are shown in **Appendix A Tables A-7 and A-8**.

**Table 5** on the next page provides a schedule of the improvements that are anticipated to be completed, and their associated costs in inflated dollars. The rate study inflates the cost estimates by 3.2% each year per the 30-year historical average increase in the Engineering News Record (ENR) Construction Cost Index (CCI) rounded up. Within the next five and a half years, it is anticipated that the District will spend \$3.11 million, the majority of which is for a tank project.

All of the groundwater system improvements benefit existing customers therefore, existing customers will pay for all of the identified improvements.

**Table 5**  
**Summary of CIP Costs in Inflated Dollars**

Infrastructure Items Annual Inflation 3.2%	Estimated Total Costs	Fiscal Year Ending					
		2021	2022	2023	2024	2025	2026
<i>Inflated Dollars</i>							
<b>Distribution</b>							
New 8" Line Front St and Mill	\$346,500	\$346,500	\$0	\$0	\$0	\$0	\$0
New 8" Line lone	\$248,191	\$0	\$0	\$0	\$0	\$0	\$248,191
<b>Total Distribution</b>	<b>\$594,691</b>	<b>\$346,500</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$248,191</b>
<b>Services</b>							
Replace Dry Barrel Hydrants (two)	\$30,020	\$0	\$0	\$30,020	\$0	\$0	\$0
New 4" Water Lateral w/services Front St.	\$72,919	\$0	\$0	\$0	\$72,919	\$0	\$0
<b>Total Services</b>	<b>\$102,939</b>	<b>\$0</b>	<b>\$0</b>	<b>\$30,020</b>	<b>\$72,919</b>	<b>\$0</b>	<b>\$0</b>
<b>2021 Tank Project</b>							
Phase 1 - Piping	\$806,065	\$806,065	\$0	\$0	\$0	\$0	\$0
Phase 2 - Booster Pump Station	\$1,173,900	\$0	\$1,173,900	\$0	\$0	\$0	\$0
Phase 2 - Tank	\$436,020	\$0	\$436,020	\$0	\$0	\$0	\$0
<b>Subtotal 2021 Tank Project</b>	<b>\$2,415,985</b>	<b>\$806,065</b>	<b>\$1,609,920</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>
<b>Total Water Improvements</b>	<b>\$3,113,615</b>	<b>\$1,152,565</b>	<b>\$1,609,920</b>	<b>\$30,020</b>	<b>\$72,919</b>	<b>\$0</b>	<b>\$248,191</b>
<b>F&amp;M Bank Loan (Debt)</b>	<b>\$2,400,000</b>	<b>\$806,065</b>	<b>\$1,593,935</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>
<b>Cash</b>	<b>\$713,615</b>	<b>\$346,500</b>	<b>\$15,985</b>	<b>\$30,020</b>	<b>\$72,919</b>	<b>\$0</b>	<b>\$248,191</b>

Source: Linden County Water District and HEC September 2020.

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The \$3.11 million total costs will be financed with a loan from a local bank of \$2.40 million, with remaining costs funded with cash as it is available.

## Section 3: COST OF SERVICE AND WATER FEE CALCULATIONS

### 3.1 REVENUE REQUIREMENT

The revenue requirement refers to the amount of money that must be raised for revenue sufficiency of the water fund through rates. The projection of the revenue requirement is the cornerstone for the calculation of rates. This section explains the derivation of revenue requirement for this study. Components of the revenue requirement include:

- Operating Expenses and Reserves
- System Rehabilitation
- Capital Improvements
- Debt Service

Non-water sales revenue projections are credited against projected operations costs. Non-water sales include property tax, interest income, and (new for the water fund) meter fees.

#### Operating Expenses and Reserves

Budgeted fiscal year 2021 expenses shown in **Appendix Table A-9** are the basis for projecting future year expenditures. For future year projections, personnel costs are increased 6.5% each year, insurance is increased 7.5% each year, maintenance and repairs costs are increased 5.0% per year, and all other operating costs are increased 2.5% each year. These cost increases were based on historical cost increases and HEC experience.

Historical cost increases by type of expense, and comparison with inflation price indices is shown in **Appendix Table A-10**. Overall, operating expenses have increased at an average rate of 1.7% per year, which is low. It is very typical for water utility annual costs, and therefore water rates, to outstrip inflation. In May 2019, the American Water Works Association released an article, "Rate survey: water cost increases outpacing other U.S. goods and services" in which it documented that between 2016 and 2018 water rates increased 7.2% and wastewater rates 7.5% while the national consumer price index increased 4.6%.

#### System Rehabilitation

Depreciation is used as the basis for which to collect rates to cover system rehabilitation costs. Inclusion of system rehabilitation costs demonstrates fiscal responsibility toward the assets to potential future investors and helps to establish good credit<sup>5</sup>. Depreciation is calculated based on existing water facilities and new facilities built in the Study period.

The water rates include 100% depreciation of the water system major infrastructure as recorded in the District's audits and 25% of depreciation on new improvements. System rehabilitation cost

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<sup>5</sup> Per Governmental Accounting Standards Board (GASB) 34, local governments must report on the value of their infrastructure assets and plan for asset maintenance (including collecting sufficient revenue) to obtain good credit when issuing bonds or procuring other forms of financing for long-term construction projects.

estimates are provided in **Appendix A Tables A-11** through **A-14**. Depreciation included in the rates increases from \$52,000 per year to about \$61,000 per year.

### Capital Improvements

Water system capital costs in any one year are dependent on the state of the current infrastructure to serve existing customers. Capital improvement needs and costs were discussed in Section 2.

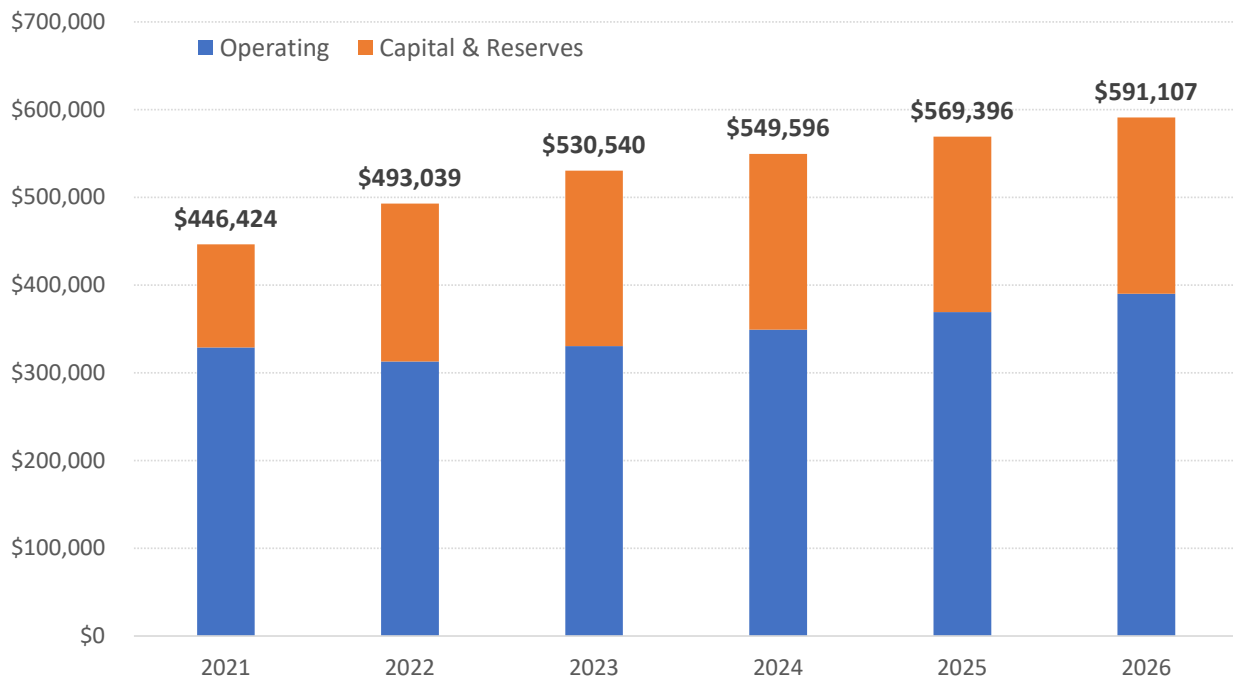
### Debt Service

The District has secured a loan from a local bank for \$2.4 million. The loan will be used for the tank project and associated facilities and appurtenances. A monthly cash flow analysis of drawdowns and interest payments through December 2021 is provided in **Appendix Table A-15**. Interest-only payments will be required through the end of the drawdown period. Monthly principal and interest payments will begin January 2022 and continue for thirty years, ending January 2051. The loan carries a 4.1% interest rate.

### Calculated Revenue Requirement

Over the next five fiscal years, the revenue requirement is projected to continue to increase to account for inflation, to fund capital expenditures, and to account for new debt. Total revenue requirement is projected to increase from \$446,400 in fiscal year 2021 to \$591,100 in fiscal year 2026. Components of revenue requirement and projected water sales revenues are illustrated in **Figure 6** below.

**Figure 6**  
**Projected Revenue Requirement**



**Table 6** provides the projection of annual costs and credits and the resulting revenue requirement through fiscal year ending 2026. One of the credits in the revenue requirement is revenue generated by the meter replacement fee. The cost to replace meters by size of meter was used to determine appropriate monthly collection of fees to support routine meter replacements in **Appendix Table A-16**.

**Table 6**  
**Projected Revenue Requirement**

Expenses	Annual Inflator	2021 Estimate	Fiscal Year Ending				
			2022	2023	2024	2025	2026
<b>Estimated Operating Expenses</b>							
Personnel	6.5%	\$152,680	\$162,604	\$173,173	\$184,430	\$196,418	\$209,185
Professional Services	2.5%	\$27,350	\$28,034	\$28,735	\$29,453	\$30,189	\$30,944
Utilities	2.5%	\$60,000	\$61,500	\$63,038	\$64,613	\$66,229	\$67,884
Dues/Subscriptions/Other	2.5%	\$26,600	\$27,265	\$27,947	\$28,645	\$29,361	\$30,095
Office Expenses	2.5%	\$5,500	\$5,638	\$5,778	\$5,923	\$6,071	\$6,223
Supplies	2.5%	\$8,700	\$8,918	\$9,140	\$9,369	\$9,603	\$9,843
Maintenance & Repairs	5.0%	\$82,900	\$87,045	\$91,397	\$95,967	\$100,765	\$105,804
Insurance	7.5%	\$15,039	\$16,167	\$17,379	\$18,683	\$20,084	\$21,590
Miscellaneous Other	2.5%	\$2,300	\$2,358	\$2,416	\$2,477	\$2,539	\$2,602
F & M Loan Fees		\$12,550	\$150	\$0	\$0	\$0	\$0
<b>Total Estimated Operating Expenses</b>		<b>\$393,619</b>	<b>\$399,677</b>	<b>\$419,004</b>	<b>\$439,560</b>	<b>\$461,260</b>	<b>\$484,171</b>
Depreciation		\$52,000	\$59,600	\$59,800	\$60,100	\$60,100	\$60,800
Meter Replacement Program		\$0	\$0	\$0	\$0	\$0	\$0
Cash-Funded CIP / Op. Reserves		\$30,996	\$0	\$0	\$0	\$0	\$0
Debt Service (F&M Payments)		\$34,409	\$120,361	\$140,136	\$140,136	\$140,136	\$140,136
<b>Total Costs</b>		<b>\$511,024</b>	<b>\$579,639</b>	<b>\$618,940</b>	<b>\$639,796</b>	<b>\$661,496</b>	<b>\$685,107</b>
<b>Credits</b>							
Property Tax	2.0%	\$49,600	\$50,600	\$51,700	\$52,800	\$53,900	\$55,000
Interest Income	constant	\$15,000	\$15,000	\$15,000	\$15,000	\$15,000	\$15,000
Meter Fee (new)	3.2%		\$21,000	\$21,700	\$22,400	\$23,200	\$24,000
<b>Total Credits</b>		<b>\$64,600</b>	<b>\$86,600</b>	<b>\$88,400</b>	<b>\$90,200</b>	<b>\$92,100</b>	<b>\$94,000</b>
<b>Revenue Requirement</b>		<b>\$446,424</b>	<b>\$493,039</b>	<b>\$530,540</b>	<b>\$549,596</b>	<b>\$569,396</b>	<b>\$591,107</b>
Annual Increase			\$46,276	\$37,501	\$19,056	\$19,800	\$21,712
Percentage Increase			10.4%	7.6%	3.6%	3.6%	3.8%

Source: Linden CWD July 2020 and HEC September 2020.

rev req

### 3.2 COST CLASSIFICATION AND ALLOCATION

After determining a utility's revenue requirements, a utility's next step is determining the cost of service. Utilizing a public agency's approved budget, financial reports, operating data, and capital improvement plans, the rate study categorizes (functionalizes) the costs, expenses, and assets of the water system among major operating functions to determine the cost of service. Functional cost allocation is provided in **Appendix A Tables A-17**.



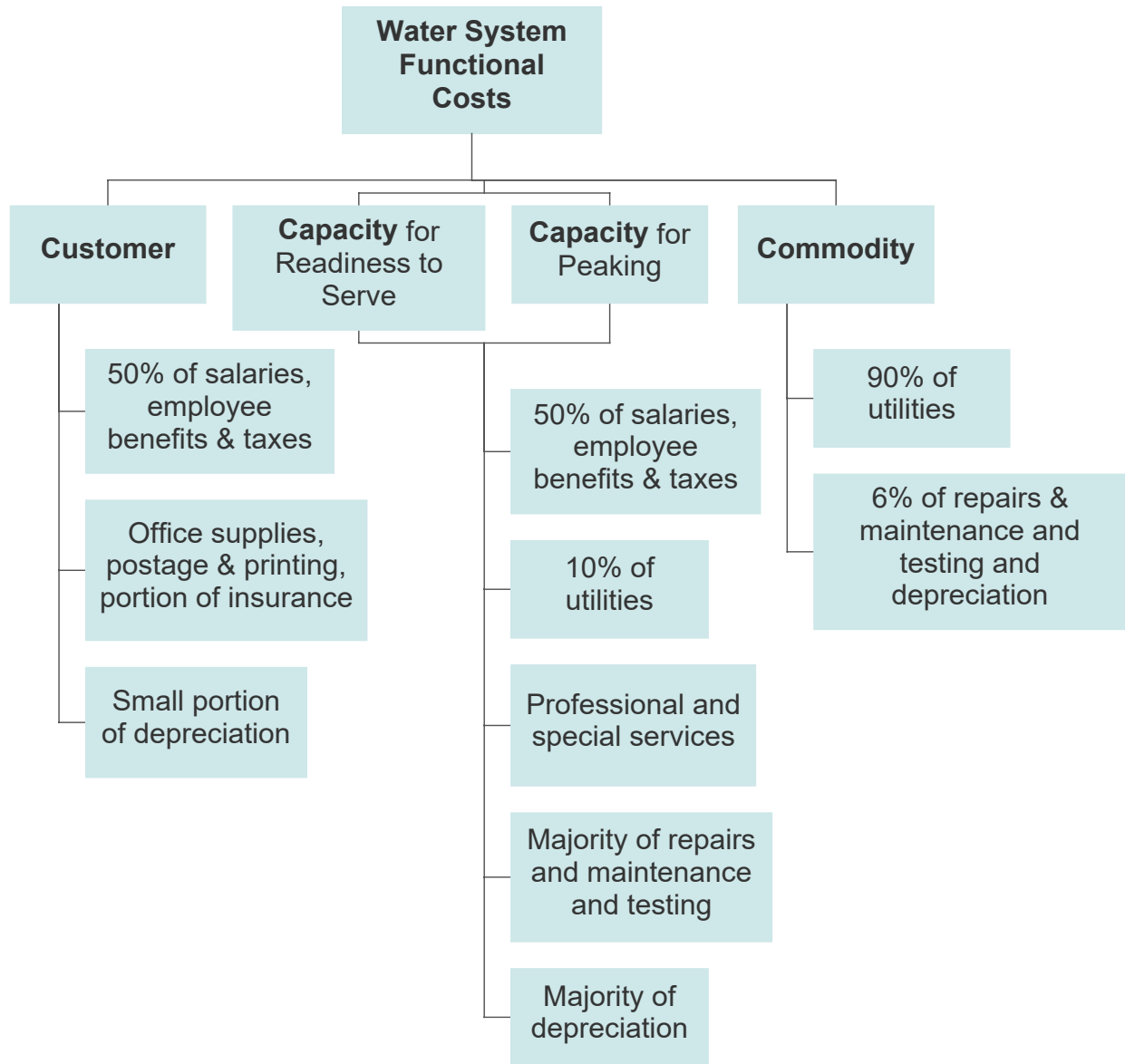
Fiscal year 2019 water fund expenditures were allocated to the different functions of water service based on one of five methodologies. These methodologies include:

1. **Plant in Service.** Plant in service allocation is shown in **Table A-18**. Plant in service costs include the original cost of current water system assets. Total cost is allocated to customer, capacity, and commodity costs.
2. **Ratio of Average to Peak Month.** The calculation of peak to average month flows is shown in **Table A-3**. Expenses are allocated 58% to customer and 42% to use functions using this methodology.
3. **Utilities.** Utilities costs (electricity) are allocated 90% to use and 10% to capacity because they are directly affected by the amount of water delivered.
4. **Customers.** Costs such as office supplies, telephones, and water membership/dues are allocated 100% to customer costs. These costs are not affected by the amount of water delivered.
5. **Average of Classified Costs.** Some expenses are allocated to multiple functions of water service because they do not directly relate to capacity of the water system, or quantity of water deliveries. These expenses are allocated among the customer, capacity, and commodity functions based on the combined percentage allocation of all other classified costs. For LCWD, the only expenditure allocated in this way was insurance.

**Figure 9** on the next page illustrates how the functional cost allocation is conducted.

The cost classification provides a *guideline* for the City in determining the portion of revenue requirement to collect through service charges versus usage charges. There is no set formula for determining exactly how much to collect in the service charge versus the use charge.

**Figure 9**  
**Functional Allocation Diagram**



Fixed costs generally consist of costs that a utility incurs to serve customers irrespective of the amount or rate of water they use.<sup>6</sup> These typically include (1) customer-related costs such as administrative and billing costs associated with meter reading, postage, and billing, and (2) the infrastructure (capacity-related facilities) required to provide service to customers, otherwise called the “readiness-to-serve” charge. Variable costs are those that change in total as the volume of water consumption changes, as measured in a specific time period. These commonly include the costs of chemicals used in the treatment process, and energy related to pumping for transmission and distribution.

- **Fixed Costs.** Included in this category are costs associated with customer-driven costs and the water system’s readiness to serve, which includes a portion of the water system’s capacity costs for typical non-peaking water use. In addition, this category includes costs associated with the water system’s capacity, including some fixed water system O&M and repair and replacement costs.

Customer costs are allocated to customers based on the number of water accounts. Readiness-to-serve costs are allocated to customers based on the number equivalent meter units, determined by the relative hydraulic capacity of the meter size relative to a three-quarter-inch meter. **Table A-19** shows the calculation of equivalent meter units.

- **Variable Costs.** These costs vary with the quantity of water consumed. They include the peaking portion of capacity costs and use (commodity) costs. Commodity costs are expenses that increase or decrease almost directly with the amount of water supplied. Operations and maintenance variable costs primarily include well pumping electricity costs, but also a portion of administrative costs, debt service and other costs as determined in the functional allocation. Variable costs are recovered through use charges applied per HCF, and any applicable surcharges per HCF.

For LCWD, customer and readiness-to-serve capacity costs are about 63% of the functional allocation, 37% peaking capacity and commodity costs of the functional allocation<sup>7</sup>. **Table 7** on the next page shows allocation of the revenue requirement between customer and readiness-to-serve fixed charges and the capacity peaking and commodity use charges. Note that the revenue requirement in this table excludes property tax credit and the estimated revenue to be collected from the flat-rate customer accounts; the reasoning for which is explained in the next few steps of the fee calculations.

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<sup>6</sup> M1 Manual, pp. 137-138.

<sup>7</sup> This matches current District collections. Recent 12-month data from the District shows that 63% of charges are collected in fixed monthly (or base) fees and 37% in use fees. See **Table A-20** in **Appendix A**.

**Table 7**  
**Cost Allocation of Estimated Water Sales**

Costs	Fiscal Year					
	2021	2022	2023	2024	2025	2026
Revenue Requirement w/o Property Tax	\$496,024	\$543,639	\$582,240	\$602,396	\$623,296	\$646,107
Less Approx. Flat Rate Charges	\$4,200	\$4,635	\$4,988	\$5,167	\$5,353	\$5,557
<b>Metered Water Charges</b>	<b>\$491,824</b>	<b>\$539,004</b>	<b>\$577,253</b>	<b>\$597,229</b>	<b>\$617,943</b>	<b>\$640,550</b>
<b>FIXED CHARGES</b>						
Customer	26%	26%	26%	26%	26%	26%
<b>Customer Fixed Charges Share</b>	<b>\$127,874</b>	<b>\$140,141</b>	<b>\$150,086</b>	<b>\$155,280</b>	<b>\$160,665</b>	<b>\$166,543</b>
Readiness-to-Serve	37%	37%	37%	37%	37%	37%
<b>Readiness-to-Serve Fixed Charges Share</b>	<b>\$181,975</b>	<b>\$199,431</b>	<b>\$213,583</b>	<b>\$220,975</b>	<b>\$228,639</b>	<b>\$237,004</b>
<b>TOTAL Fixed Charges</b>	<b>\$309,849</b>	<b>\$339,572</b>	<b>\$363,669</b>	<b>\$376,255</b>	<b>\$389,304</b>	<b>\$403,547</b>
<b>USE CHARGES</b>						
Capacity Peaking	20%	20%	20%	20%	20%	20%
<b>Capacity Peaking Use Share</b>	<b>\$98,365</b>	<b>\$107,801</b>	<b>\$115,451</b>	<b>\$119,446</b>	<b>\$123,589</b>	<b>\$128,110</b>
Commodity	17%	17%	17%	17%	17%	17%
<b>Commodity Use Share</b>	<b>\$83,610</b>	<b>\$91,631</b>	<b>\$98,133</b>	<b>\$101,529</b>	<b>\$105,050</b>	<b>\$108,894</b>
<b>TOTAL Use Charges</b>	<b>\$181,975</b>	<b>\$199,431</b>	<b>\$213,583</b>	<b>\$220,975</b>	<b>\$228,639</b>	<b>\$237,004</b>

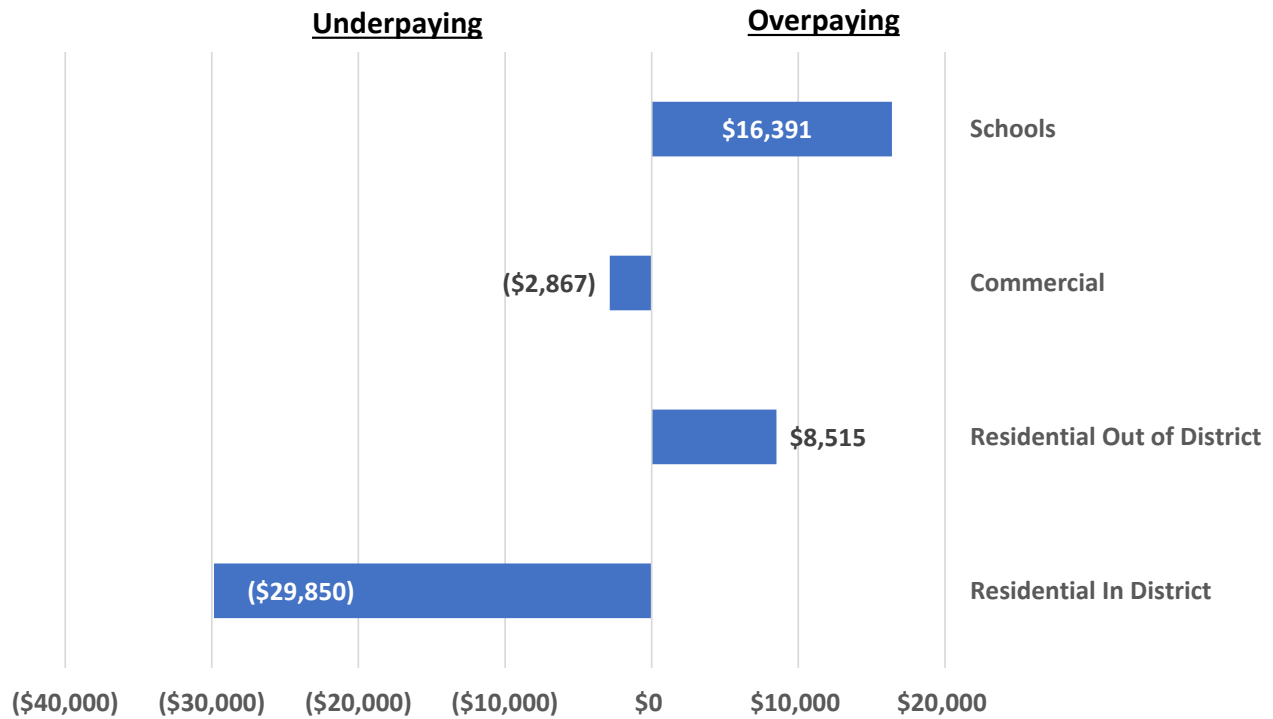
Source: HEC October 2020.

cost alloc

### 3.3 COST OF SERVICE RESULTS

The cost of service results are shown in **Figure 10** on the following page. The cost of service analysis was performed on the District's current customer classifications and does not account for any credits to customer-related charges for In Tax Area customers. The analysis shows that under the current rate structure residential In District customers are underpaying, residential Out of District customers are overpaying, LUSD is overpaying and the commercial customers are paying very close to cost of service.

**Figure 10**  
**Cost of Service Results**



### 3.4 FEE CALCULATIONS

#### Fixed Charges (Metered Customers)

Monthly fixed charges for metered customers include three components:

1. The customer charge.
2. The readiness-to-serve charge.
3. The meter replacement fee, explained earlier in Section 3 of the Study.

The customer charge is calculated for In Tax Area accounts and Out Tax Area accounts in **Table 8**. In Tax Area accounts receive a credit for property tax contribution to LCWD. The readiness-to-serve charge is calculated in the same table. This charge is paid by meter size. Meter size is an indicator of potential capacity or demand requirement that each customer places on the water system. The ratio at which the meter charge increases is a function of the meter’s safe operating capacity as established by the American Water Works Association. These meter ratios are used because a significant portion of a water system’s design, and, in turn, the utility’s operating and capital costs are related to meeting capacity needs. For example, a three-quarter-inch meter has a maximum flow rate of 25 gpm and a 1.5” meter has a maximum flow rate of 50 gpm. The flow rate of a 1.5” meter is twice that of a three-quarter-inch meter therefore the ratio for a 1.5” meter is 2.0.

**Table 8**  
**Fixed Charges (Metered Customers) Calculation**

Item	Fiscal Year						
	2021	2022	2023	2024	2025	2026	
<b>CUSTOMER CHARGE</b>							
Allocated Costs	\$127,874	\$140,141	\$150,086	\$155,280	\$160,665	\$166,543	
Property Tax Credit for In Tax Area	\$49,600	\$50,600	\$51,700	\$52,800	\$53,900	\$55,000	
<b>Number of Accounts</b>	<b>609</b>	<b>609</b>	<b>609</b>	<b>609</b>	<b>609</b>	<b>609</b>	
In Tax Area	403	403	403	403	403	403	
Out Tax Area	206	206	206	206	206	206	
<b>Cost per Account per Month</b>							
In Tax Area	<b>\$7.24</b>	<b>\$8.72</b>	<b>\$9.85</b>	<b>\$10.33</b>	<b>\$10.83</b>	<b>\$11.42</b>	
Out Tax Area	<b>\$17.50</b>	<b>\$19.18</b>	<b>\$20.54</b>	<b>\$21.25</b>	<b>\$21.98</b>	<b>\$22.79</b>	
<b>READINESS-TO-SERVE CHARGE</b>							
Allocated Costs	\$181,975	\$199,431	\$213,583	\$220,975	\$228,639	\$237,004	
Est. Billable Meter Equivalents	730	730	730	730	730	730	
<b>Meter Size</b>	<b>Meter Ratio</b>	per month			per month		
3/4"	1.00	<b>\$20.78</b>	<b>\$22.78</b>	<b>\$24.40</b>	<b>\$25.24</b>	<b>\$26.11</b>	<b>\$27.07</b>
1"	1.60	\$33.25	\$36.45	\$39.04	\$40.38	\$41.78	\$43.31
1.5"	2.00	\$41.56	\$45.56	\$48.80	\$50.48	\$52.22	\$54.14
2"	6.40	\$132.99	\$145.79	\$156.16	\$161.54	\$167.10	\$173.25
3"	14.00	\$290.92	\$318.92	\$341.60	\$353.36	\$365.54	\$378.98
4"	24.00	\$498.72	\$546.72	\$585.60	\$605.76	\$626.64	\$649.68
6"	50.00	\$1,039.00	\$1,139.00	\$1,220.00	\$1,262.00	\$1,305.50	\$1,353.50
8"	112.00	\$2,327.36	\$2,551.36	\$2,732.80	\$2,826.88	\$2,924.32	\$3,031.84

Source: AWWA Manual M6 Water Meters - Fifth Edition, November 2018, Linden CWD, and HEC.

charge

The meter replacement fee is increased 3.2% per year to account for inflation. The fee schedule is shown in **Table 9** on the next page. The meter replacement fee would not be charged until July 1, 2021 (\$2.55 per month for a three-quarter inch meter).

**Table 9  
Meter Replacement Fee**

Meter Size	Fiscal Year					
	2021	2022	2023	2024	2025	2026
<i>Annual Escalator 3.2%</i>						
3/4"	\$2.47	\$2.55	\$2.63	\$2.71	\$2.80	\$2.89
1"	\$3.08	\$3.18	\$3.28	\$3.38	\$3.49	\$3.60
1.5"	\$7.27	\$7.50	\$7.74	\$7.99	\$8.25	\$8.51
2"	\$13.89	\$14.33	\$14.79	\$15.26	\$15.75	\$16.25
3"	\$17.33	\$17.88	\$18.45	\$19.04	\$19.65	\$20.28
4"	\$41.02	\$42.33	\$43.68	\$45.08	\$46.52	\$48.01
6"	\$70.88	\$73.15	\$75.49	\$77.91	\$80.40	\$82.97
8"	\$115.57	\$119.27	\$123.09	\$127.03	\$131.09	\$135.28

**Fixed Charges (Fire Suppression and Other Flat-Rate Customers)**

**Fire Suppression.** The calculation of monthly fire services charges is shown in Appendix **Table A-21**. The District imposes a fixed monthly private fire protection charge on certain properties as a condition of service to private fire suppression facilities. The rates for the monthly fire protection charges are based on the size of the meter to the property.

**Other Flat-Rate Customers.** Flat-rate customers pay the monthly customer charge and meter fees, and an estimated use fee combined. The estimated use fee is based on use of 3 HCF per month.

**Use Charges**

The calculation of use charges is based on allocated cost and projected water demand for each customer category. Total projected metered water demand by customer category in **Appendix Table A-22**. The projection of water demand is based on average water use for the period 2017-2019, additionally, the projected water demand accounts for customers’ reactions to price increases. The relationship between increased prices and decreased demand is referred to as price elasticity. Price elasticity varies by geography due to many micro-economic variables. HEC applied industry estimates to establish assumed price elasticity factors for the study. Price elasticity analysis is shown in **Tables A-23** and **A-24**.

Costs are allocated to customer categories based on demand for the use (commodity) cost share and peak day water use for the peaking cost share. Cost allocation of use charges to customer groups is shown in **Appendix Table A-25**. Maximum day water use by customer category is calculated in **Appendix Table A-26**. Determination of amount of water that falls within the base allowances is calculated in **Appendix Tables A-27** through **A-30**.

The calculated use charges are shown in **Table 10** on the next page.

**Table 10**  
**Calculated Use Charges**

Customer Group	Fiscal Year					
	2021	2022	2023	2024	2025	2026
Allocated Cost	\$181,975	\$199,431	\$213,583	\$220,975	\$228,639	\$237,004
Use > than Allowance (HCF)	110,671	109,818	109,271	109,163	109,053	108,921
<b>Cost per HCF</b>	<b>\$1.64</b>	<b>\$1.82</b>	<b>\$1.95</b>	<b>\$2.02</b>	<b>\$2.10</b>	<b>\$2.18</b>
<b>Cost by Customer Group</b>						
<b>Residential</b>						
Cost	\$137,715	\$150,926	\$161,636	\$167,230	\$173,030	\$179,360
Use > than Allowance (HCF)	80,281	79,600	79,164	79,078	78,990	78,885
<b>Cost per HCF</b>	<b>\$1.72</b>	<b>\$1.90</b>	<b>\$2.04</b>	<b>\$2.11</b>	<b>\$2.19</b>	<b>\$2.27</b>
<b>Commercial</b>						
Cost	\$11,934	\$13,079	\$14,007	\$14,492	\$14,995	\$15,543
Use > than Allowance (HCF)	12,368	12,298	12,253	12,244	12,235	12,224
<b>Cost per HCF</b>	<b>\$0.96</b>	<b>\$1.06</b>	<b>\$1.14</b>	<b>\$1.18</b>	<b>\$1.23</b>	<b>\$1.27</b>
<b>Schools</b>						
Cost	\$32,325	\$35,426	\$37,940	\$39,253	\$40,614	\$42,100
Use > than Allowance (HCF)	18,021	17,919	17,854	17,841	17,828	17,812
<b>Cost per HCF</b>	<b>\$1.79</b>	<b>\$1.98</b>	<b>\$2.13</b>	<b>\$2.20</b>	<b>\$2.28</b>	<b>\$2.36</b>

Source: HEC October 2020.

use calc

Tiered water rates that are currently in place were removed for two reasons: 1) the drought of 2015-2017 proved how effective mandatory watering restrictions and education is on reducing water use, and 2) the tiered rates were intended to fit typical customer usage patterns and promote water efficiency and to proportionately allocate the cost of service to those who place the greatest demands on the system. In 2015, the San Juan Capistrano decision reaffirmed that water rates must be proportional to the costs of service received; however, tiered water rates should be based on higher costs at higher levels of water consumption. As part of the water rate analysis, it was found that LCWD does not experience higher costs at higher levels of water consumption.

Although tiers have been removed from the rate structure, a base allowance has been kept for water “inside the walls”; that is, median monthly water use for a customer class during the wintertime that approximates how much water is necessary for basic sanitary purposes. The District proposes a rate per hundred cubic feet (HCF)<sup>8</sup> that is different for each customer class (residential, schools, and commercial) that is charged for monthly usage above the base allowance for each customer class.

<sup>8</sup> One hundred cubic feet is the equivalent of 748.052 gallons.



In addition, the base allowance has been changed based on median monthly wintertime water use by customer category as shown:

Customer Class / Category	Current Base Allowance	New Base Allowance
<b>Residential In District</b>	10 HCF	6 HCF
---- <b>In District Dual</b>	20 HCF	12 HCF
<b>Residential Out of District</b>	14 HCF	6 HCF
---- <b>Out of District Dual</b>	28 HCF	12 HCF
<b>Commercial</b>	10 HCF	3 HCF
<b>Schools (LUSD)</b>	358 HCF	381 HCF

### Use Surcharges

Although California is no longer officially in a “drought” stage (as declared by the Governor), the District remains in a state of water supply shortage actions because the Eastern San Joaquin Groundwater Subbasin of which Linden is a part, is defined by the State as being in “critical overdraft”. Water supply surcharges are amended to more closely reflect the intent of LCWD Ordinance 14-01<sup>9</sup>.

**Appendix Table A-31** shows the calculation of surcharges that correspond to LCWD Ordinance 14-01. If the District moves to Stage 2 regulations of the ordinance, a Conservation and Sustainability Surcharge of 20% (applied only to the use rate per HCF) will be implemented. If the District moves to Stage 3 regulations of the ordinance, an Emergency Supply Surcharge of 54% (applied only to the use rate per HCF) will be implemented. If the District moves out of Stage 1 regulations (which it is currently in) and into Permanent Conservation<sup>10</sup>, a credit of 13% (applied only to the use rate per HCF) will be implemented. Permanent Conservation provides rate relief to all water customers in the event that the Eastern San Joaquin Groundwater Subbasin is removed from the “critical overdraft” designation.

### New Water Rate Schedule

Total calculated rates include the fixed monthly service charges and variable use charges per HCF, plus any applicable surcharges per HCF. The calculated water rates schedule for the next five fiscal years is provided in **Table 11** on the following page.

A revenue check to verify that the cost allocation and rates model is calculating correctly is provided in **Appendix Table A-32**.

<sup>9</sup> Ordinance 14-01 is provided in **Appendix B** of the Study.

<sup>10</sup> See Section II of Ordinance 14-01.

**Table 11  
Calculated Water Rates Schedule**

Charges	Monthly Allowance	Fiscal Year Ending				
		2022	2023	2024	2025	2026
	Effective	7/1/2021	7/1/2022	7/1/2023	7/1/2024	7/1/2025
<b>METERED RATES</b>						
<b>Service Charge</b>	<b>In Tax</b>	<b>per month</b>				
3/4"	In Tax	\$34.05	\$36.88	\$38.28	\$39.74	\$41.38
1"	In Tax	\$48.35	\$52.17	\$54.09	\$56.10	\$58.33
1.5"	In Tax	\$61.78	\$66.39	\$68.80	\$71.30	\$74.07
2"	In Tax	\$168.84	\$180.80	\$187.13	\$193.68	\$200.92
3"	In Tax	\$345.52	\$369.90	\$382.73	\$396.02	\$410.68
4"	In Tax	\$597.77	\$639.13	\$661.17	\$683.99	\$709.11
6"	In Tax	\$1,220.87	\$1,305.34	\$1,350.24	\$1,396.73	\$1,447.89
8"	In Tax	\$2,679.35	\$2,865.74	\$2,964.24	\$3,066.24	\$3,178.54
<b>Service Charge</b>	<b>Out Tax</b>					
3/4"	Out Tax	\$44.51	\$47.57	\$49.20	\$50.89	\$52.75
1"	Out Tax	\$58.81	\$62.86	\$65.01	\$67.25	\$69.70
1.5"	Out Tax	\$72.24	\$77.08	\$79.72	\$82.45	\$85.44
2"	Out Tax	\$179.30	\$191.49	\$198.05	\$204.83	\$212.29
3"	Out Tax	\$355.98	\$380.59	\$393.65	\$407.17	\$422.05
4"	Out Tax	\$608.23	\$649.82	\$672.09	\$695.14	\$720.48
6"	Out Tax	\$1,231.33	\$1,316.03	\$1,361.16	\$1,407.88	\$1,459.26
8"	Out Tax	\$2,689.81	\$2,876.43	\$2,975.16	\$3,077.39	\$3,189.91
<b>Use Charge</b>	<b>HCF</b>	<b>per HCF greater than base allowance per month</b>				
Residential [1]	6	\$1.90	\$2.04	\$2.11	\$2.19	\$2.27
Commercial	3	\$1.06	\$1.14	\$1.18	\$1.23	\$1.27
Schools	381	\$1.98	\$2.13	\$2.20	\$2.28	\$2.36
<b>Water Conservation, Supply Shortage &amp; Sustainability Program Charges [2]</b>						
Conservation & Sustainability Surcharge			20%		@ Stage 2	
Emergency Supply Surcharge			54%		@ Stage 3	
E. San Joaquin Groundwater Subbasin Relie			-13%		@ Permanent Conservation	
<b>Flat-Rate Customers</b>		<b>FLAT RATES per month</b>				
Commercial 1"		\$48.35	\$52.31	\$54.25	\$56.30	\$58.54
Commercial 2"		\$157.69	\$169.43	\$175.41	\$181.62	\$188.48
Fire Protection 6"		\$95.70	\$102.49	\$106.04	\$109.72	\$113.73
Fire Protection 8"		\$214.37	\$229.58	\$237.52	\$245.77	\$254.75

[1] Residential allowance is per unit. Dual accounts have an allowance of 12 HCF per month.

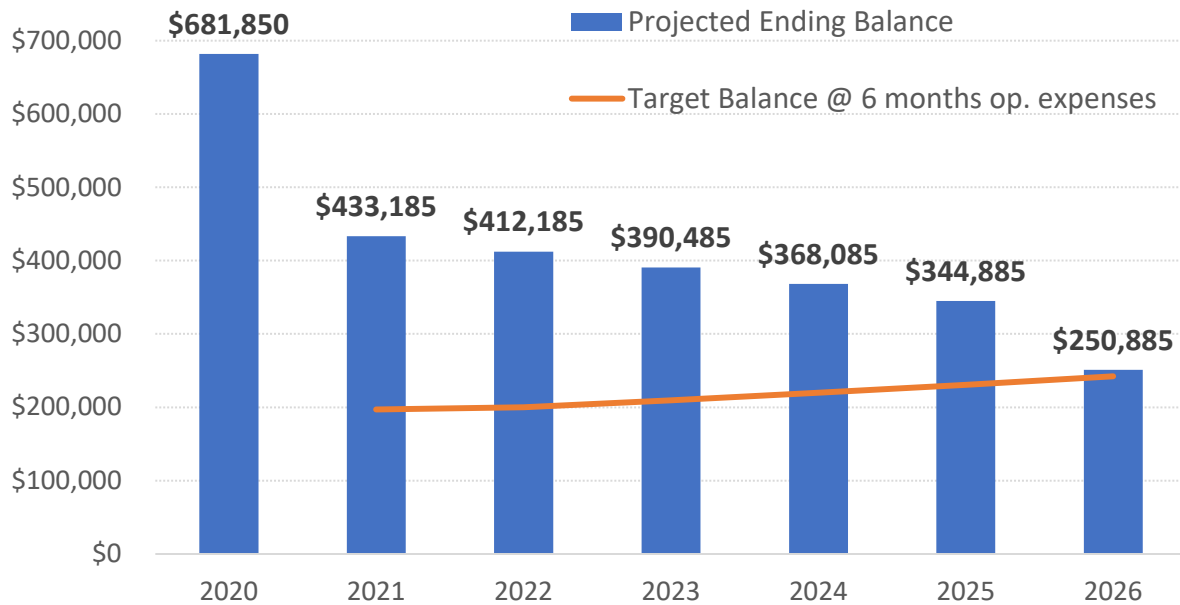
[2] Only applied to consumption.

### 3.5 CASH FLOW AND FUND BALANCE

With adoption of the calculated rates, it is anticipated that the District will be able to meet all water enterprise fund obligations, including new debt service coverage requirements, and achieve a target of about six months of operating expenses in cash reserves. Projected fund balances for the water fund and water portion of the capital outlay reserve fund are provided in **Table 12** on the following page. The water fund cash flow is provided **Appendix Table A-33**.

**Figure 11** shows projected and target water fund cash balances through fiscal year ending 2026.

**Figure 11**  
**Projected Water Fund Cash Balance**



**Table 12**  
**Projected Water Funds Ending Cash Balances**

Revenues and Expenses	Fiscal Year Ending					
	2021	2022	2023	2024	2025	2026
<b>Capital Outlay</b>						
Beginning Balance [1]	\$60,565	\$46,065	\$110,680	\$162,160	\$171,741	\$255,041
CIP Cash from Water Fund	\$280,000	\$0	\$0	\$0	\$0	\$70,000
Depreciation	\$52,000	\$59,600	\$59,800	\$60,100	\$60,100	\$60,800
Meter Fee	\$0	\$21,000	\$21,700	\$22,400	\$23,200	\$24,000
Tank Project	\$0	(\$15,985)	\$0	\$0	\$0	\$0
Distribution Projects	(\$346,500)	\$0	\$0	\$0	\$0	(\$248,191)
Services Projects	\$0	\$0	(\$30,020)	(\$72,919)	\$0	\$0
<b>Est. Ending Cash Balance for Capital</b>	<b>\$46,065</b>	<b>\$110,680</b>	<b>\$162,160</b>	<b>\$171,741</b>	<b>\$255,041</b>	<b>\$161,650</b>
<b>Water Operating Fund</b>						
Beginning Balance	\$681,850	\$433,185	\$412,185	\$390,485	\$368,085	\$344,885
Net Revenues	\$83,335	\$59,600	\$59,800	\$60,100	\$60,100	\$60,800
CIP Cash to Capital Outlay Reserve Fun	(\$280,000)	\$0	\$0	\$0	\$0	(\$70,000)
Transfer Depreciation	(\$52,000)	(\$59,600)	(\$59,800)	(\$60,100)	(\$60,100)	(\$60,800)
Transfer Meter Fee	\$0	(\$21,000)	(\$21,700)	(\$22,400)	(\$23,200)	(\$24,000)
<b>Est. Ending Cash Balance for Operatioi</b>	<b>\$433,185</b>	<b>\$412,185</b>	<b>\$390,485</b>	<b>\$368,085</b>	<b>\$344,885</b>	<b>\$250,885</b>

Source: Linden CWD and HEC, October 2020.

all flows

[1] Portion of balance in Fund 91 allocated to water.

## Section 4: BILL IMPACTS

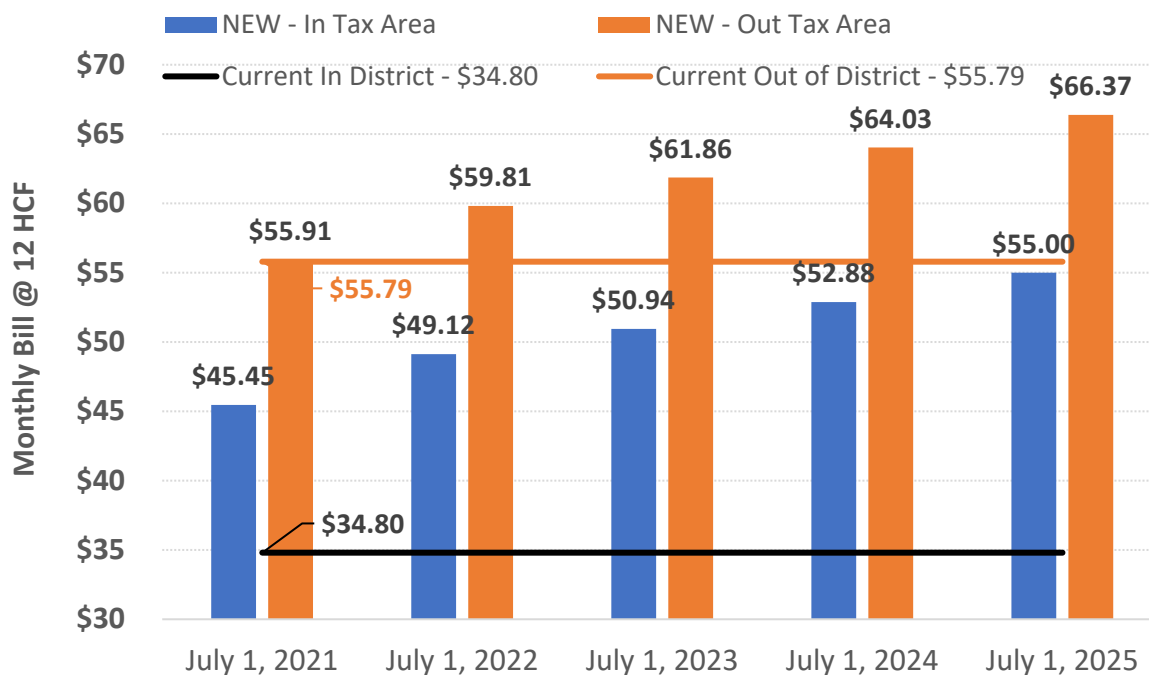
### 4.1 RESIDENTIAL BILL IMPACTS

Residential bill impacts in the first year of new rates beginning July 1, 2021 are illustrated for single family homes currently In District at different use levels in **Appendix A Tables A-34** and **A-35**. Of the 520 In District residential accounts, 360 (69%) are In Tax Area, and 160 (31%) are Out Tax Area. The median water monthly water use is 6 HCF during the winter months, and 24 HCF during the summer months.

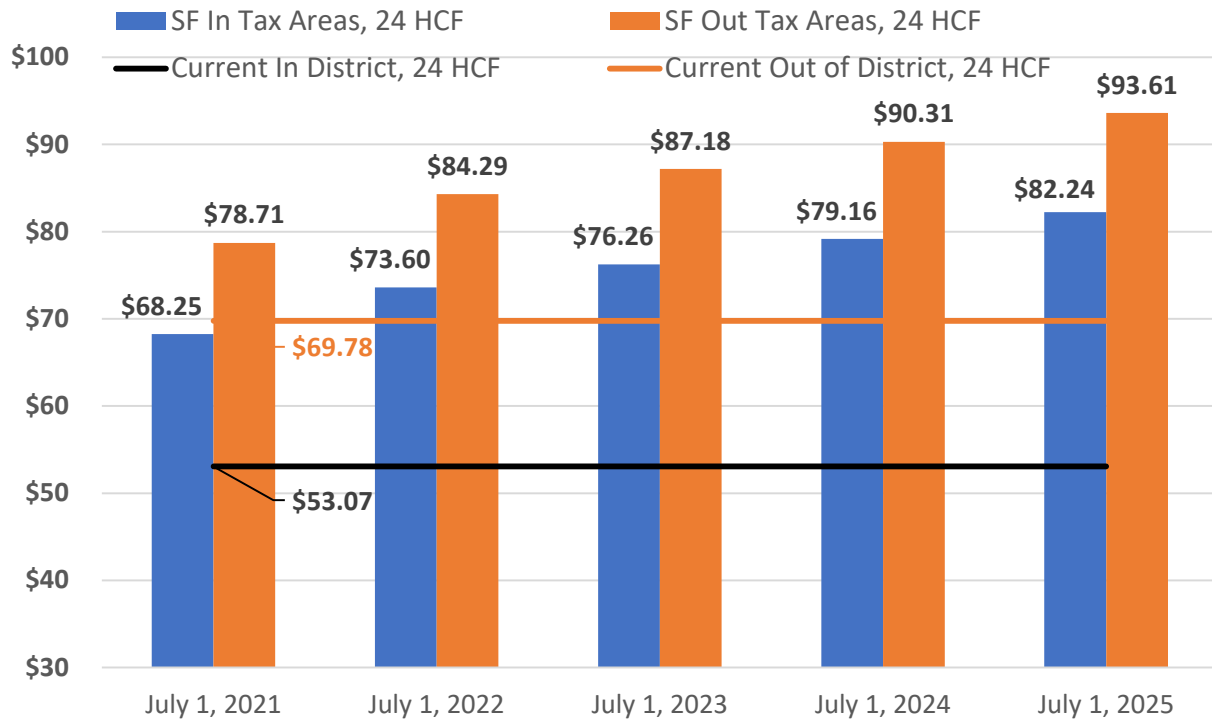
Residential bill impacts in the first year of new rates beginning July 1, 2021 are illustrated for single family homes currently Out of District at different use levels in **Appendix A Table A-36**. Of the 40 Out of District residential accounts, 1 is In Tax Area, and 39 are Out Tax Area. The median water monthly water use is 6 HCF during the winter months, and 40 HCF during the summer months.

Illustration of residential water bills at 12 HCF and 24 HCF per month are shown in **Figures 12** and **13**.

**Figure 12**  
**Projected Water Bills at 12 HCF**

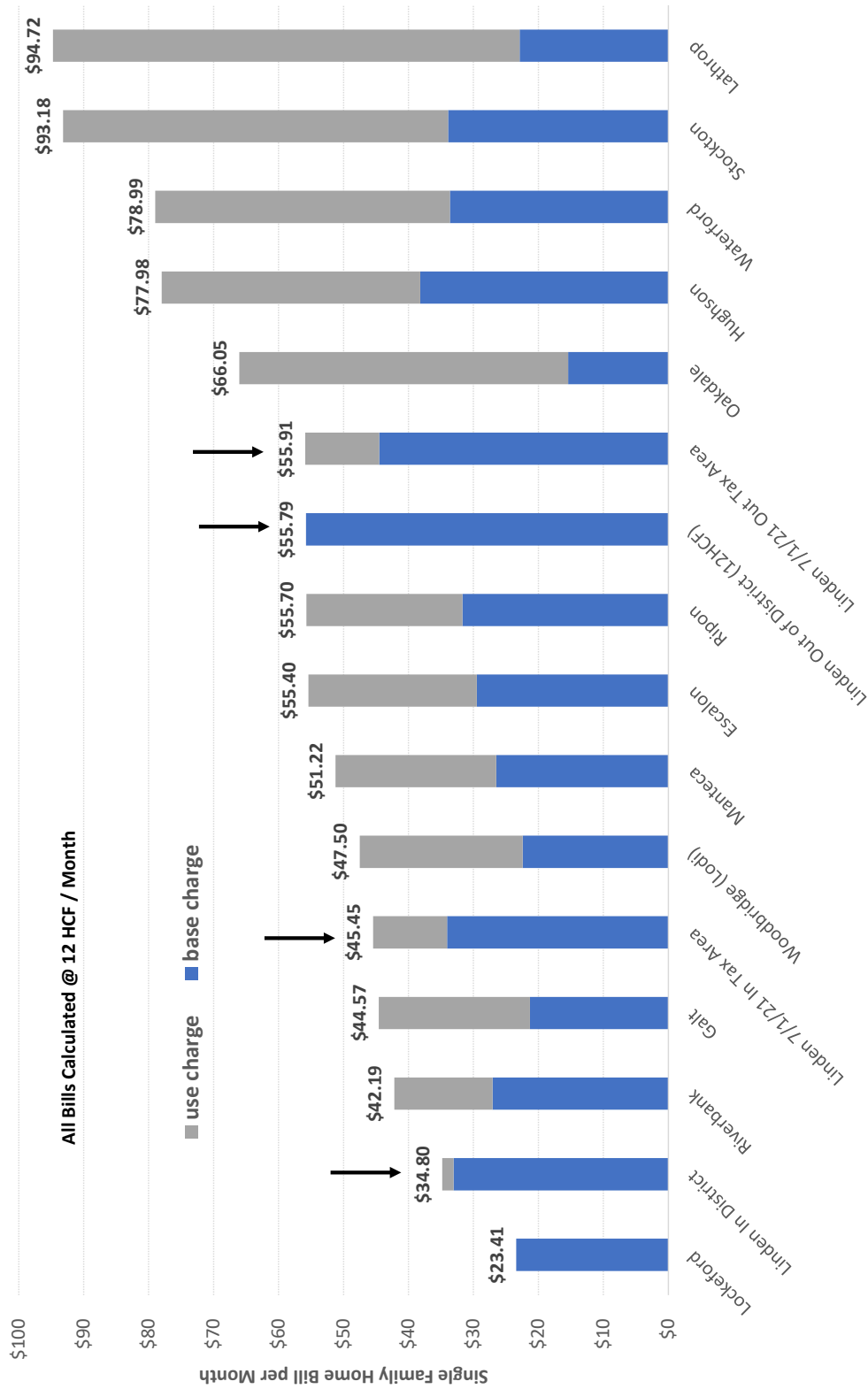


**Figure 13**  
**Projected Water Bills at 24 HCF**



**Figure 14** on the following page displays a comparison of regional water bills for a single-family home using 12 HCF in a month in fiscal year 2020/21 In Tax and Out of Tax areas. It is important to note that this figure only shows a snapshot in time with current rates of comparison communities; rates are schedule to increase for most of the comparison communities at the same time as Linden (July 1, 2021).

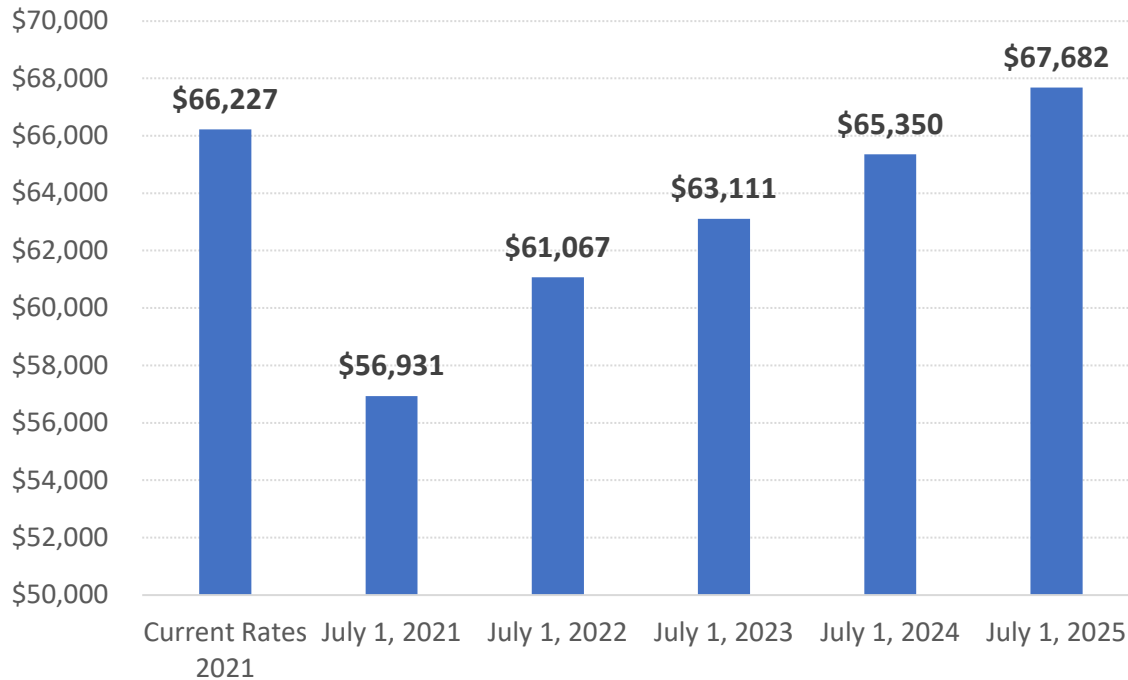
**Figure 14**  
**Comparison of Regional Water Bills**



## 4.2 NON-RESIDENTIAL BILL IMPACTS

**Schools.** The effect of the calculated rate increases for the next five years is shown in **Figure 15** for the LUSD. The cost of service analysis showed that LUSD is currently overpaying on its water bill. Under the calculated rates, schools will pay less for the next four fiscal years.

**Figure 15**  
**Annual Impact of Water Bills on LUSD**



**Commercial accounts.** Commercial bill impacts will vary by business type and through the year; it is important to note that the examples given here are only illustrative. An average monthly water use is assumed throughout the year for each business.

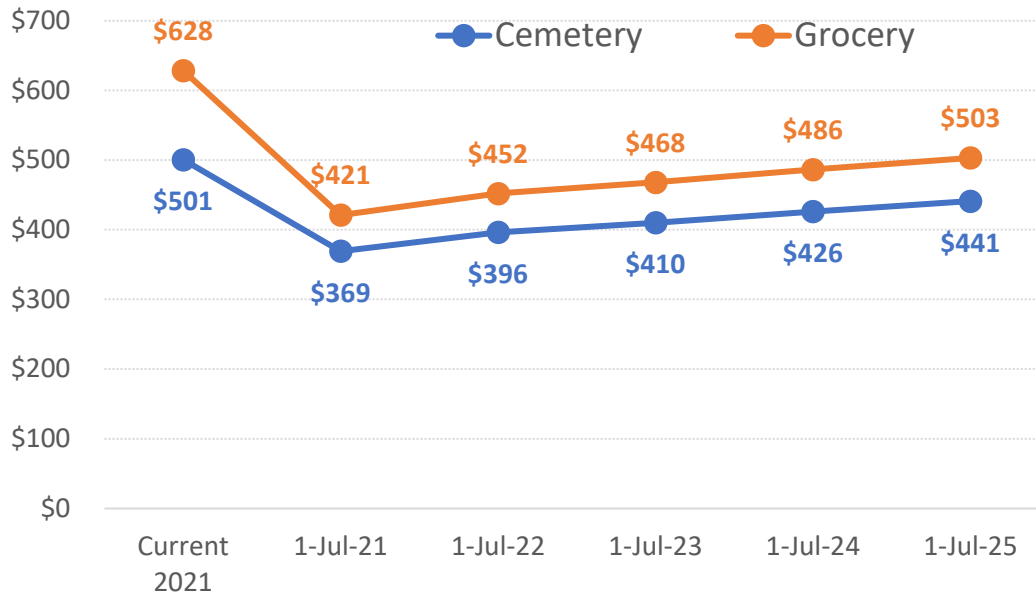
**Figure 16A** shows the potential impact to the cemetery and a grocery store.

**Figure 16B** shows the potential impact to a 3-unit retail complex, a barber shop, and a small restaurant.

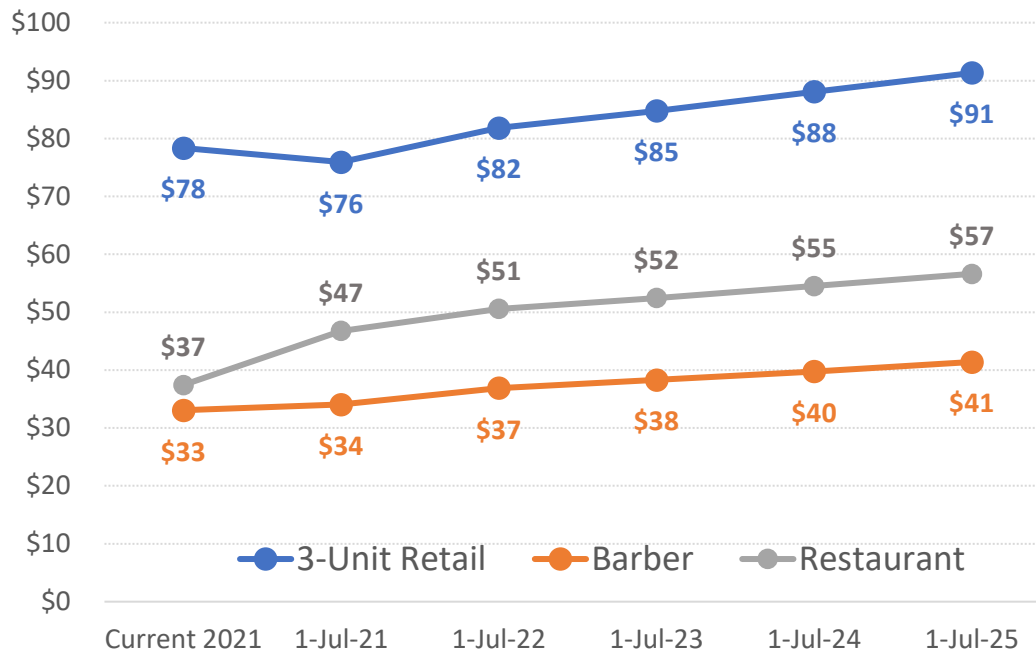
**Figure 16C** shows the potential impact to the laundromat, a light industrial customer, and a bank.



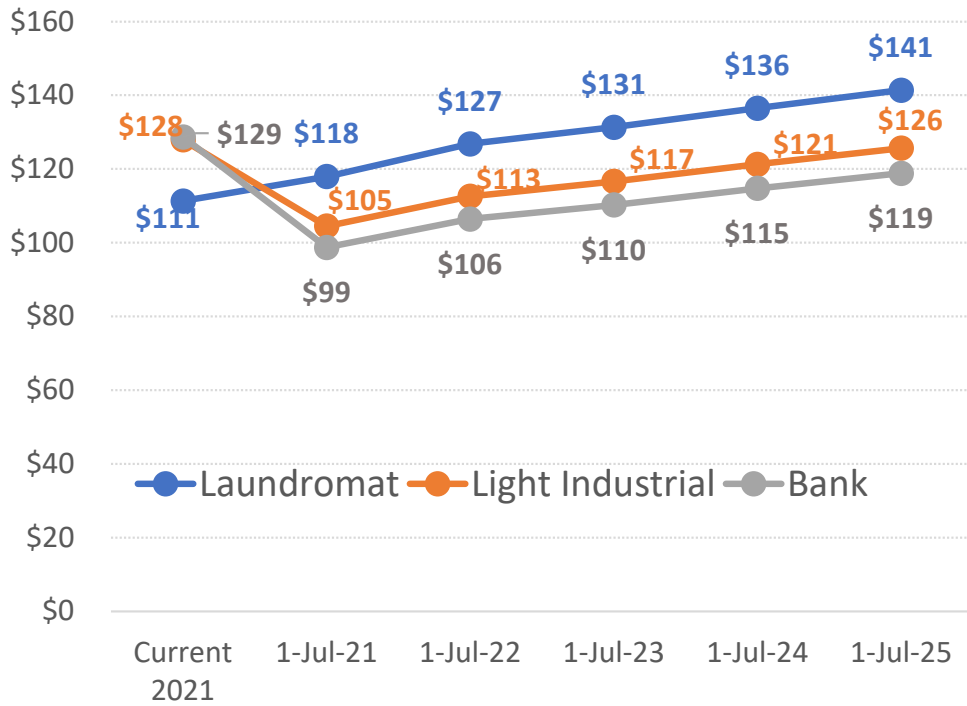
**Figure 16A**  
**Potential Commercial Bill Impacts – Cemetery and Grocery Store**



**Figure 16B**  
**Potential Commercial Bill Impacts – 3-Unit Retail, Barber, Restaurant**



**Figure 16C**  
**Potential Commercial Bill Impacts – Laundromat, Light Industrial, Bank**



# **APPENDIX A**

## **WATER RATE STUDY**

### **SUPPORT TABLES**



**Table A-1**  
**Linden County Water District**  
**Water Rate Study**  
**Total Number of Water Meters**

Meter Size	Customer Category			Total
	Residential	Commercial	School	
3/4"	556	26	0	582
1"	4	9	0	13
1.5"	0	2	0	2
2"	0	4	3	7
3"	0	1	1	2
4"	0	0	0	0
6"	0	0	1	1
8"	0	0	0	0
<b>Total</b>	<b>560</b>	<b>42</b>	<b>5</b>	<b>607</b>

Source: Linden County Water District billing database, March 2020. meters

**Table A-2**  
**Linden County Water District**  
**Water Rate Study**  
**Distribution of Property Tax to Linden County Water District**

Receiving Entity	In-District Tax Rate Areas									Out of District
	096-002	096-004	096-013	096-014	096-020	096-038	096-083	096-092	096-100	096-001
10001 COUNTY GENERAL	17.15%	18.24%	17.25%	18.06%	17.29%	19.22%	17.15%	18.66%	19.25%	19.25%
10426 ROAD DISTRICT 4	3.19%	3.39%	3.20%	3.36%	3.21%	3.57%	3.18%	3.47%	3.57%	3.57%
10618 COUNTY LIBRARY	1.38%	1.47%	1.39%	1.46%	1.40%	1.55%	1.38%	1.51%	1.55%	1.55%
12501 LINDEN UNIFIED SCHOOLS	21.49%	22.87%	21.64%	22.68%	21.67%	24.09%	21.49%	23.40%	24.09%	24.09%
13001 S.J. DELTA COMM COLLEGE	3.08%	3.28%	3.10%	3.25%	3.10%	3.45%	3.08%	3.35%	3.45%	3.45%
13201 COUNTY OFFICE OF EDUCATION	1.25%	1.35%	1.24%	1.36%	1.27%	1.41%	1.24%	1.38%	1.39%	1.39%
14701 LINDEN-PETERS RURAL FIRE	15.78%	18.16%	17.19%	16.57%	17.21%	17.90%	15.79%	17.04%	19.12%	19.12%
14831 LINDEN-PETERS ZONE NO. 1 FIRE	1.44%	0.00%	0.00%	1.61%	0.00%	1.38%	1.43%	1.72%	0.00%	0.00%
16001 SJC FLOOD CONTROL	0.14%	0.14%	0.13%	0.14%	0.00%	0.15%	0.13%	0.15%	0.15%	0.15%
16101 SJC FLOOD CTRL-ZN NO. 9	0.28%	0.30%	0.28%	0.29%	0.14%	0.31%	0.28%	0.30%	0.31%	0.31%
16201 LINDEN LIGHTING	0.63%	0.00%	0.14%	0.00%	0.28%	0.00%	0.63%	0.00%	0.00%	0.00%
21901 SJC MOSQUITO ABATEMENT	0.61%	0.64%	0.61%	0.64%	0.61%	0.68%	0.60%	0.66%	0.68%	0.68%
23670 STOCKTON EAST WATER DISTRICT	0.46%	0.49%	0.46%	0.48%	0.46%	0.51%	0.46%	0.50%	0.51%	0.51%
<b>23801 LINDEN COUNTY WATER</b>	<b>9.80%</b>	<b>5.07%</b>	<b>10.02%</b>	<b>5.86%</b>	<b>10.03%</b>	<b>0.00%</b>	<b>9.80%</b>	<b>2.86%</b>	<b>0.00%</b>	<b>0.00%</b>
41100 ERAF	23.34%	24.61%	23.35%	24.23%	23.32%	25.78%	23.34%	25.00%	25.92%	25.92%
<b>Total</b>	<b>100.00%</b>	<b>100.00%</b>	<b>100.00%</b>	<b>100.00%</b>	<b>100.00%</b>	<b>100.00%</b>	<b>100.00%</b>	<b>100.00%</b>	<b>100.00%</b>	<b>100.00%</b>

Source: San Joaquin County Auditor-Controller's Office.

prop

**Table A-3  
Linden County Water District  
Water Rate Study  
Annual Well Production**

Month	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	Average	Percent Prodn by Month	
	<i>All Figures in Thousands of Gallons</i>														
									<i>Active Wells 5 &amp; 7</i>						
Jan	5,113	5,877	6,171	5,288	7,663	5,588	8,245	5,733	5,012	5,215	5,278	5,659	5,904	4%	
Feb	5,119	4,639	5,593	4,850	6,935	6,316	5,632	5,203	4,625	4,285	5,804	4,901	5,325	4%	
Mar	8,675	7,062	7,873	4,806	6,912	9,489	6,408	9,130	5,079	5,787	5,218	6,366	6,900	5%	
Apr	14,394	12,364	8,863	9,244	8,901	12,454	9,176	10,002	7,420	7,140	7,258	9,043	9,688	7%	
<b>May</b>	<b>17,894</b>	<b>16,770</b>	<b>12,214</b>	<b>15,935</b>	<b>16,950</b>	<b>18,379</b>	<b>17,622</b>	<b>11,002</b>	<b>10,467</b>	<b>12,060</b>	<b>13,545</b>	<b>11,281</b>	<b>14,510</b>	<b>10%</b>	
<b>Jun</b>	<b>20,468</b>	<b>18,555</b>	<b>21,458</b>	<b>15,879</b>	<b>20,627</b>	<b>21,886</b>	<b>19,623</b>	<b>14,246</b>	<b>14,979</b>	<b>14,388</b>	<b>16,295</b>	<b>14,551</b>	<b>17,746</b>	<b>13%</b>	
<b>Jul</b>	<b>21,133</b>	<b>23,566</b>	<b>21,744</b>	<b>21,715</b>	<b>22,301</b>	<b>23,118</b>	<b>20,120</b>	<b>14,185</b>	<b>17,341</b>	<b>20,061</b>	<b>19,165</b>	<b>18,409</b>	<b>20,238</b>	<b>14%</b>	
<b>Aug</b>	<b>19,240</b>	<b>21,836</b>	<b>21,847</b>	<b>19,852</b>	<b>23,025</b>	<b>20,884</b>	<b>16,809</b>	<b>14,214</b>	<b>16,463</b>	<b>17,385</b>	<b>17,729</b>	<b>19,186</b>	<b>19,039</b>	<b>13%</b>	
<b>Sep</b>	<b>19,828</b>	<b>18,144</b>	<b>18,404</b>	<b>17,768</b>	<b>17,604</b>	<b>17,159</b>	<b>14,661</b>	<b>13,077</b>	<b>14,224</b>	<b>14,075</b>	<b>15,194</b>	<b>15,069</b>	<b>16,267</b>	<b>12%</b>	
<b>Oct</b>	<b>13,556</b>	<b>11,207</b>	<b>12,599</b>	<b>10,886</b>	<b>15,017</b>	<b>14,832</b>	<b>11,797</b>	<b>9,689</b>	<b>9,233</b>	<b>12,867</b>	<b>12,913</b>	<b>12,278</b>	<b>12,240</b>	<b>9%</b>	
Nov	6,963	9,239	6,722	6,985	7,493	9,843	7,154	5,474	5,525	7,404	8,339	9,660	7,567	5%	
Dec	5,772	7,024	4,758	6,660	5,628	6,146	5,923	4,867	5,040	7,003	5,566	5,934	5,860	4%	
<b>Total</b>	<b>158,155</b>	<b>156,283</b>	<b>148,246</b>	<b>139,868</b>	<b>159,056</b>	<b>166,094</b>	<b>143,170</b>	<b>116,822</b>	<b>115,408</b>	<b>127,670</b>	<b>132,304</b>	<b>132,337</b>	<b>A 141,284</b>	<b>100%</b>	
Peaking Period (May through October inclusive)													<b>B</b>	100,040	71%
Base Monthly Flow													<b>C</b>	6,874	5%
Base Annual Flow													<b>D = C*12</b>	<b>82,488</b>	<b>58%</b>
Additional Flow													<b>E = A-D</b>	<b>58,796</b>	<b>42%</b>

Source: Linden County Water District, January 2020.

wells

**Table A-4**  
**Linden County Water District**  
**Water Rate Study**  
**Water Production and Consumption**

Month	2014	2015	2016	2017	2018	2019	Average	% of Avg
<i>In Hundreds of Cubic Feet</i>								
Jan	9,767	5,236	4,628	4,915	5,913	5,833	6,049	4%
Feb	5,816	10,377	4,817	4,259	6,579	4,472	6,053	4%
Mar	7,589	7,927	5,093	7,200	5,655	5,922	6,564	4%
Apr	12,445	11,874	9,381	7,533	7,760	10,255	9,875	7%
May	23,589	13,371	12,610	14,770	15,852	14,476	15,778	11%
Jun	23,661	14,768	17,301	20,616	21,830	16,092	19,045	13%
Jul	27,910	18,444	21,499	20,649	24,065	22,252	22,470	15%
Aug	20,045	15,450	19,067	18,737	23,707	24,723	20,288	14%
Sep	17,678	14,845	17,503	19,276	16,714	16,504	17,087	11%
Oct	14,869	11,893	8,964	13,673	15,359	15,100	13,310	9%
Nov	6,302	5,406	5,815	7,840	9,885	10,494	7,624	5%
Dec	5,735	5,392	6,024	7,604	5,599	5,177	5,922	4%
<b>Total Use HCF</b>	<b>175,406</b>	<b>134,983</b>	<b>132,702</b>	<b>147,072</b>	<b>158,918</b>	<b>151,300</b>	<b>150,064</b>	<b>100%</b>
<i>In Thousands of Gallons</i>								
Consumption	131,204	100,967	99,261	110,010	118,871	113,172	112,247	<b>Average</b>
Production	143,170	116,822	115,408	127,670	132,304	132,337	127,952	<b>Loss</b>
<b>Unbilled Water</b>	<b>11,966</b>	<b>15,855</b>	<b>16,147</b>	<b>17,660</b>	<b>13,433</b>	<b>19,165</b>	<b>15,704</b>	
<b>% Unbilled</b>	<b>8%</b>	<b>14%</b>	<b>14%</b>	<b>14%</b>	<b>10%</b>	<b>14%</b>	<b>12%</b>	<b>12%</b>

Source: Linden CWD records, February 2020.

prodn



**Table A-5  
Linden County Water District  
Water Rate Study  
Water Use by Customer Type**

<b>Customer Type</b>	<b>2017</b>	<b>2018</b>	<b>2019</b>	<b>Average</b>	<b>% of Total</b>
Residential SF	110,069	118,583	115,944	114,865	75%
Residential Dual	1,460	1,315	1,666	1,480	1%
Commercial	13,740	14,228	12,593	13,520	9%
Schools	23,457	24,563	20,796	22,939	15%
<b>Total Use</b>	<b>148,726</b>	<b>158,689</b>	<b>150,999</b>	<b>152,805</b>	<b>100%</b>

Source: Linden County Water District metered water use records.

use

**Table A-6  
Linden County Water District  
Water Rate Study  
Audited Financial Report**

Revenues and Expenses	Fiscal Year Ending						
	2014	2015	2016	2017	2018	2019	2020 Estimated Unofficial
<b>Revenues</b>							
Water Fees [1]	\$254,539	\$242,953	\$351,427	\$386,282	\$433,629	\$444,946	\$441,638
Property Tax	\$56,057	\$56,918	\$53,393	\$42,081	\$44,355	\$46,770	\$48,627
Interest Income	(\$25)	\$2,062	\$3,162	\$5,792	\$11,534	\$20,162	\$15,627
<b>Total Revenues</b>	<b>\$310,571</b>	<b>\$301,933</b>	<b>\$407,982</b>	<b>\$434,155</b>	<b>\$489,518</b>	<b>\$511,878</b>	<b>\$505,892</b>
<b>Expenses</b>							
Salaries	\$82,673	\$83,399	\$78,452	\$83,195	\$89,157	\$96,676	\$97,821
Utilities	\$70,987	\$59,353	\$59,028	\$53,431	\$61,324	\$58,028	\$61,765
Professional and Special Services	\$29,255	\$41,438	\$39,611	\$38,607	\$38,824	\$32,753	\$45,186
Employee Benefits	\$35,215	\$35,495	\$31,781	\$32,933	\$36,159	\$37,566	\$36,942
Repairs and Maintenance	\$27,469	\$14,301	\$19,514	\$29,588	\$44,102	\$41,936	\$124,745
Insurance	\$9,593	\$9,929	\$8,722	\$8,989	\$10,706	\$11,121	\$10,991
Office Supplies, Postage & Printing	\$9,404	\$7,614	\$7,950	\$6,074	\$7,193	\$6,892	\$6,495
Payroll Taxes	\$6,272	\$6,640	\$5,988	\$6,411	\$6,790	\$7,365	\$7,455
Testing Services	\$1,050	\$1,225	\$1,110	\$4,634	\$1,889	\$3,435	\$1,749
Weed Control	\$0	\$0	\$100	\$0	\$0	\$0	\$0
<b>Total Expenses</b>	<b>\$271,918</b>	<b>\$259,394</b>	<b>\$252,256</b>	<b>\$263,862</b>	<b>\$296,144</b>	<b>\$295,772</b>	<b>\$393,149</b>
<b>Net Revenues</b>	<b>(\$17,379)</b>	<b>(\$16,441)</b>	<b>\$99,171</b>	<b>\$122,420</b>	<b>\$137,485</b>	<b>\$149,174</b>	<b>\$48,490</b>
Depreciation	\$44,302	\$45,015	\$43,018	\$45,594	\$49,175	\$48,269	

Source: LCWD audits and financial records.

audits

[1] Includes late payments and penalties.

**Table A-7  
Linden County Water District  
Water Rate Study  
Capital Improvements Plan**

<b>Water System</b>	<b>Estimated Cost</b>
<b>Distribution</b>	
New 8" Line Front St and Mill	\$346,500
New 8" Line lone	\$212,025
<b>Total Distribution</b>	<b>\$558,525</b>
<b>Services</b>	
Replace Dry Barrel Hydrants (two)	\$28,188
New 4" Water Lateral w/services Front St.	\$66,344
<b>Total Services</b>	<b>\$94,531</b>
<b>Total Water Improvements [1]</b>	<b>\$653,056</b>

Source: Linden County Water District, May 2020.

cip

[1] Excludes the 2021 tank project.

**Table A-8  
Linden County Water District  
Water Rate Study  
Estimated CIP Timeline**

Infrastructure Items	Estimated Total Cost in 2020 \$'s	Fiscal Year Ending					
		2021	2022	2023	2024	2025	2026
<i>2020 Dollars</i>							
<b>Distribution</b>							
New 8" Line Front St and Mill	\$346,500	\$346,500					
New 8" Line lone	\$212,025						\$212,025
<b>Total Distribution</b>	<b>\$558,525</b>	<b>\$346,500</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$212,025</b>
<b>Services</b>							
Replace Dry Barrel Hydrants (two)	\$28,188			\$28,188			
New 4" Water Lateral w/services Front St.	\$66,344				\$66,344		
<b>Total Services</b>	<b>\$94,531</b>	<b>\$0</b>	<b>\$0</b>	<b>\$28,188</b>	<b>\$66,344</b>	<b>\$0</b>	<b>\$0</b>
<b>2021 Tank Project</b>							
Phase 1 - Piping	\$806,065	\$806,065					
Phase 2 - Booster Pump Station	\$1,137,500		\$1,137,500				
Phase 2 - Tank	\$422,500		\$422,500				
<b>Subtotal 2021 Tank Project</b>	<b>\$2,366,065</b>	<b>\$806,065</b>	<b>\$1,560,000</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>
<b>Total Water Improvements</b>	<b>\$3,019,121</b>	<b>\$1,152,565</b>	<b>\$1,560,000</b>	<b>\$28,188</b>	<b>\$66,344</b>	<b>\$0</b>	<b>\$212,025</b>

Source: Linden County Water District, May 2020, and HEC August 2020.

cip20

**Table A-9  
Linden County Water District  
Water Rate Study  
Fiscal Year 2020/21 Budget**

<b>Water Fund #97 Expenses</b>	<b>Budget FY 2020/21</b>
Salaries	\$107,130
Unemployment	\$750
Retirement	\$6,600
Social Security	\$8,200
Health Insurance	\$30,000
<b>Subtotal Personnel</b>	<b>\$152,680</b>
Office Expense	\$5,500
Fuel, Oil & Lube	\$3,800
Misc/Tools/Equipment	\$3,500
Maintenance & Repair	\$80,000
Equipment Servicing	\$2,900
Auditors Payroll & AP	\$2,150
Accounting	\$2,900
Testing	\$3,800
Tax Admin Charge	\$800
Engineers - General	\$15,000
Legal Fees - General	\$3,500
Chemicals	\$2,000
Directors Fees	\$1,500
Workers Comp	\$3,823
Liability Insurance	\$11,216
Uniforms, Rags, Towels & Mats	\$1,400
Utilities	\$60,000
Dues/Subscriptions Fees	\$16,500
SGMA	\$8,500
Stockton East Water District	\$1,600
<b>Subtotal Other</b>	<b>\$230,389</b>
<b>Total Budgeted Expenses</b>	<b>\$383,069</b>

Source: LCWD July 2020.

budget

**Table A-10**  
**Linden County Water District**  
**Water Rate Study**  
**Increase in Operating Expenses**

Historical Wastewater Operating Expenses	Actual Financial Fiscal Year Ending						Change	
	2014	2015	2016	2017	2018	2019	Total	Avg. Annual
Salaries	\$82,673	\$83,399	\$78,452	\$83,195	\$89,157	\$96,676	\$14,003	3.2%
Utilities	\$70,987	\$59,353	\$59,028	\$53,431	\$61,324	\$58,028	(\$12,959)	-4.0%
Professional and Special Services	\$29,255	\$41,438	\$39,611	\$38,607	\$38,824	\$32,753	\$3,498	2.3%
Employee Benefits	\$35,215	\$35,495	\$31,781	\$32,933	\$36,159	\$37,566	\$2,351	1.3%
Repairs and Maintenance	\$27,469	\$14,301	\$19,514	\$29,588	\$44,102	\$41,936	\$14,467	8.8%
Insurance	\$9,593	\$9,929	\$8,722	\$8,989	\$10,706	\$11,121	\$1,528	3.0%
Office Supplies, Postage & Printing	\$9,404	\$7,614	\$7,950	\$6,074	\$7,193	\$6,892	(\$2,512)	-6.0%
Payroll Taxes	\$6,272	\$6,640	\$5,988	\$6,411	\$6,790	\$7,365	\$1,093	3.3%
Testing Services	\$1,050	\$1,225	\$1,110	\$4,634	\$1,889	\$3,435	\$2,385	26.7%
<b>Total Expenses</b>	<b>\$271,918</b>	<b>\$259,394</b>	<b>\$252,156</b>	<b>\$263,862</b>	<b>\$296,144</b>	<b>\$295,772</b>	<b>\$23,854</b>	<b>1.7%</b>
<b>Engineering News Record</b>								
	<i>Jun 2014</i>	<i>Jun 2015</i>	<i>Jun 2016</i>	<i>Jun 2017</i>	<i>Jun 2018</i>	<i>Jun 2019</i>		
ENR Construction Cost Index 20-City [1]	9,800	10,039	10,337	10,703	11,069	11,268	1,468	2.8%
ENR Construction Cost Index San Francisco	10,900	11,155	11,548	11,722	12,015	12,354	1,455	2.5%
<b>Bureau of Labor Statistics</b>								
Consumer Price Index - California	247	250	256	262	272	281	34	2.6%
Consumer Price Index - San Francisco	253	259	266	275	286	295	42	3.1%

Source: LCWD, California Department of Finance, and the Engineering News Record.

indices

[1] Engineering News Record (ENR) Consumer Cost Index (CCI) change June 1999 to June 2019:

ENR CCI 1999	6,039	Change	<u>Annual Avg. % Change</u>
ENR CCI 2019	11,268	5,229	<b>3.2%</b>



**Table A-12**  
**Linden County Water District**  
**Water Rate Study**  
**Depreciation of Existing Assets**

<b>Water Asset</b>	<b>Annual Depreciation</b>
<b>Supply</b>	
Well 3	\$5,980
Well 4	\$4,422
Well 5	\$121,768
Well 7	\$16,167
<b>Subtotal Supply</b>	<b>\$148,337</b>
<b>Distribution</b>	<b>\$196,063</b>
<b>Total Water System</b>	<b>\$344,400</b>
<b>2019 Audit Reported Water Depreciation</b>	<b>\$48,269</b>

Source: Linden CWD February 2020.

ex depr



**Table A-13**  
**Linden County Water District**  
**Water Rate Study**  
**Estimated New Assets Depreciation**

New Asset	Average Life	Fiscal Year Ending					
		2021	2022	2023	2024	2025	2026
<b>Distribution</b>	years						
New 8" Line Front St and Mill	80	\$4,331	\$4,331	\$4,331	\$4,331	\$4,331	\$4,331
New 8" Line Ione	80	\$0	\$0	\$0	\$0	\$0	\$3,102
<b>Total Distribution</b>		<b>\$4,331</b>	<b>\$4,331</b>	<b>\$4,331</b>	<b>\$4,331</b>	<b>\$4,331</b>	<b>\$7,434</b>
<b>Services</b>							
Replace Dry Barrel Hydrants (two)	60	\$0	\$0	\$500	\$500	\$500	\$500
New 4" Water Lateral w/services Front St.	60	\$0	\$0	\$0	\$1,215	\$1,215	\$1,215
<b>Total Services</b>		<b>\$0</b>	<b>\$0</b>	<b>\$500</b>	<b>\$1,716</b>	<b>\$1,716</b>	<b>\$1,716</b>
<b>2021 Tank Project</b>							
Piping	80	\$10,076	\$10,076	\$10,076	\$10,076	\$10,076	\$10,076
Booster Pump Station	50	\$0	\$23,478	\$23,478	\$23,478	\$23,478	\$23,478
Welded Steel Storage Tank	60	\$0	\$7,267	\$7,267	\$7,267	\$7,267	\$7,267
<b>Subtotal 2021 Tank Project</b>		<b>\$10,076</b>	<b>\$40,821</b>	<b>\$40,821</b>	<b>\$40,821</b>	<b>\$40,821</b>	<b>\$40,821</b>
<b>Total Water Improvements</b>		<b>\$14,407</b>	<b>\$45,152</b>	<b>\$45,652</b>	<b>\$46,868</b>	<b>\$46,868</b>	<b>\$49,970</b>

Source: Linden CWD February 2020 and HEC July 2020.

new depr

**Table A-14**  
**Linden County Water District**  
**Water Rate Study**  
**Total Projected Depreciation**

Item	Fiscal Year Ending					
	2021	2022	2023	2024	2025	2026
Existing Assets Depreciation	\$48,300	\$48,300	\$48,300	\$48,300	\$48,300	\$48,300
New Assets Depreciation [1]	\$3,700	\$11,300	\$11,500	\$11,800	\$11,800	\$12,500
<b>Annual Depreciation</b>	<b>\$52,000</b>	<b>\$59,600</b>	<b>\$59,800</b>	<b>\$60,100</b>	<b>\$60,100</b>	<b>\$60,800</b>

Source: Linden CWD February 2020 and HEC July 2020.

depr

[1] Twenty-five percent of the annual depreciation of new water assets.

**Table A-15  
Linden County Water District  
Water Rate Study  
2021 Tank Project Loan (F&M Bank)**

Estimated Draws and Interest Payments	Oct-20 3	Nov-20 4	Dec-20 5	Jan-21 6	Feb-21 7	Mar-21 8	Apr-21 9	May-21 10	Jun-21 11	Jul-21 12	Aug-21 13	Sep-21 14	Oct-21 15	Nov-21 16	Dec-21 17
<b>Estimated Draws</b>	<i>Line of Credit for multiple loan advances through December 2021 [1]</i>														
Phase 1 - Piping	\$807,000														
Phase 2 - Booster Pump Station						\$1,174,000									
Phase 2 - Tank									\$419,000						
<b>Total Estimated Draws</b>	<b>\$807,000</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$1,174,000</b>	<b>\$0</b>	<b>\$0</b>	<b>\$419,000</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>
<b>Estimated Interest Only Payments</b>															
Phase 1 - Piping		\$2,757	\$2,849	\$2,849	\$2,573	\$2,849	\$2,757	\$2,849	\$2,757	\$2,849	\$2,849	\$2,757	\$2,849	\$2,757	\$2,849
Phase 2 - Booster Pump Station							\$4,011	\$4,145	\$4,011	\$4,145	\$4,145	\$4,011	\$4,145	\$4,011	\$4,145
Phase 2 - Tank										\$1,479	\$1,479	\$1,432	\$1,479	\$1,432	\$1,479
<b>Total Estimated Interest Payments</b>	<b>\$0</b>	<b>\$2,757</b>	<b>\$2,849</b>	<b>\$2,849</b>	<b>\$2,573</b>	<b>\$2,849</b>	<b>\$6,768</b>	<b>\$6,994</b>	<b>\$6,768</b>	<b>\$8,473</b>	<b>\$8,473</b>	<b>\$8,200</b>	<b>\$8,473</b>	<b>\$8,200</b>	<b>\$8,473</b>

Source: F&M Bank Promissory Note dated July 16, 2020.

bank

**[1] F&M Loan Terms:**

<b>Principal</b>	<b>\$2,400,000</b>	<b>Monthly P&amp;I Payments</b>	<b>\$11,678</b>
Interest Rate	4.1%	Thirty Years - Beginning Jan-22	
		- Ending Jan-51	

**Table A-16**  
**Linden County Water District**  
**Water Rate Study**  
**Meter Replacement Fee Calculation**

Item	Assump. / Total	Meter Size							
		3/4"	1"	1.5"	2"	3"	4"	6"	8"
New Meter [1]		\$188	\$235	\$554	\$1,058	\$1,320	\$3,125	\$5,400	\$8,805
Installation Costs [2]	25%	\$47	\$59	\$139	\$265	\$330	\$781	\$1,350	\$2,201
Technology Costs [3]	20%	\$47	\$59	\$139	\$265	\$330	\$781	\$1,350	\$2,201
Administration Costs	5%	\$14	\$18	\$42	\$79	\$99	\$234	\$405	\$660
<b>Total Cost per Meter</b>		<b>\$296</b>	<b>\$370</b>	<b>\$873</b>	<b>\$1,666</b>	<b>\$2,079</b>	<b>\$4,922</b>	<b>\$8,505</b>	<b>\$13,868</b>
Total Number of Meters	607	582	13	2	7	2	0	1	0
<b>Meter Cost Replacement</b>	<b>\$203,214</b>	<b>\$172,330</b>	<b>\$4,812</b>	<b>\$1,745</b>	<b>\$11,664</b>	<b>\$4,158</b>	<b>\$0</b>	<b>\$8,505</b>	<b>\$0</b>
Replacement Interval (years)		10	10	10	10	10	10	10	10
Cost per Meter per Year		\$30	\$37	\$87	\$167	\$208	\$492	\$851	\$1,387
<b>Monthly Cost per Meter</b>		<b>\$2.47</b>	<b>\$3.08</b>	<b>\$7.27</b>	<b>\$13.89</b>	<b>\$17.33</b>	<b>\$41.02</b>	<b>\$70.88</b>	<b>\$115.57</b>
<b>Estimated Annual Fee Revenue</b>	<b>\$20,339</b>	<b>\$17,250</b>	<b>\$480</b>	<b>\$174</b>	<b>\$1,167</b>	<b>\$416</b>	<b>\$0</b>	<b>\$851</b>	<b>\$0</b>

Source: Linden CWD and HEC.

meter prog

[1] Approximate prices based on HEC experience.

[2] Actual installation costs vary by meter size as a percentage of meter cost.

[3] Allowance for upgrades based on advancing technology.

**Table A-17**  
**Linden County Water District**  
**Water Rate Study**  
**Functional Allocation of Operating Costs**

Expenditures	ACTUAL FY 2018-19	Allocation Basis	Customer	Capacity	Capacity	Commodity	Unclassified
				(Readiness- to-serve)	(Peaking)	(Use)	
Salaries, Employee Benefits & Taxes - 50%	\$70,804	Avg. to Peak Month	0%	58%	42%	0%	0%
Salaries, Employee Benefits & Taxes - 50%	\$70,804	Customers	100%	0%	0%	0%	0%
Utilities	\$58,028	Utilities	0%	10%	0%	90%	0%
Professional and Special Services	\$32,753	Avg. to Peak Month	0%	58%	42%	0%	0%
Repairs and Maintenance	\$41,936	Plant in Service	8%	62%	25%	6%	0%
Insurance	\$11,121	Avg. of Classified	0%	0%	0%	0%	100%
Office Supplies, Postage & Printing	\$6,892	Customers	100%	0%	0%	0%	0%
Testing Services	\$3,435	Plant in Service	8%	62%	25%	6%	0%
<b>Total Expenses</b>	<b>\$295,772</b>		<b>\$81,201</b>	<b>\$94,220</b>	<b>\$54,416</b>	<b>\$54,813</b>	<b>\$11,121</b>
Reallocate As All Others			\$3,172	\$3,681	\$2,126	\$2,141	
<b>Allocation of Operating Expenses</b>	<b>\$295,772</b>		<b>\$84,374</b>	<b>\$97,901</b>	<b>\$56,542</b>	<b>\$56,955</b>	
Depreciation Expense	\$48,269	Plant in Service	8%	62%	25%	6%	0%
			\$3,730	\$29,742	\$12,044	\$2,754	
<b>TOTAL ALLOCATED EXPENSES</b>	<b>\$344,041</b>		<b>\$88,103</b>	<b>\$127,643</b>	<b>\$68,586</b>	<b>\$59,708</b>	
Percentage of Allocation	100%		26%	37%	20%	17%	
<b>Base</b>	<b>63%</b>						
<b>Use</b>	<b>37%</b>						

Source: Linden CWD financial audit and HEC.

func alloc

**Table A-18**  
**Linden County Water District**  
**Water Rate Study**  
**Functional Allocation of Plant in Service**

Plant in Service	Customer	Capacity (Readiness- to-serve)	Capacity (Peaking)	Commodity (Use)	Total Cost	Customer	Capacity (Readiness- to-serve)	Capacity (Peaking)	Commodity (Use)
Wells		50%	25%	25%	\$1,777,157	\$0	\$888,578	\$444,289	\$444,289
Distribution Pipes	10%	65%	25%		\$5,293,598	\$529,360	\$3,440,839	\$1,323,399	\$0
Meters	100%				\$15,125	\$15,125	\$0	\$0	\$0
Fire Hydrants	10%	65%	25%		\$573,163	\$57,316	\$372,556	\$143,291	\$0
Hydrant Storage Tanks		75%	25%		\$129,360	\$0	\$97,020	\$32,340	\$0
<b>Total</b>					<b>\$7,788,403</b>	<b>\$601,801</b>	<b>\$4,798,993</b>	<b>\$1,943,319</b>	<b>\$444,289</b>
<b>Percentage of Plant In Service</b>					<b>100%</b>	<b>8%</b>	<b>62%</b>	<b>25%</b>	<b>6%</b>

Source: Linden CWD and HEC.

plant

**Table A-19**  
**Linden County Water District**  
**Water Rate Study**  
**Equivalent Water Meters**

<b>Meter Size</b>	<b>Number of Meters</b>	<b>Meter Flow (gpm)</b>	<b>Ratios</b>	<b>Billable Equivalent Meter Units</b>
3/4"	582	25	1.0	582
1"	13	40	1.6	21
1.5"	2	50	2.0	4
2"	7	160	6.4	45
3"	2	350	14.0	28
4"	0	600	24.0	0
6"	1	1,250	50.0	50
8"	0	2,800	112.0	0
<b>Total Meters</b>	<b>607</b>			<b>730</b>

Source: LCWD billing database, March 2020.

equiv

**Table A-20**  
**Linden County Water District**  
**Water Rate Study**  
**Current Collection of Metered Revenue**

<b>Month</b>	<b>Base</b>	<b>Use</b>	<b>Total</b>
January	\$23,148	\$2,589	\$25,736
February	\$23,148	\$4,556	\$27,704
March	\$23,148	\$5,525	\$28,673
April	\$23,148	\$10,301	\$33,448
May	\$23,148	\$15,447	\$38,595
June	\$23,181	\$22,214	\$45,395
July	\$23,065	\$27,028	\$50,093
August	\$23,115	\$35,420	\$58,535
September	\$23,181	\$17,079	\$40,260
October	\$23,181	\$13,915	\$37,096
November	\$23,181	\$7,252	\$30,433
December	\$23,148	\$1,458	\$24,605
<b>Total 1 Year</b>	<b>\$277,789</b>	<b>\$162,784</b>	<b>\$440,573</b>
<b>Percent of Total</b>	<b>63%</b>	<b>37%</b>	
<b>Functional Allocation</b>	<b>63%</b>	<b>37%</b>	

Source: LCWD August 2020.

met rev



**Table A-21**  
**Linden County Water District**  
**Water Rate Study**  
**Calculated Fire Suppression Services Only Monthly Cost**

Service	Meter Ratio	Fiscal Year Ending					
		2021	2022	2023	2024	2025	2026
Capacity Costs		\$280,340	\$307,232	\$329,034	\$340,421	\$352,227	\$365,114
<b>Cost per Service</b>							
3/4"	1.00	\$32.02	\$35.09	\$37.58	\$38.88	\$40.23	\$41.70
1"	1.60	\$51.23	\$56.14	\$60.13	\$62.21	\$64.37	\$66.72
1.5"	2.00	\$64.04	\$70.18	\$75.16	\$77.76	\$80.46	\$83.40
2"	6.40	\$204.93	\$224.58	\$240.51	\$248.83	\$257.47	\$266.88
3"	14.00	\$448.28	\$491.26	\$526.12	\$544.32	\$563.22	\$583.80
4"	24.00	\$768.48	\$842.16	\$901.92	\$933.12	\$965.52	\$1,000.80
6"	50.00	\$1,601.00	\$1,754.50	\$1,879.00	\$1,944.00	\$2,011.50	\$2,085.00
8"	112.00	\$3,586.24	\$3,930.08	\$4,208.96	\$4,354.56	\$4,505.76	\$4,670.40
<b>Fire-Related Portion of Cost</b>		<b>5.5%</b>	<b>5.5%</b>	<b>5.5%</b>	<b>5.5%</b>	<b>5.5%</b>	<b>5.5%</b>
3/4"		\$1.75	\$1.91	\$2.05	\$2.12	\$2.19	\$2.27
1"		\$2.79	\$3.06	\$3.28	\$3.39	\$3.51	\$3.64
1.5"		\$3.49	\$3.83	\$4.10	\$4.24	\$4.39	\$4.55
2"		\$11.18	\$12.25	\$13.12	\$13.57	\$14.04	\$14.56
3"		\$24.45	\$26.80	\$28.70	\$29.69	\$30.72	\$31.84
4"		\$41.92	\$45.94	\$49.20	\$50.90	\$52.67	\$54.59
6"		\$87.33	\$95.70	\$102.49	\$106.04	\$109.72	\$113.73
8"		\$195.62	\$214.37	\$229.58	\$237.52	\$245.77	\$254.75

Source: AWWA Manual M6 Water Meters - Fifth Edition, November 2018, Linden CWD, and HEC.

fire

**Table A-22**  
**Linden County Water District**  
**Water Rate Study**  
**Projected Water Use**

Customer Group	Fiscal Year						
	2020	2021	2022	2023	2024	2025	2026
Residential SF	114,865	114,865	113,889	113,265	113,141	113,015	112,864
Residential Dual	1,480	1,480	1,470	1,464	1,463	1,461	1,460
Commercial	13,520	13,520	13,444	13,395	13,385	13,375	13,363
Schools	22,939	22,939	22,809	22,725	22,709	22,692	22,672
<b>Total Use</b>	<b>152,805</b>	<b>152,805</b>	<b>151,612</b>	<b>150,848</b>	<b>150,697</b>	<b>150,543</b>	<b>150,359</b>

proj use

**Table A-23**  
**Linden County Water District**  
**Water Rate Study**  
**Price Elasticity Assumptions**

Customer Type	Estimated Elasticity	Fiscal Year Ending					
		2021	2022	2023	2024	2025	2026
% Change in Price to Meet Revenue Requirement			10.4%	7.6%	3.6%	3.6%	3.8%
Assumption for Inflation			2.6%	2.6%	2.6%	2.6%	2.6%
<b>Price Increase Adjusted for Inflation</b>			<b>7.8%</b>	<b>5.0%</b>	<b>1.0%</b>	<b>1.0%</b>	<b>1.2%</b>
Residential SF	-0.15	0.0%	-1.2%	-0.8%	-0.2%	-0.2%	-0.2%
Residential Dual	-0.12	0.0%	-0.9%	-0.6%	-0.1%	-0.1%	-0.1%
Commercial	-0.10	0.0%	-0.8%	-0.5%	-0.1%	-0.1%	-0.1%
Schools	-0.10	0.0%	-0.8%	-0.5%	-0.1%	-0.1%	-0.1%

Source: HEC.

elas

**Table A-24**  
**Linden County Water District**  
**Water Rate Study**  
**Projected Changes in Water Demand due to Price Changes**

Customer Category	Fiscal Year Ending					
	2021	2022	2023	2024	2025	2026
Residential SF	114,865	114,865	113,889	113,265	113,141	113,015
Residential Dual	1,480	1,480	1,470	1,464	1,463	1,461
Commercial	13,520	13,520	13,444	13,395	13,385	13,375
Schools	22,939	22,939	22,809	22,725	22,709	22,692
<b>Total Billable Water</b>	<b>152,805</b>	<b>152,805</b>	<b>151,612</b>	<b>150,848</b>	<b>150,697</b>	<b>150,543</b>

**Change in Demand due to Price [1]**

Residential SF	0	-976	-625	-124	-125	-151
Residential Dual	0	-10	-6	-1	-1	-2
Commercial	0	-77	-49	-10	-10	-12
Schools	0	-130	-83	-17	-17	-20
<b>Total Billable Water</b>	<b>0</b>	<b>-1,193</b>	<b>-764</b>	<b>-152</b>	<b>-153</b>	<b>-185</b>

Source: HEC.

use change

[1] Change applied to peak months water use (May-October) only.

	<u>% of Consumption</u>
Residential SF	73%
Residential Dual	70%
Commercial	81%
Schools	62%

**Table A-25**  
**Linden County Water District**  
**Water Rate Study**  
**Cost of Service Allocation of Use Charges to Customer Groups**

Customer Group	Allocation	Fiscal Year					
		2021	2022	2023	2024	2025	2026
<b>Capacity Peaking Costs</b>		<b>\$98,365</b>	<b>\$107,801</b>	<b>\$115,451</b>	<b>\$119,446</b>	<b>\$123,589</b>	<b>\$128,110</b>
Residential	75%	\$74,054	\$81,158	\$86,917	\$89,925	\$93,044	\$96,448
Commercial	5%	\$4,537	\$4,972	\$5,325	\$5,509	\$5,700	\$5,908
Schools	20%	\$19,774	\$21,671	\$23,209	\$24,012	\$24,845	\$25,754
<b>Total</b>	<b>100%</b>	<b>\$98,365</b>	<b>\$107,801</b>	<b>\$115,451</b>	<b>\$119,446</b>	<b>\$123,589</b>	<b>\$128,110</b>
<b>Commodity Costs</b>		<b>\$83,610</b>	<b>\$91,631</b>	<b>\$98,133</b>	<b>\$101,529</b>	<b>\$105,050</b>	<b>\$108,894</b>
Residential	76%	\$63,661	\$69,768	\$74,719	\$77,304	\$79,985	\$82,912
Commercial	9%	\$7,398	\$8,108	\$8,683	\$8,983	\$9,295	\$9,635
Schools	15%	\$12,551	\$13,755	\$14,731	\$15,241	\$15,770	\$16,347
<b>Total</b>	<b>100%</b>	<b>\$83,610</b>	<b>\$91,631</b>	<b>\$98,133</b>	<b>\$101,529</b>	<b>\$105,050</b>	<b>\$108,894</b>
<b>Total Costs to be Recovered through Use Charges</b>							
Residential	76%	\$137,715	\$150,926	\$161,636	\$167,230	\$173,030	\$179,360
Commercial	7%	\$11,934	\$13,079	\$14,007	\$14,492	\$14,995	\$15,543
Schools	18%	\$32,325	\$35,426	\$37,940	\$39,253	\$40,614	\$42,100
<b>Total</b>	<b>100%</b>	<b>\$181,975</b>	<b>\$199,431</b>	<b>\$213,583</b>	<b>\$220,975</b>	<b>\$228,639</b>	<b>\$237,004</b>

Source: LCWD and HEC August 2020.

peak alloc

**Table A-26**  
**Linden County Water District**  
**Water Rate Study**  
**Calculation of Share of Maximum Day Water Use by Customer Category**

Customer Type	Average	Non- Coincident	MM/AM Ratio	MD Peak Ratio	Max Daily Use	% of Avg. Month	% of Peak Month	% of Max. Day
	Month Use (AM)	Max. Month Use (MM)						
	<i>a</i>	<i>b</i>	<i>c = b/a</i>	<i>d (below)</i>	<i>e = d*(b/31)</i>	<i>f = a/total a</i>	<i>g = b/total b</i>	<i>h = e/total e</i>
<b>Residential</b>								
Single Family	9,465	16,531	1.75	2.95	1,573.21	75%	72%	74%
Dual	112	218	1.95	3.29	23.08	1%	1%	1%
<b>Non-Residential</b>								
Commercial	1,127	1,558	1.38	1.95	97.79	9%	7%	5%
School District	1,912	4,575	2.39	2.89	426.24	15%	20%	20%
<b>Total</b>	<b>12,615</b>	<b>22,882</b>			<b>2,120.31</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>

Calculation of MD Peak Factor	Residential		Commercial	School District
	Single	Dual		
MM/AD Factor	1.75	1.95	1.38	2.39
System MD/MM Production Ratio [1]	1.21	1.21	1.21	1.21
Weekly Usage Adjustment	1.40	1.40	1.17	1.00
Calculation MD Peak Factor	2.95	3.29	1.95	2.89

Source: AWWA Manual M1, Linden County Water District, and HEC August 2020.

max day

[1] Calculation:	2013	2014	2015	2016	2017	2018	2019	
Maximum Day (MG)	0.99	0.77	0.59	0.69	0.72	0.69	0.74	
Maximum Month (MG)	23.12	20.12	14.25	17.34	20.06	19.17	19.19	
Average MGD in the Max. Month (max. day/31)	0.75	0.65	0.46	0.56	0.65	0.62	0.62	<b>Average</b>
Ration of Max. Day to Avg. in Max. Month	1.32	1.18	1.28	1.23	1.12	1.11	1.20	<b>1.21</b>

**Table A-27**  
**Linden County Water District**  
**Water Rate Study**  
**Projected Consumption Greater than Allowance**

Customer Group	Monthly Allowance	Fiscal Year					
		2021	2022	2023	2024	2025	2026
<b>Residential SF</b>	<b>HCF</b>	<b>Hundreds of Cubic Feet (HCF)</b>					
% of Use in Allowance	6	31%	31%	31%	31%	31%	31%
<b>Water Use In Allowance</b>		<b>35,371</b>	<b>35,070</b>	<b>34,878</b>	<b>34,840</b>	<b>34,801</b>	<b>34,755</b>
Water Use Greater than Allowance		79,494	78,819	78,387	78,301	78,214	78,110
<b>Total Residential SF</b>		<b>114,865</b>	<b>113,889</b>	<b>113,265</b>	<b>113,141</b>	<b>113,015</b>	<b>112,864</b>
<b>Residential Dual</b>							
% of Use in Allowance	12	47%	47%	47%	47%	47%	47%
Water Use In Allowance		<b>694</b>	<b>689</b>	<b>686</b>	<b>686</b>	<b>685</b>	<b>684</b>
Water Use Greater than Allowance		786	781	778	777	776	775
<b>Total Residential Dual</b>		<b>1,480</b>	<b>1,470</b>	<b>1,464</b>	<b>1,463</b>	<b>1,461</b>	<b>1,460</b>
<b>Commercial</b>							
% of Use in Allowance	3	9%	9%	9%	9%	9%	9%
Water Use In Allowance		<b>1,152</b>	<b>1,145</b>	<b>1,141</b>	<b>1,140</b>	<b>1,140</b>	<b>1,139</b>
Water Use Greater than Allowance		12,368	12,298	12,253	12,244	12,235	12,224
<b>Total Commercial</b>		<b>13,520</b>	<b>13,444</b>	<b>13,395</b>	<b>13,385</b>	<b>13,375</b>	<b>13,363</b>
<b>Schools</b>							
% of Use in Allowance	381	21%	21%	21%	21%	21%	21%
Water Use In Allowance		<b>4,917</b>	<b>4,889</b>	<b>4,872</b>	<b>4,868</b>	<b>4,864</b>	<b>4,860</b>
Water Use Greater than Allowance		18,021	17,919	17,854	17,841	17,828	17,812
<b>Total Schools</b>		<b>22,939</b>	<b>22,809</b>	<b>22,725</b>	<b>22,709</b>	<b>22,692</b>	<b>22,672</b>
<b>TOTAL EST. WATER USE</b>		<b>152,805</b>	<b>151,612</b>	<b>150,848</b>	<b>150,697</b>	<b>150,543</b>	<b>150,359</b>
Water Use In Allowance	28%	42,134	41,795	41,577	41,534	41,490	41,438
<b>Water Use Greater than Allowance</b>		<b>110,671</b>	<b>109,818</b>	<b>109,271</b>	<b>109,163</b>	<b>109,053</b>	<b>108,921</b>

Source: LCWD billing records and HEC August 2020.

allow

**Table A-28**  
**Linden County Water District**  
**Water Rate Study**  
**Estimated Percent Water Billed by Customer Type by Tier**

Customer Type	Monthly Allowance	Cumulative Billed Usage		Percent Use by Block	
		Allowance	Above Allowance	Allowance	Above Allowance
<b>Residential</b>		<i>Figures in HCF</i>			
SF	6	35,703	115,944	31%	69%
Dual	12	781	1,666	47%	53%
Commercial	3	1,073	12,593	9%	91%
Schools	381	4,458	20,796	21%	79%
<b>Totals</b>		<b>42,015</b>	<b>150,999</b>		

Source: Linden County Water District billing records and HEC August 2020.

tabs



**Table A-29**  
**Linden County Water District**  
**Water Rate Study**  
**Bill Tabulation for Rate Design - Residential**

Customer Group	Billing Units	Cumulative Bills through Block	Total Use of Bills Stopping in Block	Cumulative Use of Bills Stopping in Block	Total Use to This Block of Bills Passing Through Block	Cumulative Billed Usage	Percent Cumulative Billed Usage	
<b>Single Family</b>								
Zero Use	136	6,636	0	0	0	0	0%	
Allowance	6	1,645	6,500	6,573	29,130	35,703	31%	
Greater than Allowance >	6	4,855	4,855	109,371	115,944	0	115,944	100%
<b>Total</b>	<b>6,636</b>		<b>115,944</b>					
<b>Dual</b>								
Zero Use	29	84	121	121	0	121	7%	
Allowance	12	6	55	72	193	588	781	47%
Greater than Allowance >	12	49	49	1,473	1,666	0	1,666	100%
<b>Total</b>	<b>84</b>		<b>1,666</b>					

Source: Linden County Water District billing records and HEC August 2020.

resid in tab

**Table A-30**  
**Linden County Water District**  
**Water Rate Study**  
**Bill Tabulation for Rate Design - Commercial and Schools**

<b>Customer Group</b>	<b>Billing Units</b>	<b>Cumulative Bills through Block</b>	<b>Total Use of Bills Stopping in Block</b>	<b>Cumulative Use of Bills Stopping in Block</b>	<b>Total Use to This Block of Bills Passing Through Block</b>	<b>Cumulative Billed Usage</b>	<b>Percent Cumulative Billed Usage</b>
<b>Commercial</b>							
Zero Use	126	540	0	0	0	0	0%
Allowance	3	133	414	230	843	1,073	9%
Greater than Allowance >	3	281	281	12,363	12,593	12,593	100%
<b>Total</b>	<b>540</b>		<b>12,593</b>				
<b>Schools</b>							
Zero Use	0	12	0	0	0	0	0%
Allowance	381	2	648	648	3,810	4,458	21%
Greater than Allowance >	381	10	20,148	20,796	0	20,796	100%
<b>Total</b>	<b>12</b>	<b>12</b>	<b>20,796</b>				

Source: Linden County Water District billing records and HEC August 2020.

com tab

**Table A-31**  
**Linden County Water District**  
**Water Rate Study**  
**Water Conservation, Supply Shortage and Sustainability Program Charges**

<b>Annual Consumption-Related Operating Costs</b>	<b>ACTUAL FY 2018-19 @ Stage 1</b>	<b>ESTIMATED FY 2018-19 @ Stage 2</b>	<b>ESTIMATED FY 2018-19 @ Stage 3</b>	<b>ESTIMATED FY 2018-19 @ Permanent Conservation</b>
<b>Operating Costs (related to Consumption Only)</b>		<i>See Table A-17</i>		
Salaries, Employee Benefits & Taxes - 50%	\$27,170	\$27,170	\$27,170	\$27,170
Salaries, Employee Benefits & Taxes - 50%	\$27,170	\$27,170	\$27,170	\$27,170
<b>Utilities</b>	<b>\$22,267</b>	<b>\$17,814</b>	<b>\$13,360</b>	<b>\$26,721</b>
Professional and Special Services	\$12,568	\$12,568	\$12,568	\$12,568
Repairs and Maintenance	\$16,092	\$16,092	\$16,092	\$16,092
Insurance	\$4,267	\$4,267	\$4,267	\$4,267
Office Supplies, Postage & Printing	\$2,645	\$2,645	\$2,645	\$2,645
Testing Services	\$1,318	\$1,318	\$1,318	\$1,318
<b>Estimated Consumption Costs</b>	<b>\$113,497</b>	<b>\$109,044</b>	<b>\$104,590</b>	<b>\$117,950</b>
<b>Annual Consumption</b>		reduced 20%	reduced 40%	
FY 2018-19 Consumption in HCF	152,379	121,903	91,427	182,855
Cost per HCF	\$0.74	\$0.89	\$1.14	\$0.65
<b>Ratio to Stage 1</b>		<b>1.20</b>	<b>1.54</b>	<b>0.87</b>
<b>Conservation &amp; Sustainability Surcharge</b>		<b>20%</b>		
<b>Emergency Supply Surcharge</b>			<b>54%</b>	
<b>E. San Joaquin Groundwater Subbasin Relief</b>				<b>-13%</b>

Source: Linden County Water District Ordinance No. 14-01, and HEC.

cons prog

**Table A-32**  
**Linden County Water District**  
**Water Rate Study**  
**Revenue Check for FY 2021**

CUSTOMER TYPE	SERVICE CHARGES			USE REVENUE	TOTAL EST. REVENUE
	CUSTOMER IN	CUSTOMER OUT	READINESS- TO-SERVE		
<b>Residential In District</b>	<b>in tax</b>	<b>out tax</b>			
3/4" Meter	\$30,756	\$33,600	\$128,171	\$87,072	\$279,598
1" Meter	\$87	\$0	\$399	\$0	\$486
3/4" Meter - Dual	\$348	\$0	\$997	\$1,087	\$2,432
1" Meter - Dual	\$87	\$0	\$399	\$587	\$1,072
<b>Subtotal Residential In District</b>	<b>\$31,277</b>	<b>\$33,600</b>	<b>\$129,966</b>	<b>\$88,745</b>	<b>\$283,588</b>
<b>Residential Out of District</b>					
3/4" Meter	\$87	\$7,350	\$8,977	\$49,680	\$66,094
1" Meter	\$0	\$420	\$798	\$1,262	\$2,480
Dual (no meter size)	\$0	\$420	\$499	\$470	\$1,388
<b>Subtotal Residential Out of District</b>	<b>\$87</b>	<b>\$8,190</b>	<b>\$10,274</b>	<b>\$51,413</b>	<b>\$69,963</b>
<b>TOTAL RESIDENTIAL</b>	<b>\$31,364</b>	<b>\$41,790</b>	<b>\$140,240</b>	<b>\$140,158</b>	<b>\$353,551</b>
<b>Commercial</b>					
3/4" Meter	\$1,824	\$840	\$6,234	\$2,098	\$10,996
3/4" Meter (shared)	\$174	\$0	\$249	\$23	\$446
1" Meter	\$695	\$0	\$3,192	\$3,582	\$7,469
1" Meter (shared)	\$174	\$0	\$399	\$3	\$576
1.5" Meter	\$174	\$0	\$997	\$572	\$1,743
2" Meter	\$348	\$0	\$6,384	\$3,466	\$10,197
3" Meter	\$87	\$0	\$3,491	\$1,316	\$4,894
<b>TOTAL COMMERCIAL</b>	<b>\$3,475</b>	<b>\$840</b>	<b>\$20,946</b>	<b>\$11,059</b>	<b>\$36,321</b>
<b>SCHOOLS</b>	<b>\$0</b>	<b>\$210</b>	<b>\$20,747</b>	<b>\$29,245</b>	<b>\$50,202</b>
<b>TOTAL METERED</b>	<b>\$34,839</b>	<b>\$42,840</b>	<b>\$181,933</b>	<b>\$180,462</b>	<b>\$440,074</b>
<b>Flat-Rate Non-Residential</b>					
Commercial 1"	\$520	\$0	\$0	\$0	\$520
Commercial 2"	\$1,717	\$0	\$0	\$0	\$1,717
Fire Protection 6"	\$0	\$1,048	\$0	\$0	\$1,048
Fire Protection 8"	\$0	\$2,347	\$0	\$0	\$2,347
<b>TOTAL FLAT RATE</b>	<b>\$2,238</b>	<b>\$3,395</b>	<b>\$0</b>	<b>\$0</b>	<b>\$5,633</b>
<b>TOTAL</b>	<b>\$37,077</b>	<b>\$46,235</b>	<b>\$181,933</b>	<b>\$180,462</b>	<b>\$445,707</b>

Source: Linden County Water District and HEC September 2020.

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**Table A-33**  
**Linden County Water District**  
**Water Rate Study**  
**Estimated Water Fund #97 Cash Flow**

Revenues and Expenses	Fiscal Year Ending					
	2021	2022	2023	2024	2025	2026
<b>Estimated Revenues</b>						
Current Rate Revenues	\$446,763	\$446,763	\$446,763	\$446,763	\$446,763	\$446,763
Rate Change Additional Revenues		\$46,276	\$83,777	\$102,833	\$122,633	\$144,344
Property Tax	\$49,600	\$50,600	\$51,700	\$52,800	\$53,900	\$55,000
Interest Income	\$15,000	\$15,000	\$15,000	\$15,000	\$15,000	\$15,000
Meter Fee (new)	\$0	\$21,000	\$21,700	\$22,400	\$23,200	\$24,000
<b>Total Estimated Revenues</b>	<b>\$511,363</b>	<b>\$579,639</b>	<b>\$618,940</b>	<b>\$639,796</b>	<b>\$661,496</b>	<b>\$685,107</b>
<b>Estimated Operating Expenses</b>	<b>\$393,619</b>	<b>\$399,677</b>	<b>\$419,004</b>	<b>\$439,560</b>	<b>\$461,260</b>	<b>\$484,171</b>
<b>Net Revenue before Debt Service</b>	<b>\$117,744</b>	<b>\$179,961</b>	<b>\$199,936</b>	<b>\$200,236</b>	<b>\$200,236</b>	<b>\$200,936</b>
Debt Service	\$34,409	\$120,361	\$140,136	\$140,136	\$140,136	\$140,136
Estimated Coverage Ratio [1]	3.42	1.50	1.43	1.43	1.43	1.43
<b>Estimated Net Operating Revenue</b>	<b>\$83,335</b>	<b>\$59,600</b>	<b>\$59,800</b>	<b>\$60,100</b>	<b>\$60,100</b>	<b>\$60,800</b>
Beginning Balance	\$681,850	\$433,185	\$412,185	\$390,485	\$368,085	\$344,885
Estimated Net Revenues	\$83,335	\$59,600	\$59,800	\$60,100	\$60,100	\$60,800
Transfer Out to Capital Outlay Fund	(\$332,000)	(\$80,600)	(\$81,500)	(\$82,500)	(\$83,300)	(\$154,800)
<b>Estimated Ending Balance</b>	<b>\$433,185</b>	<b>\$412,185</b>	<b>\$390,485</b>	<b>\$368,085</b>	<b>\$344,885</b>	<b>\$250,885</b>
<b>Target Balance [2]</b>	<b>\$196,810</b>	<b>\$199,839</b>	<b>\$209,502</b>	<b>\$219,780</b>	<b>\$230,630</b>	<b>\$242,086</b>

Source: Linden CWD and HEC, October 2020.

flow

[1] F&M loan requires a ratio of at least 1.25.

[2] Target balance is at least six months of operating expenses.

**Table A-34**  
**Linden County Water District**  
**Water Rate Study**  
**Typical Single Family Water Usage Monthly Bill Impacts - IN DISTRICT and IN TAX AREAS**

Use in HCF	Current							Effective July 1st Bills					Difference New less Current
	Service Fee 3/4"	Use Charges					Total Bill	Service Fee 3/4"	Use Charge		Meter Fee	Total Bill	
		0-10	11-15	16-50	51-80	81+			0-6	7+			
	<i>Rate per HCF</i>			<i>\$0.87</i>	<i>\$1.74</i>	<i>\$2.17</i>	<i>\$2.61</i>			<i>\$1.90</i>			
1	\$33.06	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$33.06	\$31.58	\$0.00	\$0.00	\$2.55	\$34.13	\$1.07
2	\$33.06	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$33.06	\$31.58	\$0.00	\$0.00	\$2.55	\$34.13	\$1.07
3	\$33.06	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$33.06	\$31.58	\$0.00	\$0.00	\$2.55	\$34.13	\$1.07
4	\$33.06	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$33.06	\$31.58	\$0.00	\$0.00	\$2.55	\$34.13	\$1.07
5	\$33.06	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$33.06	\$31.58	\$0.00	\$0.00	\$2.55	\$34.13	\$1.07
6	\$33.06	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$33.06	\$31.58	\$0.00	\$0.00	\$2.55	\$34.13	\$1.07
7	\$33.06	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$33.06	\$31.58	\$0.00	\$1.90	\$2.55	\$36.03	\$2.97
8	\$33.06	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$33.06	\$31.58	\$0.00	\$3.80	\$2.55	\$37.93	\$4.87
9	\$33.06	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$33.06	\$31.58	\$0.00	\$5.70	\$2.55	\$39.83	\$6.77
10	\$33.06	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$33.06	\$31.58	\$0.00	\$7.60	\$2.55	\$41.73	\$8.67
<b>12</b>	<b>\$33.06</b>	<b>\$0.00</b>	<b>\$1.74</b>	<b>\$0.00</b>	<b>\$0.00</b>	<b>\$0.00</b>	<b>\$34.80</b>	<b>\$31.58</b>	<b>\$0.00</b>	<b>\$11.40</b>	<b>\$2.55</b>	<b>\$45.53</b>	<b>\$10.73</b>
14	\$33.06	\$0.00	\$3.48	\$0.00	\$0.00	\$0.00	\$36.54	\$31.58	\$0.00	\$15.20	\$2.55	\$49.33	\$12.79
16	\$33.06	\$0.00	\$4.35	\$1.74	\$0.00	\$0.00	\$39.15	\$31.58	\$0.00	\$19.00	\$2.55	\$53.13	\$13.98
18	\$33.06	\$0.00	\$4.35	\$5.22	\$0.00	\$0.00	\$42.63	\$31.58	\$0.00	\$22.80	\$2.55	\$56.93	\$14.30
20	\$33.06	\$0.00	\$4.35	\$8.70	\$0.00	\$0.00	\$46.11	\$31.58	\$0.00	\$26.60	\$2.55	\$60.73	\$14.62
22	\$33.06	\$0.00	\$4.35	\$12.18	\$0.00	\$0.00	\$49.59	\$31.58	\$0.00	\$30.40	\$2.55	\$64.53	\$14.94
24	\$33.06	\$0.00	\$4.35	\$15.66	\$0.00	\$0.00	\$53.07	\$31.58	\$0.00	\$34.20	\$2.55	\$68.33	\$15.26
26	\$33.06	\$0.00	\$4.35	\$19.14	\$0.00	\$0.00	\$56.55	\$31.58	\$0.00	\$38.00	\$2.55	\$72.13	\$15.58
28	\$33.06	\$0.00	\$4.35	\$22.62	\$0.00	\$0.00	\$60.03	\$31.58	\$0.00	\$41.80	\$2.55	\$75.93	\$15.90
30	\$33.06	\$0.00	\$4.35	\$26.10	\$0.00	\$0.00	\$63.51	\$31.58	\$0.00	\$45.60	\$2.55	\$79.73	\$16.22
40	\$33.06	\$0.00	\$4.35	\$43.51	\$0.00	\$0.00	\$80.92	\$31.58	\$0.00	\$64.60	\$2.55	\$98.73	\$17.81
50	\$33.06	\$0.00	\$4.35	\$60.91	\$0.00	\$0.00	\$98.32	\$31.58	\$0.00	\$83.60	\$2.55	\$117.73	\$19.41
60	\$33.06	\$0.00	\$4.35	\$60.91	\$21.70	\$0.00	\$120.01	\$31.58	\$0.00	\$102.60	\$2.55	\$136.73	\$16.72
70	\$33.06	\$0.00	\$4.35	\$60.91	\$43.39	\$0.00	\$141.71	\$31.58	\$0.00	\$121.60	\$2.55	\$155.73	\$14.02
80	\$33.06	\$0.00	\$4.35	\$60.91	\$65.09	\$0.00	\$163.41	\$31.58	\$0.00	\$140.60	\$2.55	\$174.73	\$11.32
90	\$33.06	\$0.00	\$4.35	\$60.91	\$65.09	\$26.10	\$189.51	\$31.58	\$0.00	\$159.60	\$2.55	\$193.73	\$4.22
100	\$33.06	\$0.00	\$4.35	\$60.91	\$65.09	\$52.21	\$215.61	\$31.58	\$0.00	\$178.60	\$2.55	\$212.73	(\$2.88)

Source: HEC October 2020.

impact

**Table A-35**  
**Linden County Water District**  
**Water Rate Study**  
**Typical Single Family Water Usage Monthly Bill Impacts - IN DISTRICT and OUT TAX AREAS**

Use in HCF	Current							Effective July 1st Bills					Difference New less Current
	Service Fee 3/4"	Use Charges					Total Bill	Service Fee 3/4"	Use Charge		Meter Fee	Total Bill	
		0-10	11-15	16-50	51-80	81+			0-6	7+			
	<i>Rate per HCF</i>		\$0.87	\$1.74	\$2.17	\$2.61				\$1.90			
1	\$33.06	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$33.06	\$41.96	\$0.00	\$0.00	\$2.55	\$44.51	\$11.45
2	\$33.06	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$33.06	\$41.96	\$0.00	\$0.00	\$2.55	\$44.51	\$11.45
3	\$33.06	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$33.06	\$41.96	\$0.00	\$0.00	\$2.55	\$44.51	\$11.45
4	\$33.06	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$33.06	\$41.96	\$0.00	\$0.00	\$2.55	\$44.51	\$11.45
5	\$33.06	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$33.06	\$41.96	\$0.00	\$0.00	\$2.55	\$44.51	\$11.45
6	\$33.06	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$33.06	\$41.96	\$0.00	\$0.00	\$2.55	\$44.51	\$11.45
7	\$33.06	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$33.06	\$41.96	\$0.00	\$1.90	\$2.55	\$46.41	\$13.35
8	\$33.06	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$33.06	\$41.96	\$0.00	\$3.80	\$2.55	\$48.31	\$15.25
9	\$33.06	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$33.06	\$41.96	\$0.00	\$5.70	\$2.55	\$50.21	\$17.15
10	\$33.06	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$33.06	\$41.96	\$0.00	\$7.60	\$2.55	\$52.11	\$19.05
<b>12</b>	<b>\$33.06</b>	<b>\$0.00</b>	<b>\$1.74</b>	<b>\$0.00</b>	<b>\$0.00</b>	<b>\$0.00</b>	<b>\$34.80</b>	<b>\$41.96</b>	<b>\$0.00</b>	<b>\$11.40</b>	<b>\$2.55</b>	<b>\$55.91</b>	<b>\$21.11</b>
14	\$33.06	\$0.00	\$3.48	\$0.00	\$0.00	\$0.00	\$36.54	\$41.96	\$0.00	\$15.20	\$2.55	\$59.71	\$23.17
16	\$33.06	\$0.00	\$4.35	\$1.74	\$0.00	\$0.00	\$39.15	\$41.96	\$0.00	\$17.10	\$2.55	\$61.61	\$22.46
18	\$33.06	\$0.00	\$4.35	\$5.22	\$0.00	\$0.00	\$42.63	\$41.96	\$0.00	\$19.00	\$2.55	\$63.51	\$20.88
20	\$33.06	\$0.00	\$4.35	\$8.70	\$0.00	\$0.00	\$46.11	\$41.96	\$0.00	\$22.80	\$2.55	\$67.31	\$21.20
22	\$33.06	\$0.00	\$4.35	\$12.18	\$0.00	\$0.00	\$49.59	\$41.96	\$0.00	\$26.60	\$2.55	\$71.11	\$21.52
24	\$33.06	\$0.00	\$4.35	\$15.66	\$0.00	\$0.00	\$53.07	\$41.96	\$0.00	\$30.40	\$2.55	\$74.91	\$21.84
26	\$33.06	\$0.00	\$4.35	\$19.14	\$0.00	\$0.00	\$56.55	\$41.96	\$0.00	\$34.20	\$2.55	\$78.71	\$22.16
28	\$33.06	\$0.00	\$4.35	\$22.62	\$0.00	\$0.00	\$60.03	\$41.96	\$0.00	\$38.00	\$2.55	\$82.51	\$22.48
30	\$33.06	\$0.00	\$4.35	\$26.10	\$0.00	\$0.00	\$63.51	\$41.96	\$0.00	\$41.80	\$2.55	\$86.31	\$22.80
40	\$33.06	\$0.00	\$4.35	\$43.51	\$0.00	\$0.00	\$80.92	\$41.96	\$0.00	\$45.60	\$2.55	\$90.11	\$9.19
50	\$33.06	\$0.00	\$4.35	\$60.91	\$0.00	\$0.00	\$98.32	\$41.96	\$0.00	\$64.60	\$2.55	\$109.11	\$10.79
60	\$33.06	\$0.00	\$4.35	\$60.91	\$21.70	\$0.00	\$120.01	\$41.96	\$0.00	\$83.60	\$2.55	\$128.11	\$8.10
70	\$33.06	\$0.00	\$4.35	\$60.91	\$43.39	\$0.00	\$141.71	\$41.96	\$0.00	\$102.60	\$2.55	\$147.11	\$5.40
80	\$33.06	\$0.00	\$4.35	\$60.91	\$65.09	\$0.00	\$163.41	\$41.96	\$0.00	\$121.60	\$2.55	\$166.11	\$2.70
90	\$33.06	\$0.00	\$4.35	\$60.91	\$65.09	\$26.10	\$189.51	\$41.96	\$0.00	\$140.60	\$2.55	\$185.11	(\$4.40)
100	\$33.06	\$0.00	\$4.35	\$60.91	\$65.09	\$52.21	\$215.61	\$41.96	\$0.00	\$159.60	\$2.55	\$204.11	(\$11.50)

Source: HEC October 2020.

imp in out

**Table A-36**  
**Linden County Water District**  
**Water Rate Study**  
**Typical Single Family Water Usage Monthly Bill Impacts - OUT OF DISTRICT and OUT TAX AREAS**

Use in HCF	Current						Total Bill	Effective July 1st Bills				Difference New less Current	
	Service Fee 3/4"	Use Charges						Service Fee 3/4"	Use Charge 0-6	7+	Meter Fee		Total Bill
		0-14	15-20	21-50	51-80	81+							
	<i>Rate per HCF</i>		\$1.05	\$1.92	\$2.35	\$2.78				\$1.90			
1	\$55.79	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$55.79	\$41.96	\$0.00	\$0.00	\$2.55	\$44.51	(\$11.28)
2	\$55.79	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$55.79	\$41.96	\$0.00	\$0.00	\$2.55	\$44.51	(\$11.28)
3	\$55.79	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$55.79	\$41.96	\$0.00	\$0.00	\$2.55	\$44.51	(\$11.28)
4	\$55.79	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$55.79	\$41.96	\$0.00	\$0.00	\$2.55	\$44.51	(\$11.28)
5	\$55.79	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$55.79	\$41.96	\$0.00	\$0.00	\$2.55	\$44.51	(\$11.28)
6	\$55.79	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$55.79	\$41.96	\$0.00	\$0.00	\$2.55	\$44.51	(\$11.28)
7	\$55.79	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$55.79	\$41.96	\$0.00	\$1.90	\$2.55	\$46.41	(\$9.38)
8	\$55.79	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$55.79	\$41.96	\$0.00	\$3.80	\$2.55	\$48.31	(\$7.48)
9	\$55.79	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$55.79	\$41.96	\$0.00	\$5.70	\$2.55	\$50.21	(\$5.58)
10	\$55.79	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$55.79	\$41.96	\$0.00	\$7.60	\$2.55	\$52.11	(\$3.68)
<b>12</b>	<b>\$55.79</b>	<b>\$0.00</b>	<b>\$0.00</b>	<b>\$0.00</b>	<b>\$0.00</b>	<b>\$0.00</b>	<b>\$55.79</b>	<b>\$41.96</b>	<b>\$0.00</b>	<b>\$11.40</b>	<b>\$2.55</b>	<b>\$55.91</b>	<b>\$0.12</b>
14	\$55.79	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$55.79	\$41.96	\$0.00	\$15.20	\$2.55	\$59.71	\$3.92
15	\$55.79	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$55.79	\$41.96	\$0.00	\$17.10	\$2.55	\$61.61	\$5.82
16	\$55.79	\$0.00	\$2.10	\$0.00	\$0.00	\$0.00	\$57.89	\$41.96	\$0.00	\$19.00	\$2.55	\$63.51	\$5.62
18	\$55.79	\$0.00	\$4.20	\$0.00	\$0.00	\$0.00	\$59.99	\$41.96	\$0.00	\$22.80	\$2.55	\$67.31	\$7.32
20	\$55.79	\$0.00	\$6.31	\$0.00	\$0.00	\$0.00	\$62.10	\$41.96	\$0.00	\$26.60	\$2.55	\$71.11	\$9.01
22	\$55.79	\$0.00	\$6.31	\$3.84	\$0.00	\$0.00	\$65.94	\$41.96	\$0.00	\$30.40	\$2.55	\$74.91	\$8.97
24	\$55.79	\$0.00	\$6.31	\$7.68	\$0.00	\$0.00	\$69.78	\$41.96	\$0.00	\$34.20	\$2.55	\$78.71	\$8.93
26	\$55.79	\$0.00	\$6.31	\$11.53	\$0.00	\$0.00	\$73.62	\$41.96	\$0.00	\$38.00	\$2.55	\$82.51	\$8.89
28	\$55.79	\$0.00	\$6.31	\$15.37	\$0.00	\$0.00	\$77.46	\$41.96	\$0.00	\$41.80	\$2.55	\$86.31	\$8.85
30	\$55.79	\$0.00	\$6.31	\$19.21	\$0.00	\$0.00	\$81.31	\$41.96	\$0.00	\$45.60	\$2.55	\$90.11	\$8.80
40	\$55.79	\$0.00	\$6.31	\$38.42	\$0.00	\$0.00	\$100.52	\$41.96	\$0.00	\$64.60	\$2.55	\$109.11	\$8.59
50	\$55.79	\$0.00	\$6.31	\$57.63	\$0.00	\$0.00	\$119.73	\$41.96	\$0.00	\$83.60	\$2.55	\$128.11	\$8.38
60	\$55.79	\$0.00	\$6.31	\$57.63	\$23.50	\$0.00	\$143.23	\$41.96	\$0.00	\$102.60	\$2.55	\$147.11	\$3.88
70	\$55.79	\$0.00	\$6.31	\$57.63	\$47.01	\$0.00	\$166.73	\$41.96	\$0.00	\$121.60	\$2.55	\$166.11	(\$0.62)
80	\$55.79	\$0.00	\$6.31	\$57.63	\$70.51	\$0.00	\$190.24	\$41.96	\$0.00	\$140.60	\$2.55	\$185.11	(\$5.13)
90	\$55.79	\$0.00	\$6.31	\$57.63	\$70.51	\$27.80	\$218.04	\$41.96	\$0.00	\$159.60	\$2.55	\$204.11	(\$13.93)
100	\$55.79	\$0.00	\$6.31	\$57.63	\$70.51	\$55.60	\$245.83	\$41.96	\$0.00	\$178.60	\$0.00	\$220.56	(\$25.27)

Source: HEC October 2020.

impact out



## **APPENDIX B**

### **LINDEN COUNTY WATER DISTRICT**

### **ORDINANCE 14-01**



ORDINANCE No 14-01

AN URGENCY ORDINANCE OF THE LINDEN COUNTY WATER DISTRICT ADOPTING A  
DROUGHT MANAGEMENT PLAN

WHEREAS, California Constitution Article X, section 2 and California Water Code section 100 provide that due to conditions prevailing in the state of California (the "State"), it is the declared policy of the State that the general welfare requires that the water resources of the State shall be put to beneficial use to the fullest extent of which they are capable, the waste or unreasonable use of water shall be prevented, and the conservation of such waters is to be exercised with a view to the reasonable and beneficial use thereof in the interest of the people and the public welfare; and

WHEREAS, on January 17, 2014, the Governor of the State proclaimed a state of emergency with respect to the drought conditions in the state of California, proclaiming that the conditions constitute extreme peril to the safety of persons and property; and

WHEREAS, the District's sole source of water supply is the Eastern San Joaquin County Groundwater Basin, which is in a current state of critical overdraft; and

WHEREAS, because of the prevailing drought conditions in the State, the declared policy of the State, and the critically overdrafted condition of the Eastern San Joaquin County Groundwater Basin, the Board of Directors of the Linden County Water District ("District") hereby find and determine that it is necessary and appropriate for the District to adopt, implement, and enforce a Drought Management Plan to reduce the quantity of water used by customers of the District to ensure that there is sufficient water supply for human consumption, sanitation, and fire protection; and

WHEREAS, the District is authorized to prescribe and define by ordinance, certain restrictions, prohibitions, and exclusions for the use of water during a threatened or existing water shortage and adopt and enforce a Drought Management Plan to: 1) prohibit the waste of District-provided water during drought periods; 2) prohibit specific uses of water that the District from time to time determines are non-essential; and 3) reduce and restrict the quantity of water used by those persons within the District for the purpose of conserving the District's water supply; and

WHEREAS, the Board of Directors of the District find that the current statewide proclamation of a State of Emergency and the potential impact on the District's water supply caused by the drought conditions warrant immediate and urgent action, necessitating the adoption of an urgency ordinance to take effect immediately,

NOW, THEREFORE, THE BOARD OF DIRECTORS OF THE LINDEN COUNTY WATER DISTRICT DOES ORDAIN AS FOLLOWS:

**Section 1.** The Board of Directors of the District hereby finds and determines that the above Recitals are true and correct.

**Section 2.** The District hereby adopts this Ordinance No. 14-01 as an urgency ordinance, which reads in full as follows:

**I. Declaration of Purpose and Intent**

a) The purpose of this Article is to establish a Water Conservation and Supply Shortage and Sustainability Program that will reduce water consumption within the District through conservation, enable effective water supply planning, assure reasonable and beneficial use of water, prevent waste of water, and maximize the efficient use of water within the District to avoid and minimize the effect and hardship of water shortage to the greatest extent possible.

b) This Article establishes Permanent Water Conservation Requirements intended to alter behavior related to water use efficiency for non-shortage conditions and further establishes three levels of water supply shortage response actions to be implemented during times of declared water shortage or declared water shortage emergency, with increasing restrictions on water use in response to worsening drought or emergency conditions and decreasing supplies.

**II. Permanent Water Conservation Requirements – Prohibition Against Waste**

The following water conservation requirements are effective at all times and are permanent, unless rescinded by the action of the Board of Directors. Violations of this section will be considered waste and an unreasonable use of water.

a) **No Excessive Water Flow or Runoff:** Watering or irrigating of any lawn, landscape or other vegetated area in a manner that causes or allows excessive water flow or runoff onto an adjoining sidewalk, driveway, street, alley, gutter or ditch is prohibited.

b) **No Washing Down Hard or Paved Surfaces:** Washing down hard or paved surfaces, including but not limited to sidewalks, walkways, driveways, parking areas, tennis courts, patios or alleys, is prohibited except when necessary to alleviate safety or sanitary hazards, and then only by use of a hand-held bucket or similar container, a hand-held hose equipped with a positive self-closing water shut-off device.

c) **Obligation to Fix Leaks, Breaks or Malfunctions:** Excessive use, loss or escape of water through breaks, leaks or other malfunctions in the customers plumbing or distribution system for any period of time after such escape of water.

d) **Re-circulating Water Required for Water Fountains and Decorative Water Features:** Operating a water fountain or other decorative water feature that does not use re-circulated water is prohibited.

e) **Limits on Washing Vehicles:** Using water to wash or clean a vehicle, including but not limited to any automobile, truck, van, bus, motorcycle, boat or trailer, whether motorized or not is prohibited, except by use of a hand-held bucket or similar container or a hand-held hose equipped with a positive self-closing water shut-off nozzle or device. This subsection does not apply to any commercial car washing facility.

f) **Drinking Water Served Upon Request Only:** Eating or drinking establishments, including but not limited to a restaurant, hotel, cafe, cafeteria, bar, club or other public place where food or drinks are sold, served, or offered for sale, are requested to refrain from providing drinking water to any person unless requested.

g) **Commercial Lodging Establishments Must Provide Option to Not Launder Linen Daily:** Hotels, motels, and other commercial lodging establishments must provide customers the option of not having towels and linen laundered daily. Commercial lodging establishments shall prominently display notice of this option in each bathroom using clear and easily understood language.

h) **Restaurants Required to Use Water Conserving Dish Wash Spray Valves:** Food preparation establishments, such as restaurants or cafes, are prohibited from using non-water conserving dish wash spray valves.

i) **Commercial Car Wash Systems:** Effective March 31, 2015, all commercial car wash systems must have installed and operational re-circulating water systems, or must have secured a waiver of this requirement from the District.

j) **Large Landscape Areas – Rain Sensors:** Effective March 31, 2015, Large Landscape Areas, such as parks, cemeteries, golf courses, school grounds, and playing fields, that use Landscape Irrigation Systems to water or irrigate, must use Landscape Irrigation Systems with rain sensors that automatically shut off such systems during periods of rain or irrigation timers which automatically use information such as evapotranspiration sensors to set an efficient water use schedule.

k) **Limits on Building Permits:** The District may limit or withhold the issuance of building permits which require new or expanded water service, except to protect the public health, safety and welfare, or in cases which meet the District's adopted Conservation offset requirements.

### **III. Stage 1 Water Supply Shortage**

a) A Stage 1 Water Supply Shortage exists when the District determines, in its sole discretion, that due to drought or other water supply reductions, a water supply shortage exists and a consumer demand reduction of up to 20% is necessary to make more efficient use of water and appropriately respond to existing water shortage conditions. Upon the declaration by the District of a Stage 1 Water Supply Shortage condition, the District shall implement the mandatory Stage 1 Conservation Measures identified in this section.

b) **Additional Water Conservation Measures:** In addition to the "Permanent Water Conservation Requirements," the following water conservation requirements apply during a declared Stage 1 Water Supply Shortage:

1) **Limits on Outdoor Watering Hours and Duration:** Watering or irrigating of lawn, landscape or other vegetated area with Potable Water is prohibited between the hours of 7 a.m. to 6 p.m. on any day, except by use of a hand-held bucket or similar container, a hand-held hose equipped with a positive self-closing water shut-off nozzle or device. Watering or irrigating of lawn, landscape or other vegetated area with Potable Water using a Landscape Irrigation System is limited to no more than 30 minutes watering per day.

2) **Limits on Outdoor Watering Days:** Watering or irrigating of lawn, landscape or other vegetated area with Potable Water is limited to 3 days per week. Odd-numbered addresses can water on Wednesday, Friday, and Sunday (e.g. 1513 Main). Even-numbered addresses can water on Tuesday, Thursday, and Saturday (e.g. 1062 Main). No watering is allowed on Mondays. This provision does not apply to landscape irrigation zones that exclusively use very low flow drip type irrigation systems when no emitter produces more than 2 gallons of water per hour. This provision also does not apply to watering or irrigating by use of a hand-held bucket or similar container, a hand-held hose equipped with a positive self-closing water shut-off nozzle or device.

3) **Obligation to Fix Leaks, Breaks or Malfunctions:** All leaks, breaks, or other malfunctions in the water user's plumbing or distribution system must be repaired within three days of notification by the District unless other arrangements are made with the District.

4) **Limits on Washing Vehicles:** Using water to wash or clean a vehicle, including but not limited to any automobile, truck, van, bus, motorcycle, boat or trailer, whether motorized or not is prohibited. This subsection does not apply to any commercial car washing facility.

5) **Other Prohibited Uses:** The District may implement other prohibited water uses as determined by the District, after notice to customers.

#### **IV. Stage 2 Water Supply Shortage**

a) A Stage 2 Water Supply Shortage exists when the District determines, in its sole discretion, that due to drought or other water supply reductions, a water supply shortage exists and a consumer demand reduction exceeding 20% to up to 40% is necessary to make more efficient use of water and appropriately respond to existing water shortage conditions. Upon the declaration by the District of a Stage 2 Water Supply Shortage condition, the District shall implement the mandatory Stage 2 Conservation Measures identified in this section.

b) **Additional Conservation Measures:** In addition to the "Permanent Water Conservation Requirements," the following additional water conservation requirements apply during a declared Stage 2 Water Supply Shortage:

1) **Limits on Outdoor Watering Hours and Duration:** Watering or irrigating of lawn, landscape or other vegetated area with Potable Water is prohibited between the hours of 7 a.m. to 6 p.m. on any day, except by use of a hand-held bucket or similar container, a hand-held hose equipped with a positive self-closing water shut-off nozzle or device. Watering or irrigating of lawn, landscape or other vegetates area with Potable Water using a Landscape Irrigation System is limited to no more than 15 minutes per day.

2) **Limits on Outdoor Watering Days:** Watering or irrigating of lawn, landscape or other vegetated area with Potable Water is limited to 2 days per week. Odd-numbered addresses can water on Wednesday, and Friday (e.g. 1513 Main). Even-numbered addresses can water on Tuesday, and Thursday (e.g. 1062 Main). No watering is allowed on Mondays, Saturdays, and Sundays. This provision does not apply to landscape irrigation zones that exclusively use very low flow drip type irrigation systems when no emitter produces more than 2

gallons of water per hour. This provision also does not apply to watering or irrigating by use of a hand-held bucket or similar container, a hand-held hose equipped with a positive self-closing water shut-off nozzle or device.

3) **Obligation to Fix Leaks, Breaks or Malfunctions:** All leaks, breaks, or other malfunctions in the water user's plumbing or distribution system must be repaired within two days of notification by the District unless other arrangements are made with the District.

4) **Limits on Washing Vehicles:** Using water to wash or clean a vehicle, including but not limited to any automobile, truck, van, bus, motorcycle, boat or trailer, whether motorized or not is prohibited. This subsection does not apply to any commercial car washing facility.

5) **Limits on Filling Ornamental Lakes or Ponds:** Filling or re-filling ornamental lakes or ponds is prohibited, except to the extent needed to sustain aquatic life, provided that such animals are of significant value and have been actively managed within the water feature prior to declaration of a supply shortage Stage.

6) **Limits on Filling Residential Swimming Pools & Spas:** Re-filling of more than one foot and initial filling of residential swimming pools or outdoor spas with Potable Water is prohibited.

7) **Other Prohibited Uses:** The District may implement other prohibitions on water uses as determined by the District, after notice to customers.

#### V. Stage 3 Water Supply Shortage – Emergency Condition

a) A Stage 3 Water Supply Shortage condition is also referred to as an "Emergency" condition. A Stage 3 condition exists when the District declares a water shortage emergency and notifies its residents and businesses that a significant consumer demand reduction exceeding 40% is necessary to make more efficient use of water and respond to existing water conditions. Upon the declaration of a Stage 3 Water Supply Shortage Emergency condition, the District will implement the mandatory Stage 3 Conservation measures identified in this section.

b) **Additional Conservation Measures:** In addition to the "Permanent Water Conservation Requirements," the following water conservation requirements apply during a declared Stage 3 Water Supply Shortage Emergency:

1) **No Outdoor Watering or Irrigating:** Watering or irrigating of lawn, landscape or other vegetated area with Potable Water is prohibited. This restriction does not apply to the following categories of use:

(i) Maintenance of vegetation, including trees and shrubs, that are watered using a hand-held bucket or similar container, hand-held hose equipped with a positive self-closing water shut-off nozzle or device, or a very low-flow drip type irrigation system when no emitter produces more than 2 gallons of water per hour subject to the

hour restrictions of 6 p.m. to 7 a.m. on any day (prohibited between the hours of 7 a.m. to 6 p.m.)

(ii) Maintenance of existing landscape necessary for fire protection;

(iii) Maintenance of plant materials identified to be rare or essential to the wellbeing of rare animals;

(iv) Maintenance of landscape within active public parks and playing fields, day care centers, school grounds, cemeteries, and golf course greens, provided that such irrigation does not exceed 2 days per week subject to the hour restrictions of 6 p.m. to 7 a.m. on any day (prohibited between the hours of 7 a.m. to 6 p.m.).

2) **Obligation to Fix Leaks, Breaks or Malfunctions:** All leaks, breaks, or other malfunctions in the water user's plumbing or distribution system must be repaired within 24 hours of notification by the District unless other arrangements are made with the District.

3) **Limits on Washing Vehicles:** Using water to wash or clean a vehicle, including but not limited to any automobile, truck, van, bus, motorcycle, boat or trailer, whether motorized or not is prohibited. This subsection does not apply to any commercial car washing facility.

4) **Discontinue Service:** The District, in its sole discretion, may discontinue service to customers who willfully violate provisions of this section.

5) **Other Prohibited Uses:** The District may implement other prohibited water uses as determined by the District, after notice to customers.

## **VI. Procedures for Determination/Notification of Water Supply Shortage**

a) Declaration and Notification of Stage 1, 2 & 3 Water Supply Shortage:

1) The existence of Stage 1, Stage 2, and Stage 3 Water Supply Shortage conditions may be declared by resolution of the District adopted at a regular or special public meeting held in accordance with state law. The mandatory conservation requirements applicable to Stage 1, Stage 2 and Stage 3 Water Supply Shortage conditions will take effect immediately upon adoption by the Board of Directors.

2) In case of emergency, the District Manager will have the authority to declare a Stage 1, Stage 2, and Stage 3 Water Supply Shortage condition subject to ratification by the Board of Directors within 7 days or the order will have no further force or effect.

3) The Board of Directors is authorized to implement mandatory conservation requirements applicable to Stage 1, Stage 2 and Stage 3 Water Supply Shortage conditions in order for the District to comply with water use restrictions imposed by federal, state or regional water agencies or respond to emergency water shortage conditions.



## VII. Other Provisions

a) Water Rates may be increased by a set monthly amount, based upon a rate study approved by the Board of Directors. Increased fees will help offset the District's system maintenance costs in a time of water usage reductions.

## VIII. Hardship Waiver

a) **Undue and Disproportionate Hardship:** If, due to unique circumstances, a specific requirement of this Article would result in undue hardship to a person using water or to property upon which water is used, that is disproportionate to the impacts to water users generally or to similar property or classes of water users, then the person may apply for a waiver upon written application to the District. Granting of the waiver will be at the sole discretion of the Board of Directors.

## IX. Penalties and Violations

a) **Administrative Penalties:** In addition to all other remedies, the District may issue administrative penalties for failure to comply with any provisions of this Article are as follows:

1) **First Violation:** customer will receive a written Notice of Violation and a copy of this plan by mail.

2) **Second Violation:** a second violation within the preceding 12 calendar months, the customer is subject to a fine of \$50. The fine will be added to the customer's next water bill. Nonpayment will be subject to the same remedies as nonpayment of basic water rates.

3) **Third and Subsequent Violations:** a third or subsequent violation within the preceding 12 calendar months, the customer is subject to a fine of \$500. The fine will be added to the customer's next water bill. Nonpayment will be subject to the same remedies as nonpayment of basic water rates.

4) **Termination of Service:** In addition to any fines and the installation of a water flow restrictor, after three (3) violations the District may disconnect, install a flow restrictor and/or terminate a customer's water service.

b) **Cost of Flow Restrictor and Disconnecting Service:** A person or entity that violates this Article is responsible for payment of the District's charges for installing and/or removing any flow restricting device and for disconnecting and/or reconnecting service per the District's schedule of charges then in effect. The charge for installing and/or removing any flow restricting device must be paid to the District before the device is removed. Nonpayment will be subject to the same remedies as nonpayment of basic water rates.

c) A violation of this Article is declared to be a public nuisance and may be abated by the District in accordance with its authority to abate nuisances.

d) The penalties and remedies listed in this Article are not exclusive of any other penalties and remedies available to the District under any applicable federal, state or local law and it is within the discretion of the District to seek cumulative penalties and remedies.

**Section 3.** This Ordinance is exempt from the California Environmental Quality Act (Public Resources Code §21000, et seq.) ("CEQA") because it can be seen with certainty that there is no possibility that it will have a significant effect on the environment as it includes regulations to protect the Eastern San Joaquin County Groundwater Basin from further depletion (CEQA Guidelines §15061(b)(3)), and under CEQA Guidelines Section 15378, the Ordinance is not a project under CEQA because it will not cause a "direct physical change in the environment," or a "reasonably foreseeable indirect physical change in the environment" because it does not authorize any development activity or promote new construction or growth.

**Section 4.** A violation of this Ordinance may be subject to administrative penalties imposed by the Linden County Water District, or by injunction issued by the San Joaquin County Superior Court.

**Section 5.** If any section, subsection, clause, phrase, or portion of this Ordinance is for any reason held to be invalid or unconstitutional by the decision of a court of competent jurisdiction, such decision shall not affect the validity or constitutionality of the remaining portion of this Ordinance. The Board of Directors hereby declares that it would have passed this Ordinance and each section, subsection, clause, phrase, or portion thereof irrespective of the fact that any one or more sections, subsections, sentences, clauses, phrases, or portions be declared invalid or unconstitutional.

**Section 6.** The Board of Directors declares that this Ordinance is necessary as an urgency measure to preserve the public health, safety, and welfare. This Ordinance shall take effect immediately upon its passage.

PASSED AND ADOPTED by the Board of Directors of the Linden County Water District at its regular meeting held on the 11<sup>th</sup> day of June, 2014, by the following vote, to wit:

AYES: Walsh, Owens, Powell, Matthews

NOES: none


ABSENT: Fonzi

ABSTAINING: none

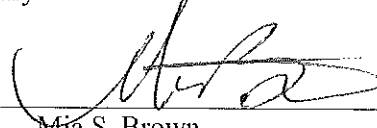
By:

  
\_\_\_\_\_  
John Walsh  
President, Board of Directors

Attest:

  
\_\_\_\_\_  
Barbara Kascht  
Board Secretary

Approved as to form:

  
\_\_\_\_\_  
Mia S. Brown  
District Legal Counsel

## RESOLUTION 14-02

### A RESOLUTION OF THE BOARD OF DIRECTORS OF THE LINDEN COUNTY WATER DISTRICT DECLARING A STAGE 1 WATER SUPPLY SHORTAGE

WHEREAS, the Board of Directors of the Linden County Water District ("District") adopted Ordinance No. 14-01 on June 11, 2014, adopting a Drought Management Plan; and

WHEREAS, within the Drought Management Plan, the District has already enacted Permanent Water Conservation Requirements prohibiting water waste; and

WHEREAS, the District has determined that due to continuing severe drought conditions, a water supply shortage exists and a consumer demand reduction of up to 20% is necessary to make more efficient use of water and appropriately respond to the existing water shortage.

NOW, THEREFORE, BE IT RESOLVED that a Stage 1 Water Supply Shortage condition is declared with the following mandatory Stage 1 Conservation Measures implemented immediately:

1) **Limits on Outdoor Watering Hours and Duration:** Watering or irrigating of lawn, landscape or other vegetated area with Potable Water is prohibited between the hours of 7 a.m. to 6 p.m. on any day, except by use of a hand-held bucket or similar container, a hand-held hose equipped with a positive self-closing water shut-off nozzle or device. Watering or irrigating of lawn, landscape or other vegetated area with Potable Water using a Landscape Irrigation System is limited to no more than 30 minutes watering per day.

2) **Limits on Outdoor Watering Days:** Watering or irrigating of lawn, landscape or other vegetated area with Potable Water is limited to 3 days per week. Odd-numbered addresses can water on Wednesday, Friday, and Sunday (e.g. 1513 Main). Even-numbered addresses can water on Tuesday, Thursday, and Saturday (e.g. 1062 Main). No watering is allowed on Mondays. This provision does not apply to landscape irrigation zones that exclusively use very low flow drip type irrigation systems when no emitter produces more than 2 gallons of water per hour. This provision also does not apply to watering or irrigating by use of a hand-held bucket or similar container, a hand-held hose equipped with a positive self-closing water shut-off nozzle or device.

3) **Obligation to Fix Leaks, Breaks or Malfunctions:** All leaks, breaks, or other malfunctions in the water user's plumbing or distribution system must be repaired within three days of notification by the District unless other arrangements are made with the District.

4) **Limits on Washing Vehicles:** Using water to wash or clean a vehicle, including but not limited to any automobile, truck, van, bus, motorcycle, boat or trailer, whether motorized or not is prohibited. This subsection does not apply to any commercial car washing facility.

5) **Other Prohibited Uses:** The District may implement other prohibited water uses as determined by the District, after notice to customers.

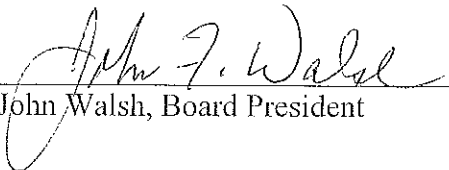
PASSED AND ADOPTED by the Board of Directors of Linden County Water District at a regular meeting thereof held on the 14<sup>th</sup> day of July, by the following vote:

AYES: Walsh, Owens, Fonzi, Powell, Matthews

NOES: none

ABSTAIN: none

ABSENT: none

  
John Walsh, Board President

ATTEST:

  
Barbara Kascht, Board Secretary



## CURRENT WATER USE RESTRICTIONS

Outdoor irrigation of ornamental landscape or turf with potable water shall be limited to the following until further notice:

- Even-numbered addresses can water on Tuesday, Thursday and Saturday.
- Odd-numbered addresses can water on Monday, Wednesday and Friday.
- No watering is allowed on Sunday.
- Water only between the hours of 6:00 p.m. and 7:00 a.m.
- Landscape Irrigation systems shall be limited to no more than 30 minutes of watering per station, per day. *This provision does not apply to vegetable gardens, fruit trees, or other gardens or landscaping that produce food. This provision does not apply to landscape irrigation zones that exclusively use very low flow drip type irrigation systems when no emitter produces more than 2 gallons of water per hour. This provision also does not apply to watering or irrigating by use of a hand-held bucket or similar container, a hand-held hose equipped with a positive self-closing water shut-off nozzle or device.*

### Prohibited Activities:

- Failing or neglecting to fix any leak, break, or other malfunction in your plumbing, irrigation, or water system within three (3) days of receiving a Notice to repair from the District (unless other arrangements are made with the District);
- Applying potable water to outdoor landscapes in a manner that causes runoff such that water flows onto adjacent property, non-irrigated areas, private and public walkways, roadways, parking lots;
- Applying potable water to driveways and sidewalks;
- Using potable water in a fountain or other decorative water feature, except where the water is part of a recirculating system;
- Applying potable water to outdoor landscapes during and within 48 hours after measurable rainfall;
- Serving drinking water except upon request in eating or drinking establishments, including but not limited to restaurants, hotels, cafes, cafeterias, bars, or other public places where food or drink are served and/or purchased;
- Irrigating ornamental turf on public street medians with potable water; and
- Irrigating landscapes outside of newly constructed homes and buildings with potable water, in a manner inconsistent with regulations or other requirements established by the California Building Standards Commission and the Department of Housing and Community Development.