

# **WATER UTILITY RATE STUDY**

**CITY OF DUNSMUIR**

**NOVEMBER 2015**



# WATER UTILITY RATE STUDY

FOR

CITY OF DUNSMUIR  
5915 DUNSMUIR AVENUE  
DUNSMUIR, CA 96025

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## **ABBREVIATIONS**

AWWA	American Water Works Association
CDBG	Community Development Block Grant
CF	Cubic Feet (Note 100 CF = 748 gallons)
CPI	Consumer Price Index
CWCC	California Water Conservation Council
DIF	Development Impact Fee
DWSRF	Drinking Water State Revolving Fund
ENR	Engineering News Record
FY	Fiscal Year
GPM	Gallons per Minute
HE	Household Equivalent (i.e., typical single-family home)
HHS	Department of Health and Human Services
IRWM	Integrated Regional Water Management
M	Million
MG	Million gallons
MHI	Median Household Income
MOU	Memorandum of Understanding
MWP	Master Water Plan
RD	Rural Development
SCADA	Supervisory Control and Data Acquisition
SRF	State Revolving Fund
SWRCB	State Water Resource Control Board

# CHAPTER I

## EXECUTIVE SUMMARY

### **INTRODUCTION**

The City of Dunsmuir (City) owns and operates a water system consisting of spring supply facilities, storage reservoirs, a pump station, pressure reducing valve stations, and distribution piping. The water system is operated by the City as an independent enterprise through the Water Enterprise Fund.

### **PURPOSE AND SCOPE**

PACE Engineering prepared the City's 1994 Master Water Plan (MWP) and was hired in 2014 to prepare an update to an old master plan and perform a water utility rate study. Analysis of the Development Impact Fees needed to fund the system improvements related to growth is not included in the Scope of Work.

This report presents the results of the review and analysis of the City's current Water Enterprise Fund rates. This review was conducted to determine if the current rate structure can provide the revenues needed to allow the City to recover the total costs of the Water Enterprise from existing and future customers. Costs that were reviewed included the costs of operation and maintenance, debt service, normal additions and replacements to the systems, administrative costs, and capital improvement programs.

The purpose of the study is to identify possible changes to the City's current rate structures, which may be required to provide the future revenues needed to meet projected costs. In addition, the City requested that the rate structures be equitable such that, as nearly as practical, each customer would pay their fair share of the costs of providing the services received.

The scope of this study includes a review and analysis of the operation of the City's Water Enterprise based upon historic expenditures and revenues. Future revenue requirements for funding capital improvements are based on findings from the 2015 MWP, which was completed concurrently with this study.

In order to facilitate public involvement and create a transparent environment from which the rate study was generated, the City formed a “Citizen’s Committee” made up of two City Council members and three community members. Five (5) public workshops were completed with the Citizen’s Committee in which members of the public attended to hear discussions and offer feedback. In addition, draft rate study results were presented at two City council meetings for consideration and comment by the public.

The work performed included:

- Hosting public meetings with Citizen’s Committee members to collect and review available information and review the methodology to be used in the development of the recommended rate structures for water services.
- Reviewing historical account information and anticipated future costs for the 5-year study period (FY 2016-17 through FY 2020-21).
- Prioritize capital improvement funding needs based on results of the City’s 2015 MWP, completed concurrently with the rate study.
- Develop a forecast of the annual revenue requirements.
- Recommend rate structures that will generate the level of revenue needed, with a distribution of those costs on an equitable basis between current and new customers, as well as by class of customer.

## **STUDY ASSUMPTIONS**

The following assumptions were used to analyze and project future costs, revenues, and rates for this study:

- Proposed Water Enterprise Fund rates must generate sufficient revenues to cover the costs of system operation and maintenance, replacement capital improvements, and debt service allocated to system users.

- The Water Enterprise Funds will operate with a balanced budget, maintaining adequate reserve and replacement funds.

## **WATER RATE AND FINANCIAL RECOMMENDATIONS**

**SUMMARY OF FINDINGS:** Findings related to the City’s water rates are summarized below:

- The current water rate structure consists of a fixed monthly service charge and “declining block” consumption rate schedule that applies to all water use in excess of 7,500 gallons (10 units) per month. The fixed monthly service charge for each account is based on hydraulic capacity of the size of meter that serves the account.
- The current water rate structure is fairly easy to understand and administer. However, the “declining block” structure does not promote water conservation and benefits high water users within the community. Therefore, it is not the most equitable to all user classes.
- Currently, approximately 57 percent of water rate revenues are generated from the fixed monthly service charges. The remaining 43 percent are derived from consumption charges and are subject to changes in overall water consumption.
- Reduced consumption during years with higher than normal rainfall can result in less revenue than anticipated based on historical consumption records. Therefore, it is recommended the City adopt a policy of maintaining a minimum operating reserve of 25 percent of total budget expenses less on-going capital projects.
- Water rates need to provide sufficient revenues to sustain the capital replacement program at levels desired for long-term system reliability.

**WATER RATE RECOMMENDATIONS:** The water rates recommended for adoption for FY 2016-17 through FY 2020-21 are summarized in Table 1. These water rates were adopted by the City Council at its November 5, 2015 regular council meeting. The analyses contained in this report assume that the proposed FY 2016-17 rates will become effective on July 1, 2016.

**TABLE 1**  
**City of Dunsmuir - Water Utility**  
**Recommended Water Rates**

	Current FY 15-16	Proposed FY 16-17	Proposed FY 17-18	Proposed FY 18-19	Proposed FY 19-20	Proposed FY 20-21	
<b>CONSUMPTION CHARGES (\$/Unit, 1 Unit=750 Gallons)</b>							
6 - 10 Units	-	\$2.10	\$2.20	\$2.30	\$2.40	\$2.50	
11 - 40 Units	\$2.92	\$2.10	\$2.20	\$2.30	\$2.40	\$2.50	
41 - 160 Units	\$2.07	\$2.10	\$2.20	\$2.30	\$2.40	\$2.50	
Excess over 160 Units	\$1.15	\$2.10	\$2.20	\$2.30	\$2.40	\$2.50	
<b>MONTHLY SERVICE CHARGES (\$/Mo)</b>							<b>Capacity Factor</b>
5/8" Meter	\$26.00	\$28.80	\$31.60	\$34.40	\$37.20	\$40.00	1.0
(Note 1): 5/8" Meter (Lifeline or Low Income)	\$24.00	\$26.80	\$29.60	\$32.40	\$35.20	\$38.00	-
3/4" Meter	\$47.24	\$43.20	\$47.40	\$51.60	\$55.80	\$60.00	1.5
1" Meter	\$76.24	\$72.00	\$79.00	\$86.00	\$93.00	\$100.00	2.5
1-1/2" Meter	\$143.37	\$144.00	\$158.00	\$172.00	\$186.00	\$200.00	5.0
2" Meter	\$219.35	\$230.40	\$252.80	\$275.20	\$297.60	\$320.00	8.0
3" Meter	\$387.28	\$432.00	\$474.00	\$516.00	\$558.00	\$600.00	15.0
4" Meter	\$575.24	\$720.00	\$790.00	\$860.00	\$930.00	\$1,000.00	25.0
Flat Rate	\$27.60	\$30.58	\$33.55	\$36.53	\$39.49	\$42.45	
NOTES: 1. Only applies to qualifying families with 5/8" meter.							

The current average water bill for a typical residence with 5/8" meter is about \$34.50 per month. If the same water use trends continue, it is expected the average water bill for a 5/8" residential customer will increase to about \$47.77 per month by FY 2020-21 based on the proposed rates shown in Table 1.

The recommendations for the water rate structure include:

- The City should continue to determine each account's fixed monthly service charge based on the meter hydraulic capacity factors shown in the far right column in Table 1, wherein the base rate reflects the hydraulic impact on the water system resulting from the larger meter size.

- Similar to the City’s Sewer Enterprise Fund, it is recommended the City gradually increase water rates such that the average monthly rate exceeds 1.5% of the median household income (MHI) within the service area. This will allow the City to qualify for larger grants and favorable terms on long-term, low interest loans for funding large capital replacement projects in the future.
- It is recommended the City adopt a “Lifeline” or low-income base water rate for qualifying families with 5/8” meter. It is proposed the discount be \$2 per month off the normal base charge. The City should work with its legal counsel to develop an application form which, 1) requires proof of income, and 2) establishes the income threshold from which the applicant’s income is compared. Income thresholds are typically established by the Department of Health and Human Services (HHS) or other similar agency.
- The current “declining” tiered rate structure should be eliminated, and a “uniform” rate structure adopted, as proposed. In the future, the City may even consider moving toward an “inclining” tiered rate structure.

**WATER FINANCIAL PLAN RECOMMENDATIONS:** The following recommendations are made with respect to the water fund structure and reserve policies. These recommendations are intended to improve the financial condition of the water utility and minimize the potential for future rate volatility.

- The water utility should maintain a minimum operating reserve of 25 percent of the budgeted total expenses less on-going capital projects. The designated operating reserve will provide funds available for emergencies, unanticipated fluctuations in revenues relative to costs, and other unforeseeable events.
- The water utility should maintain a Debt Reserve Fund and a Short-Lived Assets Replacement Reserve Fund in accordance with the Letter of Conditions associated with the City’s loans from USDA Rural Development.
- Water Improvements Fund – The City enacted a series of water rate increases in 2013 and 2014 to increase the 5/8” base rate from \$18 to \$26 per month. This increase resulted in accumulation of revenue to allow the City to immediately begin planning and design

for major water system replacement projects. Additional accumulated revenue should be used for this purpose. After the projects are constructed, additional revenue will be used to make annual debt payments on long-term loans and fund-required reserves. Specific capital project needs were identified in the 2015 MWP.

- It is recommended the City adopt a “Water Service Modification” fee of \$50 per request. The intent of this fee is to assess a reasonable charge to a customer requesting that a meter be shut off, turned on, or modified in some way.
- It is recommended the City adopt a “Water Service Standby” fee equivalent to one-half of the meter base rate for a particular service. This charge shall apply to those customers who request their water be turned off for periods throughout the year, such as vacation or second homes. The rationale is that operation and maintenance of the water system is an ongoing, day-to-day activity, benefiting all water services connected to the water system, whether they are consuming water at a particular time or not.
- Review inflationary trends annually using the American Cities Municipal Index, and confirm that inflation is still within the inflation factors used in the five-year financial plan. Higher than projected inflation may require adjustments to the proposed rate schedule.
- Update this Utility Rate Study within five years, such that a new five-year study can be adopted and implemented by July 1, 2021.

## CHAPTER II WATER UTILITY

### CURRENT WATER USE RATES

The City implemented a series of water rate increases between July 2010 and April 2014 that increased the fixed monthly rate from \$13 to \$26 per month for single family customers with 5/8” meters. The fixed monthly service charge allocated 10 units of water to each single-family customer. One unit of water is equal to 750 gallons. Consumption rates were increased as well. Table 2, below, summarizes the City’s historical water rates since July 2001.

Based on City financial data, it is estimated that the fixed monthly service charges generated about 57 percent of the water rate revenues for FY 2014-15. The remaining 43 percent is generated through consumption charges based on the actual water used.

**TABLE 2  
City of Dunsmuir – Water Utility  
Historical and Current Water Use Rates**

	July 1, 2001 to June 30, 2010	July 1, 2010 to Sept. 30, 2013	Oct. 1, 2013 to March 31, 2014	April 1, 2014 to June 30, 2016
<b><u>Consumption Charges (\$/Unit)</u></b>				
11-40 Units	\$1.46	\$2.02	\$2.47	\$2.92
41-60 Units	\$1.03	\$1.43	\$1.75	\$2.07
Excess over 160 Units	\$0.57	\$0.79	\$0.97	\$1.15
<b><u>Monthly Service Charges (\$/Month)</u></b>				
5/8” Meter	\$13	\$18	\$22	\$26

## HISTORICAL GROWTH AND EXPENDITURES

**WATER UTILITY CUSTOMERS AND WATER USE – HISTORY:** According to City-data.com, there has not been significant growth within the City of Dunsmuir in recent years. Data indicates the population of Dunsmuir between 2000 and 2013 has increased by about 17.7 percent. It is not anticipated this growth trend will change much in the coming years due to local economic factors and the fact that the majority of easily developable land in Dunsmuir is mostly developed. The north Dunsmuir area to Mott Airport has the highest potential for future growth, but the City is unaware of any pending or potential developments in this area.

For planning purposes for this rate study and to project the most conservative revenue projections, it is assumed the population served by the City’s water system will be unchanged for the next five years. If unexpected growth does occur, and revenue is higher than projected, the City will apply the additional funds toward replacement of deteriorated infrastructure.

In July 2014, the City of Dunsmuir had a total of 1,220 water accounts. The accounts are segregated into the following meter sizes:

	<u>No. of Accounts</u>
5/8” Meter:	1,170
3/4” Meter:	2
1” Meter:	16
1-1/2” Meter:	13
2” Meter:	15
3” Meter:	3
<u>4” Meter:</u>	<u>1</u>
TOTAL:	1,220

Significant fluctuations in water demand due to weather variations can impact the stability of the water utility revenue. To a lesser degree, local economic conditions can also impact water consumption and water utility revenue. Thus, it will be important to maintain adequate operating reserves to handle the loss in expected revenue during low water consumption years. The

proposed rate increases will likely cause some customers to conserve water use in order to reduce the financial impact of the rate increases. This phenomenon is called “price elasticity.” For revenue projection purposes, it has been assumed the projected revenue will be reduced by 20% of the expected increase.

**WATER UTILITY EXPENDITURES:** Water utility expenditures for operation and maintenance and for replacement capital projects are normally made from the Water Enterprise Fund. Table 3 is a summary of the Water Enterprise Expenditures for FY 2012-13 through 2014-15. Itemized expenditures for FY 2013-2014 were not available.

**TABLE 3  
City of Dunsmuir – Water Utility  
Historical Expenditures**

	Expended (FY 12-13)	Expended (FY 13-14)	Expended (FY 14-15)
Personnel & Related Expenses	\$133,358	\$135,792	\$130,054
Contract Services	\$5,731	\$-	\$8,368
General & Administrative Services	\$59,952	\$-	\$92,198
Repairs and Maintenance	\$17,656	\$-	\$31,641
Materials and Supplies	\$23,812	\$-	\$22,077
Insurance and Permits	\$14,599	\$-	\$21,106
Bad Debt	\$2,564	\$-	\$0
Principal & Interest Payments on Debt	\$38,879	\$-	\$35,499
Depreciation & Amortization	<u>\$0</u>	<u>\$0</u>	<u>\$0</u>
<b>Total Expenditures:</b>	<b>\$296,551</b>	<b>\$402,031</b>	<b>\$340,943</b>

Historically, the City has not funded depreciation. The water utility annual depreciation is about \$135,000 per year, which equates to about \$7.66 per month, per 5/8” meter equivalent. According to American Water Works Association (AWWA), Principles of Water Rates, Fees, and Charges, Manual M1, it is appropriate, and even recommended that the City not account for depreciation when determining user fees. This is because the most appropriate, straight-forward, and defensible approach for municipalities to establish user rates is to use the “Cash-Needs” approach described in AWWA Manual M1. The “Cash-Needs” approach utilizes debt obligations and capital improvement needs when determining rates. The “Utility-Basis” approach considers depreciation and return on rate base. The “Utility-Basis” approach is more appropriate for large privately-owned and investor-owned utilities.

## **WATER RATE DEVELOPMENT**

**CURRENT WATER RATE REVENUE REQUIREMENT:** As indicated in the 1994 MWP, there were about 50,000 feet of old steel pipelines throughout the City that have reached or exceeded their useful lives. Since 1994, the City has replaced small portions of this piping using its own resources or grant funding from various sources. Unfortunately, because the City's water rates are so low, it can only qualify for small grants such as the Community Development Block Grants, which are difficult to obtain. In the last nine years, the City has obtained \$3.0M in CDBG grant money to make improvements to the water system. At this rate of funding, it would take another 30 to 40 years to replace worn-out infrastructure.

The City expects to receive about \$1.25M through the Integrated Regional Water Management (IRWM) Proposition 84 program, administered by Department of Water Resources, to fund additional water main replacement work in South and North Dunsmuir. The South Dunsmuir work will enable the City to complete the work not funded by the recent \$1.22M CDBG grant. It is expected the IRWM program will receive an influx of Proposition 1 money that may be available for future water main replacement projects, which will help the City reduce the need for long-term loans. As such, it is highly recommended the City continue to actively participate in the IRWM funding program.

While the IRWM funding program has the potential to help the City replace worn-out infrastructure, it is not expected to be adequate to provide all the funding necessary to replace worn-out infrastructure. Therefore, the City will need to take advantage of the more traditional funding programs, such as those administered by USDA Rural Development (RD) and the Drinking Water State Revolving Fund (DWSRF) programs. In order to accomplish this, the City's average annual water rates must be at least 1.5% of the median household income (MHI) for the area. In other words, the grant funding agencies expect water users to be paying at least 1.5% of their income toward water before qualifying for grants.

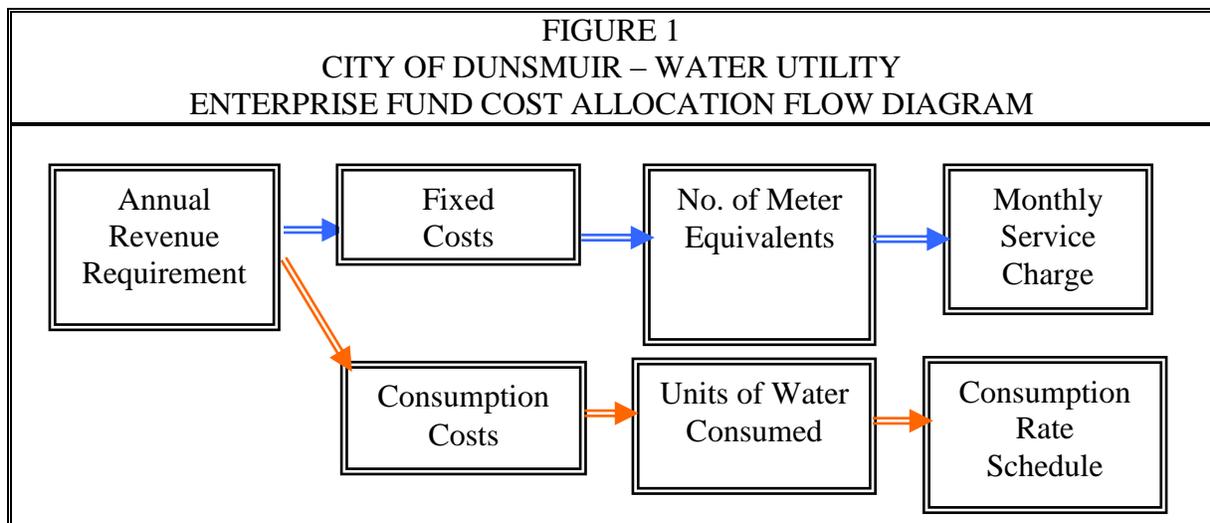
Recently, the City was able to successfully increase its sewer rates to 1.5% of MHI and obtain a 70% grant to fund state-mandated improvements to its wastewater treatment facility.

For all of the reasons described above, the City’s future revenue requirements will be based on gradually increasing water rates to 1.5% of MHI and using collected funds to initiate planning and design of recommended improvements and to debt service long-term loans.

Analysis of the FY 2014-15 water rate revenue requirement is based on the City’s FY 2014-15 adopted budget. The annual water enterprise rate revenue requirement is based on water system operation and maintenance cost plus debt service obligations and replacement capital improvement needs, less other water system revenues such as interest earnings and other income.

**COST OF SERVICE ANALYSIS:** Development of water rate recommendations normally involves two primary steps. First, the Water Enterprise Fund costs are allocated to functional cost components, and then, a rate structure is designed to incorporate these cost components. The goal is to allocate the costs and design a rate structure that results in the costs being proportionately distributed among customer classes.

There are a number of ways to allocate costs for rate setting purposes. Some are rather complex, requiring a significant effort to develop and to administer. Others are somewhat simpler to develop, understand, and administer. The City’s current rate structure allocates the water system costs into two specific categories. These include Fixed Costs and Consumptive Costs as shown on Figure 1.



**Fixed Costs:** Fixed costs tend to vary in relation to the number and size of the meters and services and in relation to the magnitude of the service demand. These costs may be properly distributed among customer classes by recognizing factors that are generally responsible for those costs being incurred. Historically, the City has distributed meter size costs in close proportion to the rated hydraulic capacity of each meter. This method is commonly used and recognized in American Water Works Association (AWWA) Manual M1. In addition, it is more representative of the true impact to the water system. Thus, it is proposed the City adjust its meter factors to match the hydraulic capacity factors presented by AWWA.

**Consumption Costs:** Much discussion was made during the Citizen's Committee workshops regarding the best consumption rate approach. Essentially, there are three general approaches for establishing consumption rates, briefly described below:

**Declining Block:** In a declining block structure, as water use increases, the cost-per-unit of water decreases. Some argue that this structure is justified due to the economy of scale when producing water, i.e. the cost per unit of water is less for the last unit produced than the first unit produced. However, this structure does not promote water conservation, which is necessary when managing a fixed resource, like a water supply. The City's current consumption rates are based on a declining block structure.

**Uniform Block:** As the name implies, the uniform block establishes one rate per unit of water consumed beyond the base rate allocation. In other words, there is one rate for water used no matter how much water, beyond the base allocation, is consumed.

**Inclining Block:** The inclining block is the most popular consumption rate structure and is based on an increasing cost per unit of water. The more water used, the higher cost per unit. This structure promotes water conservation and lower overall water use. Recent court decisions have made the inclining block structure more difficult to administer because Proposition 218 requires consumers be charged for the actual cost of benefit received. Thus, the inclining block cannot be used, exclusively, for punitive reasons.

In a typical water system, consumption rates are based, in part, on the varying costs to operate elements in the water system, such as treatment and pumping facilities. For example, costs to

operate these facilities typically remain consistent or increase with increased water use. Hence the reason many agencies use an inclining block rate structure. However, Dunsmuir's water system is gravity fed, does not have treatment facilities, and only has one booster pump station in the system. Therefore, a uniform consumption rate block fits the City's system best.

Consumption costs are recovered from customers based on actual water usage.

**WATER RATE DESIGN:** There are many ways to structure water rates; however, there are important concepts to adhere to in order to promote "buy-in" from the community, such as:

- Rate structures should be easy to understand and implement.
- Rates should promote efficient allocation of the resource, i.e. conservation minded.
- Rates should be equitable and non-discriminating, i.e. cost-based.
- There should be continuity in the rate making philosophy over time. Drastic changes in rate structures should be avoided.
- Rates should consider other utility policies, such as economic development and planning for the future.
- Rates should consider the customer's ability to pay.
- Rates should provide month-to-month and year-to-year revenue stability within the water enterprise fund.
- Water rates should recover adequate revenue to fund the following:
  - Day-to-day operation and maintenance expenses, including short-lived asset reserves intended to replace short-lived assets periodically.
  - Debt service obligations for long-term capital improvement loans, including required reserves by the funding agency.
  - Capital project replacement costs.

Many water systems separate expenses into "fixed" and "variable" categories. Fixed expenses are those that do not vary as a result of changing water consumption. Variable expenses are those expenses that change with varying water consumption, such as treatment and pumping costs. Since Dunsmuir does not have treatment facilities and only one booster pump station, the majority of the City's water system expenses would fall into the "fixed" category.

The California Water Conservation Council (CWCC) developed a memorandum of understanding (MOU) in 2010 which establishes a goal for water agencies to collect 30% of its revenue from fixed rates and 70% from consumption rates after 2013. The intent of this MOU is to promote water conservation and requires an “inclining” consumption rate block to obtain this goal. Even though not law, agencies that are signatory to this MOU are striving toward this goal. It is not believed Dunsmuir is signatory to this MOU. It would be very difficult for Dunsmuir to reach this goal because, as indicated above, the majority of the City’s water expenses are fixed.

Also, the September 2013 court ruling in San Juan Capistrano, regarding the legality of implementing punitive consumption rates associated with an inclining block structure, challenges this approach. For these reasons, it is not recommended the City strive to meet the “fixed” versus “consumption” revenue goals established by the CWCC.

**Fixed Monthly Service Charges:** An over emphasis on consumptive charges can create revenue volatility, especially during abnormally wet conditions when lower than expected water sales significantly reduces revenues. Thus, it is recommended that the City strive to set its fixed monthly service charges to collect a similar amount of annual revenue, as has occurred in the past.

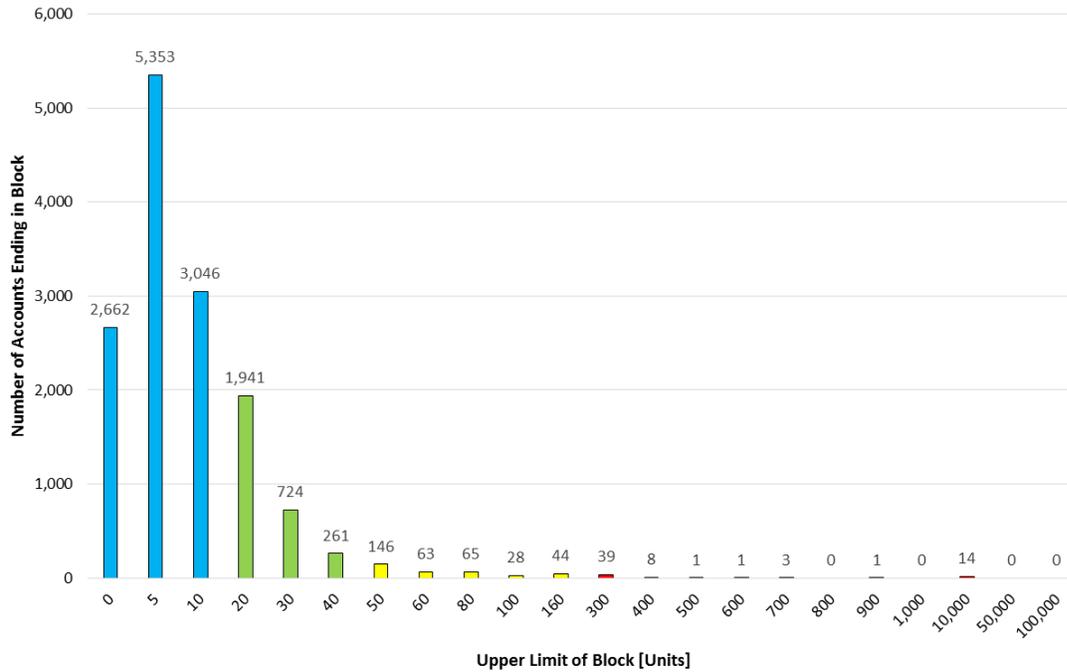
In order to remain consistent with current and prior practices, it is recommended the City continue to utilize the “meter hydraulic capacity” basis for determining the fixed monthly service charges for meters larger than 5/8” in size. This will require small decreases to the 3/4” and 1” meter size base rates initially. The 1-1/2” and 2” meter factors will increase slightly over the existing factors. The meter factors for 3” and 4” meters will have a more substantial increase over the others, as their current factors were less than the AWWA-recommended factors.

Historically, the City’s base rate included 10 units (7,500 gallons) of water. Water consumed above this amount was paid for at consumption rates. A review of the City’s actual water consumption for FY 13-14 revealed the average wintertime water consumption was about 4.9 units per month. Wintertime water use is often used to determine the minimum amount of water needed to sustain a household, independent of irrigation needs.

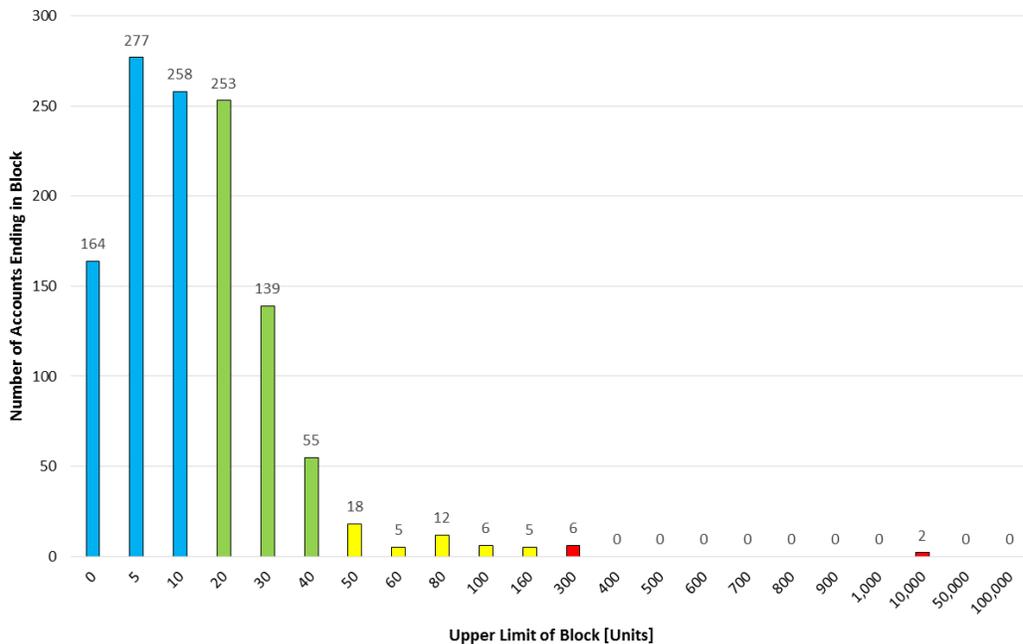
After concerns expressed by some citizens during the public ad hoc committee meetings, further investigation was conducted to evaluate summertime and overall annual water use. According to

City billing records, approximately 46% of all water bills during a one-year period (July 1, 2013 to June 30, 2014) consumed less than 5 units of water, see Figure 2. In addition, approximately 27% of customers in July 2014 consumed less than 5 units of water, see Figure 3.

**Figure 2 – Annual Water Bill Consumption Distribution**



**Figure 3 – July 2013 Water Bill Consumption Distribution**



Clearly, there is a distinct user class than consumes less than 5 units of water per month throughout the year, including during peak demand periods. Therefore it is proposed the amount of water allocated in the base rate be reduced from 10 units to 5 units.

Another significant factor in establishing fixed monthly service charges is the need to accumulate revenue to fund replacement of worn-out water mains and service piping. The 2015 MWP identified approximately 39,500 feet of old water main and service pipe that, 1) has exhibited a severe leak history, or 2) are over 60 years old and have exceeded their useful lives. An additional 6,200 feet of water main and service pipe is being replaced as part of the current CDBG-funded project.

It was recommended in the City's 1994 MWP that a program be developed to begin replacing much of this old piping. Unfortunately, a comprehensive plan was never implemented. The City has been able to replace small portions of this old piping over the last 20 years by obtaining small grants, but because water rates are so low, it has been unable to secure any larger grants.

Therefore, it is proposed the City incrementally increase its rates over time, such that the "1.5% of MHI" threshold can be met in about five years. In the meantime, the accumulated revenue can be used to begin planning and design of water main replacement projects and securing long-term financing. After construction, the future increased revenue will be used to debt service long-term loans.

The Citizen's Committee recommended the City implement a "lifeline" water rate that provides a discounted base rate for qualifying low income families. A monthly discount of \$2 per month is consistent with other local agencies in Siskiyou County. Consumption rates would not be discounted.

**Consumption Rates:** As discussed hereinbefore, the City currently utilizes a "declining block" consumption rate. This structure promotes "water use" as opposed to water conservation, and creates a scenario where lower consumption water users subsidize those that use the most water. The best consumption rate structure to promote water conservation is the "inclining block." However, the change from a "decreasing" block to "increasing" block was viewed by the Citizen's Committee as too drastic to implement all at once. Therefore, it is recommended

the City convert to a “uniform” consumption rate in which all water consumed above that which is included in the base rate will be charged one rate per unit of water consumed.

The consumptive rates are formulated to generate the remaining revenue required over and above the revenue generated by the base rate to fund fixed expenses. However, in order to generate revenue to replace worn-out pipelines and gradually increase the overall average monthly rate per single-family resident to 1.5% of MHI, it is recommended the consumption rate be increased along with the base rate.

**MULTI-YEAR FINANCIAL PLAN GUIDELINES:** In order to develop a recommendation regarding future rates, we developed a multi-year financial plan for the water enterprise. This financial plan considers both capital and operating programs. Specific plan elements are described below.

**Capital Projects:** The City’s new 2015 MWP recommended a number of improvements to correct existing deficiencies and replace infrastructure that has met or exceeded its useful life. Recommended improvements were prioritized into the following categories and reference is made to cost estimate tables contained in the new 2015 MWP.

**Current Improvements:** Current Improvements are improvements that are already funded and expected to be constructed by summer 2016. The work includes replacement of approximately 6,200 feet of water main and service pipe in Scherer Ave., Blackberry Hill, Willow St., Bush St., Butterfly Ave., and Oak St. Refer to Table 13 in the 2015 MWP. These particular areas suffer from inadequate system pressures during peak demand periods and inadequate fire flows during all demand periods. In addition, some areas, such as Butterfly Ave. and Bush St. have experienced considerable leak repair efforts by City staff in recent years. The value of these projects is about \$1.22M and are being funded by a CDBG grant.

**Immediate Improvements:** Immediate Improvements are intended to, 1) correct existing water system deficiencies, and 2) replace water pipelines that have exhibited a considerable leak history in recent years. Refer to Table 14 in the 2015 MWP. The immediate improvements consist of replacing approximately 23,400 feet of water main

and service pipe at various locations throughout the City. The total project value of immediate improvements is about \$9.4M. It is expected that \$1.25M of this amount will be funded through the latest round of IRWM Proposition 84 grant funding. Construction completion is expected by late summer 2016. The remaining \$8.15M worth of immediate improvements is not yet funded; however, the City has adequate capital project reserve funds to initiate the planning and design efforts for the \$2.917M Downtown Tank Relocation & Replacement Project in hopes that it will be well positioned to obtain IRWM Proposition funding when the funding becomes available in summer 2016. In addition, it is recommended the City initiate planning and design of a \$5.5M capital replacement project as soon as possible using capital project reserve funds.

Near-Term Improvements: Near-Term Improvements represent replacement costs for the portion of the City's distribution system that has met or exceeded its useful life. These pipelines have not yet developed an extensive leak history like the projects contained in the Current and Immediate Improvements categories. However, over time, it is expected these pipelines will begin to create O&M challenges. Therefore, it is recommended the City begin to plan for replacement of approximately 16,200 feet of water main and service pipe. The project value for the Near-Term Improvements is about \$5.54M, refer to Table 15 in the 2015 MWP.

The total value of unfunded Immediate and Near-Term Improvements is about \$13.69M. The 2015 MWP also identifies about \$8.01M of As-Developed Improvements to the City's water system that are needed to accommodate future growth. These improvements would be funded by developers at the time of development through yet-to-be-determined Development Impact Fees. Therefore, there is no consideration for funding the As-Developed Improvements with current and proposed rates. Since the projects identified in the Immediate and Near-Term Improvements categories are intended to replace worn-out infrastructure or correct existing deficiencies, it is proposed existing rate payers fund these improvements.

It will not be possible to implement a \$13.69M project at one time based on the City's current water rates. Therefore, it is proposed the City gradually increase rates and implement phased projects over the next five years. Table 4 contains a breakdown of current and planned capital improvement projects for completing the recommendations established in the 2015 MWP. As

indicated, the total value of projects identified in the 2015 MWP is about \$16.164M. Of this amount, \$1.22M is currently funded by a CDBG grant. An additional \$1.25M is expected to be funded by a IRWM Proposition 84 grant. It is hopeful the \$2.917M Downtown Tank Relocation and Replacement Project will be funded by a future IRWM Proposition 1 grant.

**TABLE 4**  
**City of Dunsmuir – Water Utility**  
**Proposed Capital Project Financing Plan**

Description	Project Cost	Funding Source	Status	Year Complete
<b>2015 Water Main Replacement Project</b>	<b>\$1.22M</b>	<b>CDBG Grant</b>	<b>Funded</b>	<b>2016</b>
<b>North &amp; South Dunsmuir Water Main Replacement Project</b>	<b>\$1.25M</b>	<b>IRWM Grant</b>	<b>Pending</b>	<b>2016</b>
<b>Downtown Tank Relocation &amp; Replacement Project</b>	<b>\$2.917M</b>	<b>IRWM Grant</b>	<b>Hopeful</b>	<b>2016</b>
<b>Phase I – Water Main Replacement</b>	<b>\$5.5 M</b>	<b>USDA Loan</b>	<b>Planned</b>	<b>2018</b>
<b>Phase II – Water Main Replacement</b>	<b>\$4.285M</b>	<b>USDA Loan</b>	<b>Planned</b>	<b>2020</b>
<b>Total:</b>	<b>\$15.172M</b>			
<b>Master Plan Capital Project:</b>	<b>\$16.164M</b>			
<b>Shortfall:</b>	<b>\$0.992M</b>			

Subtracting the current, pending, and hopeful grant-funded projects leaves about \$10.777M worth of non-grant-funded improvements. It is recommended the City pursue these projects with its own accumulated capital reserve funds and long-term, low-interest loans. Due to the current amount of capital reserve funding, it is recommended the City immediately begin planning and design for a Phase I \$5.5M project. Then, during FY 2017-18, begin planning and design for a Phase II \$4.285M project. If the City is unable to obtain a grant component for the Phase II project, there will be about a \$0.992M shortfall for completing all projects identified in the 2015 MWP.

It is recommended the City pursue long-term, low-interest loans with USDA Rural Development, as their funding program has the benefit of 40-year loan terms, which lowers the monthly obligation by rate payers. Also, there is a USDA Area Specialist in Siskiyou County who is experienced and capable of working with the City throughout project implementation.

**Reserve Accounts:** Operation reserves ranging from 10 percent to 40 percent of annual operating costs are common for public water utilities. Given the potential for fluctuations in annual water sales, which can result in variable water rate revenues, it is recommended the City maintain an operating reserve equal to at least 25 percent of its annual operation maintenance and debt service expenses. This is equivalent to about three months of operating expenses to be available in reserve at all times.

Currently, the City does not fund a short-lived asset reserve; however, it does fund a debt service reserve for a 1994 USDA-funded water project. Debt service reserves are typically required by a funding agency in order to maintain a reserve account containing the equivalent of a one-year principal and interest payment. As such, the City is required to set aside 10 percent of an annual payment each year for ten years, until the reserve account is fully funded. The City will need to establish debt service reserves for all future loans used for funding capital improvements.

Short-lived asset reserves are required when utilizing USDA Rural Development funding. Essentially, revenue is set aside each month that is intended to replace short-lived assets – those with expected lives of five to fifteen years. Examples of short-lived assets include pumps/motors, electrical/controls/SCADA equipment, building maintenance and repair, etc. Whether USDA Rural Development financing is used or not, it is a good practice to maintain such a reserve in order to keep a well-maintained and reliable system. Therefore, it is recommended the proposed financial plan reflect funding a short-lived asset reserve.

**Financial Plan Assumptions:** The following is a list of the primary assumptions used in developing the multi-year financial plans:

- Operation and Maintenance costs will increase at 1 percent per year. These values are less than Consumer Price Index (CPI) inflation but correlate with actual inflation of City expenses in past years. As such, it is recommended the City verify its actual expenses with projected expense amounts.
- It is assumed projected construction costs will increase at 3 percent per year, which is equal to the average annual increase in the ENR Construction Cost Index over the last 5 years.

- Even though the 2015 MWP uses a 1 percent per year growth in water consumption, it was decided no growth would be anticipated for the purpose of generating revenue projections in this rate study. This approach is considered conservative in that, if growth occurs, any increase in revenue may be offset by the price elasticity effect by consumers to conserve water use to avoid higher water bills.
  
- When water rates are increased, it is human nature to reduce consumption to compensate for the increased cost. As such, it is prudent planning to allow for this price elasticity when making revenue projections. AWWA Manual M1 suggests rate planners assume price elasticity of 10 percent to 30 percent, absent an extensive study. This means that revenue projection increases should be reduced 10 percent to 30 percent to account for price elasticity. For the City, it is assumed price elasticity will be 20 percent. All revenue projections in this study reflect a 20 percent reduction in the increase to account for price elasticity.
  
- It is anticipated the City will fund planning and design for a Phase I \$5.5M project in 2016 and secure a 100% long-term, low-interest loan to fund the construction effort. Then, in FY 2017-18, it is anticipated the City will complete planning and design for a Phase II \$4.285M, with construction funded with a 100% long-term, low-interest loan. As discussed above, there could be a \$0.992M funding shortfall if the City does not obtain a grant component with the Phase II project. If no grant monies are obtained, the City is still in position to complete about 94% of the improvements recommended in the 2015 MWP.
  
- It is recommended the City add a Water Department Operator in FY 15-16 in order to add a needed resource to an over-taxed department.
  
- It is recommended the City implement a \$50 “Water Service Modification” fee that will be applied when a customer requests a shutoff or activation. It is not clear, yet, what impact this will have on revenue.
  
- It is recommended the City adopt a “Water Service Standby” fee equivalent to one-half of the meter base rate for a particular service. This charge will apply to those customers who request their water be turned off for extended periods throughout the year, such as

vacation or second homes. The rationale is that operation and maintenance of the water system is an ongoing, day-to-day activity, benefiting all water services connected to the water system, whether they are consuming water at a particular time or not.

- Maintain a separate Operating Reserve Fund of 25% of the annual operating and debt service expenditures.
- Maintain a separate Debt Service Reserve Fund based on requirements set forth in future funding agreements for long-term loan financing.
- Allocate a Short-Lived Assets Reserve fund as required by the USDA Rural Development financing. The amount will be determined after financial analyses performed as part of final funding applications.
- Depreciation will remain unfunded.

**Financial Plan Results:** A 5-year projection of the Water Enterprise Fund budget and revenue requirements is shown in Table 5. As shown under the Capital Outlay summary, it is anticipated the City would fund the planning and design efforts for two capital improvements projects, occurring in FY 15-16 and FY 17-18. Debt service requirements, including reserve requirements, for the respective projects are shown under “Debt Services” under O&M Expenses.

**TABLE 5**  
**City of Dunsmuir - Water Enterprise Fund**  
**Projected Expenditures and Transfers**

	Inflation Factor	Actual (FY 14-15)	Budgeted (FY 15-16)	Projected (FY 16-17)	Projected (FY 17-18)	Projected (FY 18-19)	Projected (FY 19-20)	Projected (FY 20-21)
<b>O&amp;M Expenses</b>								
71XX Salaries and Benefits	1.0%	\$126,419	\$127,683	\$128,960	\$130,250	\$131,552	\$132,868	\$134,196
7200 Training and Education	1.0%	\$516	\$521	\$526	\$532	\$537	\$542	\$548
7210 Meetings and Travel	1.0%	\$0	\$0	\$0	\$0	\$0	\$0	\$0
7230 Subscriptions; Memberships/Dues	1.0%	\$2,510	\$2,535	\$2,560	\$2,586	\$2,612	\$2,638	\$2,664
7240 Clothing/Cleaning	1.0%	\$609	\$615	\$621	\$627	\$634	\$640	\$646
7300 Professional Services	1.0%	\$5,262	\$5,315	\$5,368	\$5,421	\$5,476	\$5,530	\$5,586
7310 Contract/Special Services	1.0%	\$1,565	\$1,581	\$1,596	\$1,612	\$1,629	\$1,645	\$1,661
7330 Contract Lab Analysis	1.0%	\$1,541	\$1,556	\$1,572	\$1,588	\$1,604	\$1,620	\$1,636
7410 Adv/Notices	1.0%	\$236	\$238	\$241	\$243	\$246	\$248	\$251
7480 Management/Admin. Charges	1.0%	\$89,837	\$90,735	\$91,643	\$92,559	\$93,485	\$94,420	\$95,364
7600 Equipment/Replacement (<\$1,000)	1.0%	\$59	\$60	\$60	\$61	\$61	\$62	\$63
7610 Equipment Maint & Replacement (Tank Insp & Pipe Loc.)	1.0%	\$462	\$467	\$471	\$476	\$481	\$486	\$490
7620 Vehicle Fuel	1.0%	\$4,525	\$4,570	\$4,616	\$4,662	\$4,709	\$4,756	\$4,803
7630 Vehicle Maintenance	1.0%	\$6,114	\$6,175	\$6,237	\$6,299	\$6,362	\$6,426	\$6,490
7640 Radio Replc/Repair	1.0%	\$0	\$0	\$0	\$0	\$0	\$0	\$0
7710 Property Taxes	1.0%	\$2,125	\$2,146	\$2,168	\$2,189	\$2,211	\$2,233	\$2,256
7720 Maintenance Buildings/Grounds	1.0%	\$292	\$295	\$298	\$301	\$304	\$307	\$310
7730 Utilities	1.0%	\$16,442	\$16,606	\$16,772	\$16,940	\$17,110	\$17,281	\$17,454
7750 Phone	1.0%	\$950	\$960	\$969	\$979	\$989	\$998	\$1,008
7760 Leases/Rentals	1.0%	\$0	\$0	\$0	\$0	\$0	\$0	\$0
7830 Valve Hydrant Repair	1.0%	\$374	\$378	\$382	\$385	\$389	\$393	\$397
7840 Pump Station Maintenance	1.0%	\$0	\$0	\$0	\$0	\$0	\$0	\$0
7860 Depreciation	1.0%	\$0	\$0	\$0	\$0	\$0	\$0	\$0
7900 Office Supplies	1.0%	\$0	\$0	\$0	\$0	\$0	\$0	\$0
7920 Supplies/Materials	1.0%	\$1,372	\$1,386	\$1,400	\$1,414	\$1,428	\$1,442	\$1,456
7930 Postage	1.0%	\$2,792	\$2,820	\$2,848	\$2,877	\$2,905	\$2,934	\$2,964
7950 Water Main Repairs	1.0%	\$18,323	\$18,506	\$18,691	\$18,878	\$19,067	\$19,258	\$19,450
7960 Roadbase asphalt	1.0%	\$2,013	\$2,033	\$2,053	\$2,074	\$2,095	\$2,116	\$2,137
8100 Liability Insurance-Assessment	1.0%	\$12,217	\$12,339	\$12,463	\$12,587	\$12,713	\$12,840	\$12,969
8100 Liability Insurance	1.0%	\$0	\$0	\$0	\$0	\$0	\$0	\$0
8110 Property Insurance	1.0%	\$2,258	\$2,281	\$2,303	\$2,326	\$2,350	\$2,373	\$2,397
8130 Permits & Licenses	1.0%	\$6,631	\$6,697	\$6,764	\$6,832	\$6,900	\$6,969	\$7,039
8200 Equipment Replacement- Handheld meter readers (See Capital Outlay)	1.0%	\$0	\$0	\$0	\$0	\$0	\$0	\$0

**TABLE 5**  
**City of Dunsmuir - Water Enterprise Fund**  
**Projected Expenditures and Transfers**

	Inflation Factor	Actual (FY 14-15)	Budgeted (FY 15-16)	Projected (FY 16-17)	Projected (FY 17-18)	Projected (FY 18-19)	Projected (FY 19-20)	Projected (FY 20-21)
8270.10 Water Engineering Report	1.0%	\$0	\$0	\$0	\$0	\$0	\$0	\$0
8270.17 Hydrant Repair	1.0%	\$0	\$0	\$0	\$0	\$0	\$0	\$0
8300 Interest	1.0%	\$0	\$0	\$0	\$0	\$0	\$0	\$0
8270.01 Water Main Projects	1.0%	\$0	\$0	\$0	\$0	\$0	\$0	\$0
8600 Operating Transfers Out	1.0%	\$0	\$0	\$0	\$0	\$0	\$0	\$0
<b>Water Department Operator</b>	<b>1.0%</b>	<b>\$0</b>	<b>\$0</b>	<b>\$75,000</b>	<b>\$75,750</b>	<b>\$76,508</b>	<b>\$77,273</b>	<b>\$78,045</b>
<b>Debt Services</b>								
35 Debt Repayment - Princ./Int. - '94 Water COP's		\$35,499	\$34,833	\$35,166	\$34,499	\$35,199	\$35,199	\$35,199
36 Debt/Debt Reserve/SA Reserve - Phase I Water Project (Note 1)						\$272,550	\$272,550	\$272,550
37 Debt/Debt Reserve/SA Reserve - Phase II Water Project (Note 2)								\$214,086
<b>Subtotal</b>		<b>\$340,943</b>	<b>\$343,331</b>	<b>\$421,749</b>	<b>\$424,948</b>	<b>\$702,103</b>	<b>\$706,046</b>	<b>\$924,116</b>
<b>Capital Outlay</b>								
<b>Downtown Tank Relocation &amp; Replacement Project</b>								
- Planning/Surveys/Enviro/Permits/ROW Aquis (Note 3)			\$151,252					
- Final Design and Bidding (Note 4)			\$192,000					
<b>Phase I - Water Main Replacement Project</b>								
- Planning/Design/Environmental/Funding Acquisition/Bidding (Note 5)				\$150,000	\$350,000			
<b>Phase II - Water Main Replacement Project</b>								
- Planning/Design/Environmental/Funding Acquisition/Bidding (Note 6)						\$300,000	\$120,000	
Allowance toward remaining water main replacements								\$300,000
<b>Subtotal</b>		<b>\$0</b>	<b>\$343,252</b>	<b>\$150,000</b>	<b>\$350,000</b>	<b>\$300,000</b>	<b>\$120,000</b>	<b>\$300,000</b>
<b>Total Expenditures and Transfers</b>		<b>\$340,943</b>	<b>\$686,583</b>	<b>\$571,749</b>	<b>\$774,948</b>	<b>\$1,002,103</b>	<b>\$826,046</b>	<b>\$1,224,116</b>

NOTES:

- Debt service for Phase I Water Project begins in FY 2018-19, and reflects debt service (principal and interest), 10% debt service reserve, and short-lived asset reserve. Total Project Cost is \$5.5M.
- Debt service for Phase II Water Project begins in FY 2020-21, and reflects debt service (principal and interest), 10% debt service reserve, and short-lived asset reserve. Total Project Cost is \$4.285M.
- Reflects work necessary to acquire easements and tank site and complete environmental in order to position the City to apply for Proposition 1 grant funding during the first IRWM allocation - solicitation expected in spring 2016.
- If the Downtown Tank Project is invited by the Upper Sac/McCloud IRWM Region to submit a final funding application, the City will need to initiate design and bidding prior to receiving a formal funding commitment.
- Reflects expenditures for planning, design, environmental, and bidding in order to construct Phase I - Water Main Replacement Project (\$5.5M), beginning in FY 2016-17.
- Reflects expenditures for planning, design, environmental, and bidding in order to construct Phase II - Water Main Replacement Project (\$4.285M) in FY 2018-19.

Table 6 presents a summary of the 5-year financial plan values based on the fixed monthly rate for 5/8” meters increasing from \$26.00 per month beginning in FY 2016-17 to \$40 per month in FY 20-21. Also shown are the beginning reserve fund balances, revenues, expenditures, and year-end operating reserve for the Water Enterprise Fund. As can be seen, the City has a sizable accumulation of revenue resulting from past rate increases. This revenue will allow the City to begin planning and design of capital projects immediately without the need to acquire interim financing. At the end of FY 20-21, the year-end operating reserve is projected to be about 33 percent, or near the 25 percent goal.

The financial plan projected revenues are based on estimated normal water consumption each year during the planning period. However, annual revenues will still be subject to fluctuation with varying water consumption. It is expected that during above normal rainfall years, a reduction in revenue may be experienced.

**TABLE 6**

**City of Dunsmuir – Water Enterprise Fund**

**Summary of Enterprise Fund Financial Plan with 100% of Normal Water Use**

	Actual (FY 14-15)	Budgeted (FY 15-16)	Projected (FY 16-17)	Projected (FY 17-18)	Projected (FY 18-19)	Projected (FY 19-20)	Projected (FY 20-21)
<b>ASSUMPTIONS USED</b>							
Annual Increase in Water Use		0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Annual 5/8" Rate Increase		0.0%	10.8%	9.7%	8.9%	8.1%	7.5%
<b>WATER RATES USED</b>							
5/8" Meter Monthly Service Charge (Up to 3,750 gallons)	\$26.00	\$26.00	\$28.80	\$31.60	\$34.40	\$37.20	\$40.00
Lifeline 5/8" Meter Monthly Service Charge All Other Consumption Rate (3,751 to 22,500 gallons)	n/a	n/a	\$23.04	\$25.28	\$27.52	\$29.76	\$32.00
Consumption Rate (22,501 to 90,000 gallons)	\$2.92	\$2.92	\$2.10	\$2.20	\$2.30	\$2.40	\$2.50
Excess Consumption Rate (over 90,000 gallons)	\$2.07	\$2.07	\$2.10	\$2.20	\$2.30	\$2.40	\$2.50
	\$1.15	\$1.15	\$2.10	\$2.20	\$2.30	\$2.40	\$2.50
<b>BEGINNING FUNDS AVAILABLE BALANCE</b>	<b>\$455,793</b>	\$697,043	\$590,802	\$979,811	\$890,470	\$625,024	\$596,935
<b>REVENUES</b>							
Fixed Service Charges (Includes 5 Units)	<b>\$480,685</b>	\$480,685	\$447,000	\$491,000	\$528,000	\$578,000	\$621,000
Consumption Charges	<b>\$126,000</b>	\$126,000	\$197,000	\$221,000	\$235,000	\$246,000	\$256,000
Investment Income - LAIF	\$508	\$400	\$350	\$450	\$500	\$800	\$800
Other Operation Income-Penalties	\$7,790	\$6,000	\$6,000	\$6,000	\$6,000	\$6,000	\$6,000
Income from Water Connection Fees	\$2,253	\$2,300	\$2,200	\$2,200	\$2,200	\$2,200	\$2,200
Reimbursement from Prop 1 IRWM Grant	\$0	\$0	\$343,252	\$0	\$0	\$0	\$0
<b>Total Revenue:</b>	\$617,236	\$615,385	\$995,802	\$720,650	\$771,700	\$833,000	\$886,000

**TABLE 6**

**City of Dunsmuir – Water Enterprise Fund**

**Summary of Enterprise Fund Financial Plan with 100% of Normal Water Use**

	Actual (FY 14-15)	Budgeted (FY 15-16)	Projected (FY 16-17)	Projected (FY 17-18)	Projected (FY 18-19)	Projected (FY 19-20)	Projected (FY 20-21)
<b>EXPENDITURES</b>							
Water Enterprise Transfer to Capital Improvements Fund (From Table 1)	\$340,943	\$343,331	\$421,749	\$424,948	\$702,103	\$706,046	\$924,116
Total Expenditures	<u>\$0</u>	<u>\$343,252</u>	<u>\$150,000</u>	<u>\$350,000</u>	<u>\$300,000</u>	<u>\$120,000</u>	<u>\$300,000</u>
	\$340,943	\$686,583	\$571,749	\$774,948	\$1,002,103	\$826,046	\$1,224,116
<b>RESTRICTED RESERVES</b>							
Debt Service Reserve on '94 Water COP's	\$35,043	\$35,043	\$35,043	\$35,043	\$35,043	\$35,043	\$35,043
<b>ENDING BALANCE/OPERATING RESERVE</b>	<b>\$697,043</b>	<b>\$590,802</b>	<b>\$979,811</b>	<b>\$890,470</b>	<b>\$625,024</b>	<b>\$596,935</b>	<b>\$223,776</b>
<b>YEAR-END OPERATING RESERVE</b>	<b>204%</b>	<b>172%</b>	<b>232%</b>	<b>210%</b>	<b>89%</b>	<b>85%</b>	<b>24%</b>

Notes: 1. Excluding unfunded depreciation expense.

**PROPOSED RATES:** A summary of the proposed water rates for all meter sizes used in the 5-year financial plan are shown in Table 7. Specific proposed changes to the City’s current water rates structure are described below.

- The water allocation in the base rate will be reduced from 10 units (7,500 gallons) to 5 units (3,750 gallons) per month, matching the typical wintertime water consumption for single-family residences in the City of Dunsmuir.
- Base rates for larger (than 5/8”) meter sizes will be adjusted to match AWWA-rated meter hydraulic capacity factors, which match closely with the City’s current practice.
- Consumption rates will be changed from a “declining” block to a “uniform” block structure.
- The City intends to implement a “lifeline” or low-income base rate for 5/8” meter customers that qualify based on meeting maximum household income requirements established by the State of California. The discount will be \$2 per month and will not apply to consumption rates.
- The City intends to implement a \$50 “Water Service Modification” fee that will be applied when someone requests a shutoff or activation of a water service.

As indicated in Table 6, the proposed water rates will increase the typical residential bill between 10.8 percent per year in FY 16-17 and 7.5 percent per year in FY 20-21. It is projected the proposed rate increases will result in an average monthly single-family water bill in FY 20-21 of about \$47.80 per month, which exceeds the “1.5% of MHI” threshold established by the USDA Rural Development and DWSRF funding programs. Hence, the City will qualify for larger grants.

**TABLE 7**  
**City of Dunsmuir - Water Utility**  
**Recommended Water Rates**

	Current FY 15-16	Proposed FY 16-17	Proposed FY 17-18	Proposed FY 18-19	Proposed FY 19-20	Proposed FY 20-21	
<b>CONSUMPTION CHARGES (\$/Unit, 1 Unit=750 Gallons)</b>							
6 - 10 Units	-	\$2.10	\$2.20	\$2.30	\$2.40	\$2.50	
11 - 40 Units	\$2.92	\$2.10	\$2.20	\$2.30	\$2.40	\$2.50	
41 - 160 Units	\$2.07	\$2.10	\$2.20	\$2.30	\$2.40	\$2.50	
Excess over 160 Units	\$1.15	\$2.10	\$2.20	\$2.30	\$2.40	\$2.50	
<b>MONTHLY SERVICE CHARGES (\$/Mo)</b>							<b>Capacity Factor</b>
5/8" Meter	\$26.00	\$28.80	\$31.60	\$34.40	\$37.20	\$40.00	1.0
(Note 1): 5/8" Meter (Lifeline or Low Income)	\$24.00	\$26.80	\$29.60	\$32.40	\$35.20	\$38.00	-
3/4" Meter	\$47.24	\$43.20	\$47.40	\$51.60	\$55.80	\$60.00	1.5
1" Meter	\$76.24	\$72.00	\$79.00	\$86.00	\$93.00	\$100.00	2.5
1-1/2" Meter	\$143.37	\$144.00	\$158.00	\$172.00	\$186.00	\$200.00	5.0
2" Meter	\$219.35	\$230.40	\$252.80	\$275.20	\$297.60	\$320.00	8.0
3" Meter	\$387.28	\$432.00	\$474.00	\$516.00	\$558.00	\$600.00	15.0
4" Meter	\$575.24	\$720.00	\$790.00	\$860.00	\$930.00	\$1,000.00	25.0
Flat Rate	\$27.60	\$30.58	\$33.55	\$36.53	\$39.49	\$42.45	
NOTES: 1. Only applies to qualifying families with 5/8" meter.							

A tabulation of water rates for neighboring water purveyors is shown in Table 8. As one can see, the fixed monthly service charges vary from \$18.35 to \$44.05 per month, and the consumption rates are also quite variable. Figure 4 indicates estimated average monthly water bills for each agency based on 8.1 units (6,075 gallons) per monthly consumption. **It should be remembered that some of these agencies have relatively new systems and are not subject to the relatively high repair and rehabilitation costs associated with replacement of a significant quantity of worn-out distribution piping.**

**TABLE 8**  
**City of Dunsmuir**  
**USER FEE COMPARISON**

PURVEYOR	EFFECTIVE DATE	BASE RATE (For smallest service)	VOLUME OF WATER INCLUDED IN BASE RATE	LOWER LIMIT	UPPER LIMIT	VOLUME UNITS	COST PER UNIT VOLUME	FEE TYPE
City of Mt. Shasta	2015	\$18.35	Unlimited	0	Unlimited	100 CF	\$0.00	Flat
City of Ashland	2014	\$23.50 (Increases with meter size)	0	0	300	100 CF	\$2.43	Per Unit
				301	1000	100 CF	\$2.99	Per Unit
				1001	2500	100 CF	\$4.00	Per Unit
				2501	and above	100 CF	\$5.17	Per Unit
Bella Vista WD (M&I)	2015	\$44.05 (Increases with meter size)	0	0	2000	100 CF	\$0.47	Per Unit
				2001	2400	100 CF	\$1.50	Per Unit
				2401	and above	100 CF	\$2.50	Per Unit
Mountain Gate CSD	2015	\$39.22 (Increases with meter size)	800	801	2000	100 CF	\$0.88	Per Unit
				2001	10000	100 CF	\$1.48	Per Unit
				10001	and above	100 CF	\$1.76	Per Unit
Nevada City	2014	\$22.50 (Increases with meter size)	0	0	8000	1000 gal	\$2.15	Per Unit
				8001	and above	1000 gal	\$2.80	Per Unit
City of Oroville	2015	\$31.19 (Increases with meter size)	0	1	800	100 CF	\$2.45	Per Unit
				801	2200	100 CF	\$2.63	Per Unit
				2201	and above	100 CF	\$3.09	Per Unit
City of Redding	2015	\$18.14 (Increases with meter size)	0	0	1100	100 CF	\$0.55	Per Unit
				1101	3600	100 CF	\$1.47	Per Unit
				3601	and above	100 CF	\$1.81	Per Unit
Shasta CSD	2015	\$52.37	1,000	1001	2000	100 CF	\$8.20	Flat
				2001	and above	100 CF	\$0.82	Per Unit
City of Shasta Lake	2015	\$20.98 (Increases with meter size)	0	0	1000	100 CF	\$1.27	Per Unit
				1001	5000	100 CF	\$1.46	Per Unit
				5001	and above	100 CF	\$1.78	Per Unit
City of Williams	2015	\$20.43 (Increases with meter size)	0	0	and above	100 CF	\$1.80	Per Unit
City of Willows	2015	\$37.03 (Increases with meter size)	0	0	800	100 CF	\$1.71	Per Unit
				801	2500	100 CF	\$1.83	Per Unit
				2501	and above	100 CF	\$2.06	Per Unit

**TABLE 8**  
**City of Dunsmuir**  
**USER FEE COMPARISON**

PURVEYOR	EFFECTIVE DATE	BASE RATE (For smallest service)	VOLUME OF WATER INCLUDED IN BASE RATE	LOWER LIMIT	UPPER LIMIT	VOLUME UNITS	COST PER UNIT VOLUME	FEE TYPE
City of Yreka	2015	\$31.60 (Increases with meter size)	100 (or 13.3 CF)	101	10000	1000 gal	\$1.86	Per Unit
				10001	35000	1000 gal	\$2.05	Per Unit
				35001	and above	1000 gal	\$2.23	Per Unit
Centerville CSD	2015	\$20.75 (Increases with meter size)	100	101	7000	1000 gal	\$0.67	Per Unit
				7001	12000	1000 gal	\$0.69	Per Unit
				12001	17000	1000 gal	\$0.71	Per Unit
				17001	22000	1000 gal	\$0.73	Per Unit
				22001	26000	1000 gal	\$0.75	Per Unit
				26001	30000	1000 gal	\$0.77	Per Unit
				17001	and above	1000 gal	\$0.79	Per Unit
City of Dunsmuir	2015	\$26.00	1,000	1001	4000	100 CF	\$2.92	Per Unit
				4001	16000	100 CF	\$2.07	Per Unit
				16001	and above	100 CF	\$1.15	Per Unit
City of Dunsmuir	2020	\$40.00	500	501	3000	100 CF	\$2.50	Per Unit
				3001	12000	100 CF	\$2.50	Per Unit
				12001	and above	100 CF	\$2.50	Per Unit
City of Weed	2015	\$21.45 (Increases with meter size)	1000	1001	and above	100 CF	\$0.96	Per Unit
Clear Creek CSD	2015	\$33.63 (Increases with meter size)	100	101	9000	100 CF	\$0.65	Per Unit
				9001	15000	100 CF	\$0.67	Per Unit
				15001	and above	100 CF	\$0.70	Per Unit
McCloud CSD	2015	\$40.00	0	0	and above	100 CF	\$0.00	Flat

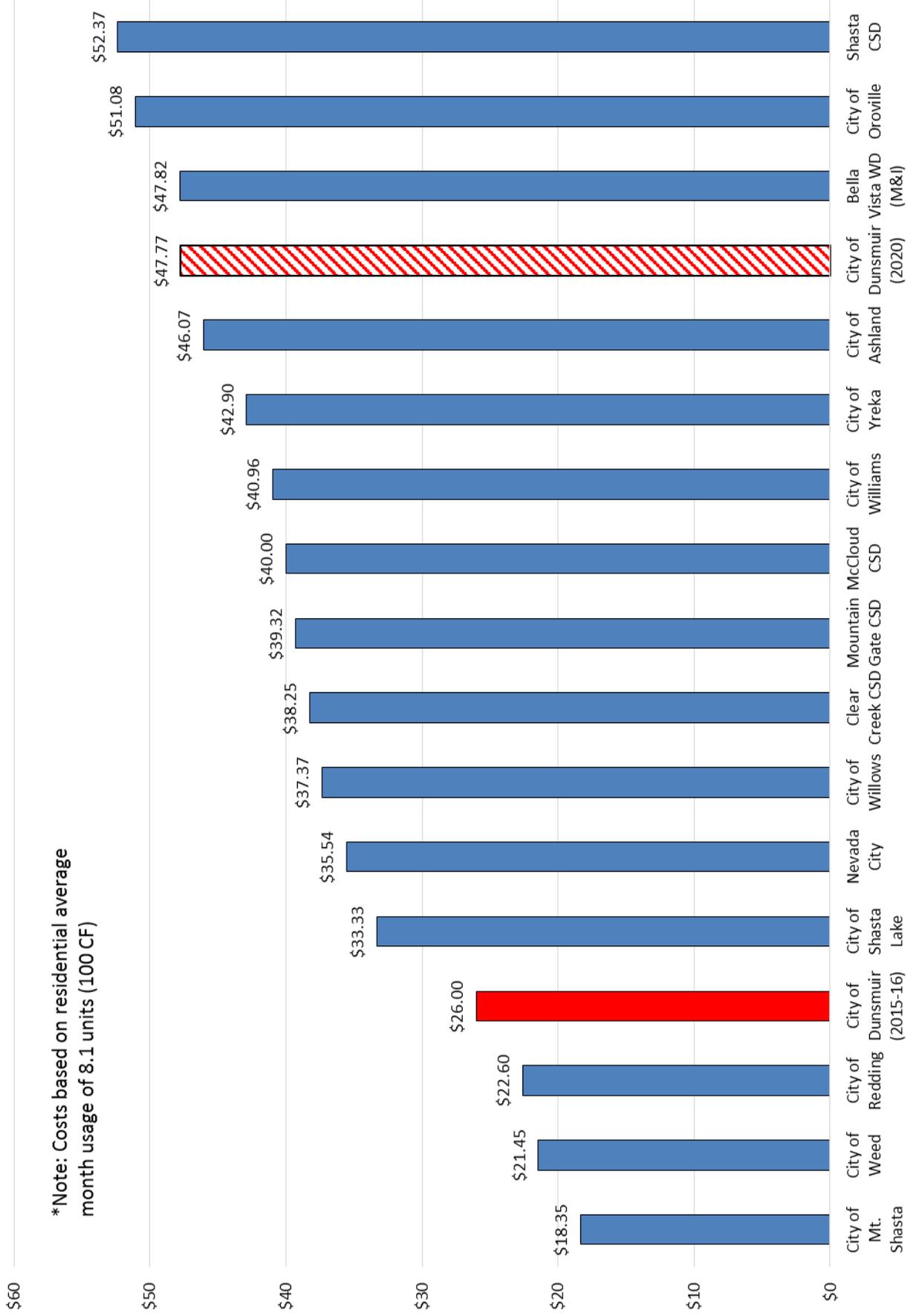
NOTE: 100 CF = 748 GALLONS

**PROPOSED NON-RATE RELATED CHANGES:** As a result of review and analysis of the City’s current practices regarding water rate implementation, it is recommended the following changes be made:

- There are two metered customers in the Shasta Retreat area that are billed on a flat-rate basis. According to City staff, the City council stepped in to resolve a dispute between the two property owners a number of years ago regarding the taking of irrigation water from a nearby creek. According to water consumption records, these two customers are among the 20 highest water users in the City. It is recommended these services are converted back to a “charge-based-on-use” basis, which will be a state requirement by year 2020.
- There are 46 unmetered water services in the Shasta Retreat area. Adding water meters will require an extensive amount of distribution system improvements because multiple houses are served off the same pipelines, and existing pipelines are too small and located outside public rights-of-way. Improvements to this area only benefit the customers in that area. Thus, the City will attempt to obtain grant funding for these improvements.

**FIGURE 4**

**USER RATE COMPARISON**



\*Note: Costs based on residential average month usage of 8.1 units (100 CF)