
Attachment 2



CITY OF BEVERLY HILLS

Water Rate Study

December 22, 2015



CITY OF BEVERLY HILLS

345 Foothill Road
Beverly Hills, CA 90210



WATER RATE STUDY

December 22, 2015

HF&H CONSULTANTS, LLC

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Walnut Creek, CA 94596



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December 22, 2015

Ms. Trish Rhay
Assistant Director of Public Works Services
City of Beverly Hills
345 Foothill Road
Beverly Hills, CA 90210

Subject: Water Rate Study

Dear Ms. Rhay:

We are pleased to submit this report documenting the water rate study. The report contains the following key findings and recommendations.

Legal Compliance. The rates were developed to conform to current rate-making requirements and reflect the recent appellate court decision in San Juan Capistrano, which added further specificity as to how tiered rates should reflect the cost of service across a range of consumption.

Rate Increases Needed to Offset Reduced Water Demand. The City is mandated by the State to achieve a 32% demand reduction compared with pre-drought demand. The rates were set to generate sufficient revenue assuming a 19.4% demand reduction in FY 2015-16. Without rate increases, the City's reserves will diminish, which could adversely affect the City's credit rating.

Revenue From Service Charges and Quantity. Customers pay two bi-monthly charges: service charges, which are based on the size of the service connection; and, quantity charges, which are based on the amount of metered water use. With decreased demand, a 19.2% increase in revenue is needed from these charges. The cost of service analysis indicated that there is no need to modify the existing service charges because they generate the appropriate amount of rate revenue.



Increases in Quantity Charge Revenue. Revenue from quantity charges needs to increase 23.0% percent to offset the demand reduction and to cover the slight increase in costs projected for FY 2015-16. The amount by which rates need to increase for each of the City's three customer classes differs because of the results of the cost of service analysis, which determined how much of the total costs are attributable to each class:

Single-Family Residential - 17.7%
Multi-Family Residential - 41.6%
Commercial - 19.7%

The increase is highest for the Multi-Family Residential class because the current rate structure generates well below the class' proportionate share of the costs based on the results of the cost of service analysis.

Quantity Charge Rate Structure Modifications. The quantity charges were restructured to ensure that they are aligned with the cost of service. The number of tiers for each class was reviewed and it was determined appropriate to: continue with four tiers for Single-Family Residential customers; reduce the Multi-Family Residential tiers from four to two; and, to increase the Commercial tiers from one to four.

The sizes of the tiers were based on a review of recent customer billing data for each class. The review evaluated each class' levels of service ranging from non-seasonal base demand in which there is no peaking to higher levels of average day, maximum day, and maximum hour peak demand.

The costs associated with each level of demand were correlated with the corresponding tier to derive the cost of service for each tier and the associated unit cost.

Customer Bill Impacts. The rate structure modifications yield different impacts on customer bills depending on the amount of the bill.

For Single-Family Residential customers, very low water users experience a slight increase because of the modification to the Tier 1 breakpoint that is needed to conform to the cost of service. Average use customers can experience bill reductions, particularly if they conserve. High use customers will experience significant bill increases because their peak demands represent a premium level of service.

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December 22, 2015
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Multi-Family Residential customers experience bill increases at all levels of demand as a result of the need to align their rates with the cost of service.

Commercial customers with below-average use will experience significant bill decreases because of the low peaking compared with customers with above-average demands.

* * *

We would like to express our thanks to City staff and the members of the Public Works Commission and the Public Works Liaison Committee for their diligent efforts in assisting us with this study.

Very truly yours,

HF&H CONSULTANTS, LLC

John W. Farnkopf, P.E., Senior Vice President
Rick Simonson, C.M.C., Vice President

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ACRONYMS

FY	Fiscal Year
CIP	Capital Improvement Project
CCF or HCF	Hundred cubic feet of metered water sold; 748 gallons; a cube of water 4.6 feet on edge
GPD	Gallons Per Day
ISF	Internal Services Fund – reimbursement by the Water Fund for services provided by the General Fund
O&M	Operations and Maintenance
MWD	Metropolitan Water District of Southern California, the City’s wholesale water supplier
PAYGo	Pay-As-You-Go, in reference to funding capital improvements from cash rather than from borrowed sources of revenue

WEP Water Enterprise Plan – the program approved by the City Council to improve the City’s water supply reliability includes personnel and capital expenses

ACKNOWLEDGEMENTS

City Council

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Vice Mayor John A. Mirisch
Councilmember William W. Brien, M.D.
Councilmember Lili Bosse
Councilmember Nancy H. Krasne

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LIMITATIONS

This document was prepared solely for the City of Beverly Hills in accordance with the contract between the City and HF&H and is not intended for use by any other party for any other purpose.

In preparing this study, we relied on information and instructions from the City, which we consider accurate and reliable and did not independently verify.

Rounding differences caused by stored values in electronic models may exist.

This document represents our understanding of relevant laws, regulations, and court decisions but should not be relied upon as legal advice. Questions concerning the interpretation of legal authorities referenced in this document should be referred to a qualified attorney.



WATER RATE STUDY

1. EXECUTIVE SUMMARY

STUDY OBJECTIVES

The City of Beverly Hills undertook this rate study to meet the following key objectives.

1. **Respond to drought mandate** - In April 2015, Governor Brown issued Executive Order B-29-15 declaring a continuing State of Emergency regarding California's water supply. Accordingly, the State Water Resources Control Board set conservation targets for water suppliers, which in the City's case is a 32% reduction compared to 2013 demand. The City was fined \$61,000 by the Board in November 2015 for having not met its conservation target to date.
2. **Stabilize revenue** - As a result of its conservation efforts, revenue from current rates is unable to cover the water enterprise's costs without depleting reserves. Should revenue shortfalls continue, the City's credit rating would likely suffer. Rate increases are needed to compensate for the reduced demand even though costs in FY 2015-16 are only slightly higher than FY 2014-15.
3. **Ensure rates continue to comply with the law** - The City's current rate structure has been in place for several years. A 2015 appellate court decision in the City of San Juan Capistrano requires that tiered water rate structures must be based on the cost of service across the range of consumption. Adjustments are needed to the City's quantity charges in order to meet this new requirement.

In June 2015, the City adopted penalty surcharges for water use in excess of 70% of 2013 consumption. These penalty surcharges were imposed beginning in November 2015 after a grace period during the summer. These penalty surcharges are independent of the rate structure modifications that are proposed in this report.

FINDINGS AND RECOMMENDATIONS

We make the following findings and recommendations.

Findings

1. **Revenue requirements.** Rates were set to generate sufficient revenue to fund operating and capital expenses in the FY 2015-16 budget approved by the City Council. The revenue requirements for FY 2015-16 reflect cost increases primarily due to additional staffing for the Water Enterprise Plan (WEP). The revenue requirements in FY 2015-16 are only slightly greater than FY 2014-15. Projections indicate a gradual increase in revenue requirements over the next five years. Funding for the new WEP, which includes projects to increase the City's water system reliability, and the increased cost of purchased water (after the initial cost

- savings from customer's conserving during FY 2015-16) are the primary reasons for the projected revenue requirement. (See **Figure 3-1.**)
2. **Demand projections.** Customer demand is projected to decrease 19.4% in FY 2015-16 in response to the drought. Demand is projected to slowly rebound 1% to 2% per year thereafter. (See **Figure 3-2.**)
 3. **Revenue projections.** As a result of reduced demand, revenue from rates needs to increase to cover the projected revenue requirements. The proposed rates will generate approximately \$5.8M more revenue in FY 2015-16, to accommodate the 19.2% projected revenue shortfall due to reduced water usage. Additional rate increases of 5% to 6% per year will be required to cover future costs given the projected demand. (See **Figure 3-2.**)
 4. **Cost of service analysis of rate components.** Cost of service analysis was performed to allocate the revenue requirements to the components associated with the service (meter) and quantity charges. The analysis indicated that the revenue from existing service charges is very close to the cost of service but the revenue from quantity charges is 23% too low. Most of this difference is due to the fact that overall revenue from current rates is 19.2% lower than the cost of service. (See **Figure 4-7.**)
 5. **Cost of service analysis of quantity charges.** In order to generate 23% more revenue from quantity charges, the cost of service analysis indicates that the quantity charges for each class need to increase as follows: 17.7% for Single-Family Residential customers; 41.6% increase for Multi-Family Residential customers; and, 19.7% for Commercial customers. (See **Figure 4-7.**)
 6. **Single-Family Residential quantity charges.** Analysis of the tier structure indicates that the current number of four tiers should be retained but that the sizes of the tiers need to be adjusted to correspond with the service levels customers require ranging from non-seasonal base demand to average day, maximum day, and maximum hour peaking. Each of these service levels has its cost of service, which is the rate that should be charged.
 7. **Multi-Family Residential quantity charges.** Analysis of customer billing data indicates that the range of demand service levels is very narrow across the range of consumption from base to extra capacity demand, indicating the current four-tier structure should be reduced to a two-tier structure.
 8. **Commercial quantity charges.** Analysis of customer billing data indicates that a four-tier structure similar to the design parameters for the Single-Family Residential tiers would charge Commercial customers in proportion to the cost of service better than the current uniform quantity charge. A uniform quantity charge charges the same for all levels of consumption despite the fact that the cost to provide for higher service levels increases per unit.
 9. **Single-Family bill impacts.** Customers with low to average demand will see little change in their bills with the potential for a decrease. Bills for above average water use could experience an increase as high as 36.1%. (See **Figures 6-1, 6-2.**)

10. **Multi-Family bill impacts.** Multi-Family Residential customers will experience the largest rate increases to more accurately align the current rate structure with the current cost of service. Customers with above-average demand will experience 40% or higher increases in bills per dwelling unit. (See **Figures 6-3, 6-4.**)
11. **Commercial bill impacts.** Converting the current uniform quantity charge to a four-tier quantity charge results in significant decreases in bills to Commercial customers with low to moderate demands. Commercial customers with high demand (approximately 11% of commercial customers) place the greatest stress on the water system and will experience increases in bills ranging from 11% to 56% to align with the cost of service. (See **Figures 6-5, 6-6.**)

Recommendations

1. **No service charge adjustments.** The current service charges do not need to be changed because they currently generate revenue that is nearly equal to the cost of service.
2. **Increase quantity charge revenue.** Quantity charges need to increase by varying amounts so that each customer class pays its proportionate share of the revenue requirement associated with quantity charges.
3. **Restructure Single-Family Residential quantity charges.** A four-tier structure is still appropriate but the sizes of the tiers need to be adjusted to reflect customer demand service levels and the corresponding rates need to be set equal to the cost of service for each demand level. (See **Figures 5-2, 5-3.**)
4. **Restructure Multi-Family Residential quantity charges.** The current number of four tiers should be reduced from four to two with the breakpoint set equal to average demand per dwelling unit and the rates for each tier set equal to the cost of service. (See **Figures 5-5, 5-6.**)
5. **Restructure Commercial quantity charges.** The current uniform quantity charge, which has been in place for a few years, should be replaced with a four-tier structure with breakpoints that correspond with base and extra capacity service levels. (See **Figures 5-8, 5-9.**)

This report documents the rates proposed for adoption by the City, which are proposed to become effective in February 2016. The City mailed notices to rate payers in compliance with the protest procedure provided for in Article XIIID. The noticed rates are the highest rates that the City Council can adopt.

2. INTRODUCTION

STUDY PURPOSE

The City is responsible for setting rates in compliance with California law. Voters passed Proposition 218 in November 1996, which enacted Article XIII D of the California Constitution. Article XIII D, Section 6, requires that fees and charges for water service shall not exceed the proportional cost of service.

One key purpose of this report is to document that the proposed rates comply with the relevant laws in California for setting tiered water rates. Another key purpose is to ensure that the rates generated sufficient revenue from conserving levels of demand to fund the water enterprises operating and capital costs as well as to maintain adequate reserves.

By maintaining a strong financial position, the City will endeavor to protect its credit rating, which will lower its cost of financing. Given the stress that the drought is placing on revenue stability, rating agencies are placing greater emphasis on evaluating the actions that California water suppliers are taking to offset the revenue shortfall caused by conservation. Because the majority of a water utility's costs are fixed and do not decrease with decreased demand, the revenue shortfall either has to be absorbed by depleting reserves or with increased rates. The City is managing with a combination of the use of reserves and rate increases.

BACKGROUND

The City provides water service to residents and businesses in Beverly Hills and a portion of West Hollywood. The City is presently entirely reliant on the Metropolitan Water District of Southern California for its potable water supply. California is experiencing its fourth consecutive year of drought conditions. The last two years have been critically dry and the current year continues the trend. The impact of the drought has led to statewide mandatory restrictions, which in the City's case calls for a 32% cutback in water use. As of the date of this report, the City has averaged a 20% cutback from May 2015 to October 2015, when compared with use during the same months in 2013.

Various future cutback scenarios were studied in the current report to determine the impact of reduced water use on the Water Fund's revenues and expenses. The impacts can be significant but the inability to forecast water supply in the coming years is problematic in setting water rates. For planning purposes, conservative estimates have been made. Figure 2-1 summarizes the projected water demand reductions by customer class.

Figure 2-1. Actual and Projected Customer Water Demands (HCF)

	Actual	Projected	% Change
	FY 2014-15	FY 2015-16	
SFR	2,645,666	1,976,384	-25.3%
MFR	943,935	842,197	-10.8%
Com	1,212,268	1,051,530	-13.3%
Total	4,801,869	3,870,111	-19.4%

CURRENT RATES

The City charges the sum of a quantity charge and service charge, which are shown in **Figures 2-2** and **2-3**. The quantity charge varies depending on the amount of metered water use in each two-month billing period. The service charge is fixed based on the size of the service connection. This rate structure has been in effect for a number of years. Service (meter) charges were last increased in September 2014 and quantity charges were last increased in November 2015.

For Single-Family Residential and Multi-Family Residential customers, the quantity charge varies depending on the amount of metered water use in each two-month billing period. This form of rate structure is referred to as a tiered or increasing block rate quantity charge. Approximately two-thirds of residential customers in California are billed for water consumption using increasing block rates. The quantity charges for Single-Family Residential and Multi-Family Residential customers are the same as they increase across four tiers; the size of the tiers is smaller for Multi-Family Residential customers. For example, Tier 1 water use is 0-4 HCF for Multi-Family Residential customers and 0-10 HCF for Single-Family Residential customers; see **Figure 2-2**). Single-Family Residential customers are billed per residence and Multi-Family Residential customers are billed per dwelling unit.

For Commercial customers, the quantity charge is currently a constant amount that is not tiered. This form of rate structure is referred to as a uniform quantity charge. Commercial customers are billed bi-monthly per account.

The service charge is fixed based on the size of the service connection. Customers pay the same service charge each billing period based on the size of their service connection. The Commercial quantity charge was tiered at one time but is currently a uniform charge regardless of the level of demand.

Figure 2-2. Current Bi-monthly Quantity Charges

Tier	Current			
	Break Points		BH	WH
	hcf	gpd	Rate (per hcf)	Rate (per hcf)
Customer Class: Single Family				
1	0-10	1-125	\$ 3.71	\$4.63
2	11-55	126-686	\$ 4.90	\$6.13
3	56-120	687-1,496	\$ 7.73	\$9.67
4	121+	1,497+	\$ 14.93	\$18.66
Customer Class: Multi Family				
1	0-4	1-50	\$ 3.71	\$4.63
2	5-9	51-112	\$ 4.90	\$6.13
3	10-16	113-199	\$ 7.73	\$9.67
4	17+	200+	\$ 14.93	\$18.66
Customer Class: Commercial				
1	all usage		\$ 6.34	\$7.93

Figure 2-3. Current Bi-monthly Service Charges

Meter Size	BH Rate	WH Rate
1"	\$ 43.36	\$ 54.20
1 1/2"	\$ 75.16	\$ 93.95
2"	\$113.32	\$141.66
3"	\$202.36	\$252.94
4"	\$329.55	\$411.94
6"	\$647.53	\$809.41

STUDY PROCESS

This study has been conducted in close collaboration with a working group of City staff, the City’s Public Works Commission, the Public Works Commission’s Conservation Subcommittee, and the City’s Public Works Liaison Committee. Several meetings were held to develop alternative funding strategies, to review and refine the alternatives, and to select the preferred alternative. Of critical interest was funding for the anticipated revenue loss due to the state-mandated water conservation as a result of the drought and the State’s previous mandate to reduce water usage by 20% by 2020.

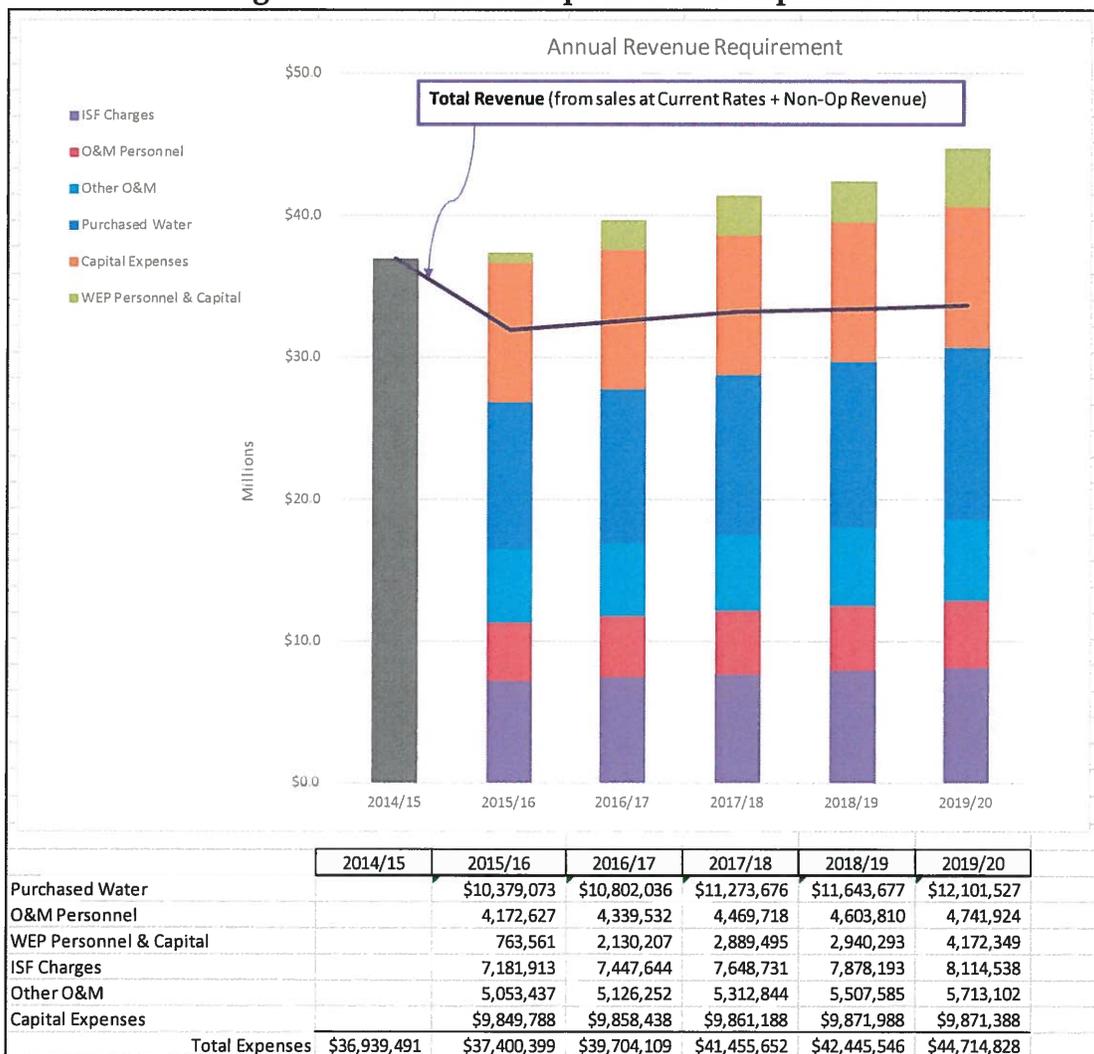
3. REVENUE REQUIREMENTS

REVENUE REQUIREMENTS

Revenue requirements represent the costs that must be covered by revenue from rates and other available sources including non-operating revenue. For purposes of the present study, rates were set to cover the revenue requirement for FY 2015-16. The FY 2015-16 revenue requirement was based on the City’s budget, which is only slightly greater than the prior year.

Figure 3-1 summarizes the major components comprising the revenue requirement for the five years beginning with FY 2015-16.

Figure 3-1. Revenue Requirement Components



Most of the budgeted costs gradually increase with inflation. The single-most significant cost increase during the five-year period is the WEP. This program includes personnel and capital expenses related to facilities that will improve the City’s water supply reliability. After a decrease in purchased water costs in FY 2015-16 (compared to FY 2014-15) due to reduced demand, the cost of water purchases from MWD is projected to increase thereafter, because of the assumed rate increases in MWD’s wholesale rates.

REVENUE INCREASES

Figure 3-1 also shows the revenue that is projected from current rates (see total revenue line). The projection for FY 2015-16 drops compared to FY 2014-15 based on the estimated demand reduction that is projected due to conservation. Figure 3-2 shows the conservation that is projected based on the reduction in demand from FY 2014-15.

Figure 3-2. Demand Projection

	Conservation Assumption
FY 2015-16	19.4% less compared to FY 14-15
FY 2016-17	2% more demand than FY 15-16
FY 2017-18	2% more demand than FY 16-17
FY 2018-19	1% more demand than FY 17-18
FY 2019-20	1% more demand than FY 18-19

It is assumed that the current drought reduction will be greatest in FY 2015-16, after which there will be a slight rebound in demand in each subsequent year. Demand is not projected to return to pre-drought demand because the City must also consider the pre-existing state law requiring a reduction in water usage of 20% by 2020, which the City plans to achieve. Figure 3-3 shows the weighted average percentage increases in rate revenue needed, from both the quantity charge and service charges, in order to cover the increased revenue requirements and revenue lost due to reduced demand. As discussed in Section 4 – Cost of Service Analysis, the 19.2% overall percentage increase in rate revenue that is needed in FY 2015-16 is a weighted average, made up of a 23.0% increase in quantity charge revenue and a slight 0.8% decrease in service charge revenue.

Figure 3-3. Projected Rate Revenue Increases

	Revenue Increase
FY 2015-16	19.2%
FY 2016-17	6.0%
FY 2017-18	6.0%
FY 2018-19	5.0%
FY 2019-20	5.0%

4. COST OF SERVICE ANALYSIS

METHODOLOGY

Cost of service analysis determines the unit cost of the services provided to the City’s water customers. Each customer class is charged the same unit cost for its share of the services that it requires (Figure 4-5). In this way, the total revenue requirement is proportioned between the fixed service charges and the quantity charges; the quantity charges are further proportioned among the customer classes. This methodology is consistent with industry standards promulgated by the American Water Works Association¹ and referred to as the “base/extra capacity method.”

The majority of the City’s services are related to meeting customer demands that can vary from low, base demands with very little seasonal fluctuation for irrigation or tourism to high, peak demands that can be over four or five times the base demand. Meeting peak demands requires larger, more expensive infrastructure. The City’s water system also provides service to customer accounts such as metering and billing as well as specific services for fire suppression. Figure 4-1 categorizes the City’s facilities according to the services they provide.

Figure 4-1. Services Provided By Facilities

Operating and Capital Expenses	Demand Service Levels				Other Services	
	Non-Peaking Base	Extra Capacity Peaking			Customer Accounts	Fire
		Average Day	Maximum Day	Maximum Hour		
Source of Supply						
Groundwater extraction						
MWDSC Imported water						
Purification						
Water quality - treatment						
Water quality - distribution						
Transmission						
Conveyance						
Pumping						
Balancing storage						
Distribution						
Conveyance						
Pumping						
Balancing storage						
Customer services and meters						
Hydrants						

¹ American Water Works Association, *Principles of Water Rates, Fees, and Charges* (Sixth Edition, 2012).

The City's services are categorized by function. Source of supply (i.e., groundwater and imported water from MWD) costs are considered non-peaking base demands because they are unaffected by levels of demand. Other services provided by City facilities are impacted by levels of demand. For those services, meeting peak demands requires larger, more expensive infrastructure. For example, the City's services related to purification and water quality and the City's water treatment facilities are related to peak demands. These facilities are sized for meeting daily peaks. Transmission facilities, include water conveyance facilities such as pipelines, pump stations, and storage reservoirs, which must be sized for daily peaks. Distribution facilities convey water to the customer and must be sized for maximum hour peaks, which are the highest peaks. The cost of customer services and meters and hydrants are directly assigned to the fixed service charges.

Costs related to meeting base and extra capacity demands are allocated among the City's customer classes – Single-Family Residential, Multi-Family Residential, and Commercial – based on their uses of these services on the non-seasonal average (i.e., base day), average day, maximum day, and maximum hour. Non-seasonal average demands correspond to customer billings in the lowest billing period in FY 2014-15. Average day demands are based on the average daily demand in FY 2014-15 based on customer billing data. Maximum day demands for each class were estimated based on the maximum day demand for the system; an estimate for each class was required because the City does not bill customers on a daily basis. The maximum hour demand was estimated using a design factor whereby the maximum hour is two times the maximum day demand. **Figure 4-2** summarizes the demands by each customer class for each service level.

Figure 4-2. Estimated Demands By Service Level (HCF/Day)

	Base Day	Avg. Day	Max. Day	Max. Hour
SFR	5,061	7,248	13,642	27,284
MFR	2,466	2,586	5,772	11,543
Commercial	2,819	3,321	6,821	13,642
Total	10,345	13,156	26,235	52,470

Using the estimated demands for each level of service in **Figure 4-2**, it is possible to derive the corresponding allocation factors, which are summarized in **Figure 4-3**. These allocation factors reflect the different demand patterns among the customer classes. The allocation factors are calculated by first converting the flows in **Figure 4-2** into load factors, which are multiples for how much greater the peak flows are compared to the base flows. For example, the Single-Family Residential average day demands of 7,248 HCF is 1.43 times the 5,061 HCF base demand. The Single-Family Residential average day allocation factor is calculated by reference to the load factors. For example, the Single-Family Residential average day allocation is 30.18% (i.e., $(1.43 - 1.00)/1.43$).

Figure 4-3. Base/Extra Capacity Allocation Factors

SFR Load Factors	1.00	1.43	2.70	5.39	
Non-seasonal Avg	100.00%				100.00%
Avg Day	69.82%	30.18%			100.00%
Max Day	37.10%	16.04%	46.87%		100.00%
Max Hour	18.55%	8.02%	23.43%	50.00%	100.00%
MFR Load Factors	1.00	1.05	2.34	4.68	
Non-seasonal Avg	100.00%				100.00%
Avg Day	95.34%	4.66%			100.00%
Max Day	42.72%	2.09%	55.19%		100.00%
Max Hour	21.36%	1.04%	27.60%	50.00%	100.00%
Commercial Load Factors	1.00	1.18	2.42	4.84	
Non-seasonal Avg	100.00%				100.00%
Avg Day	84.88%	15.12%			100.00%
Max Day	41.33%	7.36%	51.31%		100.00%
Max Hour	20.66%	3.68%	25.65%	50.00%	100.00%
Total Load Factors	1.00	1.27	2.54	5.07	
Non-seasonal Avg	100.00%				100.00%
Avg Day	78.64%	21.36%			100.00%
Max Day	39.43%	10.71%	49.85%		100.00%
Max Hour	19.72%	5.36%	24.93%	50.00%	100.00%

Rounding differences caused by stored values in electronic models may exist.

The allocation factors for the total system in **Figure 4-3** were applied to the revenue requirements for FY 2015-16 with the resulting allocations shown in **Figure 4-4**. In most cases, it is possible to apply allocations that directly correspond to service associated with the cost. The total of those direct allocations was used for developing composite operations and maintenance (O&M) and capital allocation factors to apply to costs of a more general nature.

Of the total \$35.9 million revenue requirement that must be covered by rates, \$31.2 million is allocated to quantity charges (see total flow-related expenses in **Figure 4-4** below) and the remaining \$4.7 million is service-related expenses. In effect, 13% of the rate revenue is generated by fixed charges. At this level, the rates have a strong conservation orientation because customer bills will respond well to conserving.

Figure 4-4. Cost of Service Allocations

	Allocation Factor	Nonseasonal Avg	Average Day	Maximum Day	Maximum Hour	Customer Billing	Fire	Total
O&M Expenses								
Groundwater								
Salaries, Supplies, ISF	Base	\$2,318,872	\$0	\$0	\$0	\$0	\$0	\$2,318,872
Chemicals & Utilities	Base	\$652,566	\$0	\$0	\$0	\$0	\$0	\$652,566
Maintenance & Repair								
Salaries, Supplies, ISF	Max Hour	\$1,049,976	\$285,245	\$1,327,427	\$2,662,647	\$0	\$0	\$5,325,294
Chemicals & Utilities	Max Hour	\$98,458	\$26,748	\$124,475	\$249,681	\$0	\$0	\$499,362
Distribution	Max Hour	\$104,363	\$28,352	\$131,940	\$264,655	\$0	\$0	\$529,309
MWD Purchased Water								
Tier 1	Base	\$8,865,231	\$0	\$0	\$0	\$0	\$0	\$8,865,231
Tier 2	Max Hour	\$0	\$0	\$0	\$0	\$0	\$0	\$0
RTS charge	Base	\$1,443,000	\$0	\$0	\$0	\$0	\$0	\$1,443,000
Water Quality - Treatment								
Salaries, Supplies, ISF	Max Day	\$504,577	\$137,077	\$637,909	\$0	\$0	\$0	\$1,279,564
Chemicals & Utilities	Max Day	\$10,239	\$2,782	\$12,945	\$0	\$0	\$0	\$25,966
Water Quality - Distribution								
Salaries, Supplies, ISF	Average Day	\$1,006,209	\$273,355	\$0	\$0	\$0	\$0	\$1,279,564
Chemicals & Utilities	Average Day	\$20,419	\$5,547	\$0	\$0	\$0	\$0	\$25,966
Water Services & Installations	Customer	\$0	\$0	\$0	\$0	\$3,912,323	\$0	\$3,912,323
Capital Project Admin	CIP Composite	\$198,891	\$54,032	\$244,227	\$435,075	\$102,774	\$27,406	\$1,062,406
Conservation	Max Hour	\$99,279	\$26,971	\$125,512	\$251,762	\$0	\$0	\$503,524
Fire	Fire	\$0	\$0	\$0	\$0	\$0	\$128,154	\$128,154
Subtotal - O&M Expenses		\$16,372,079	\$840,109	\$2,604,436	\$3,863,820	\$4,015,096	\$155,561	\$27,851,100
	<i>O&M Composite</i>	<i>58.8%</i>	<i>3.0%</i>	<i>9.4%</i>	<i>13.9%</i>	<i>14.4%</i>	<i>0.6%</i>	<i>100.0%</i>
Capital Expenses								
PAYGo projects	CIP Composite	\$735,968	\$199,939	\$903,727	\$1,609,933	\$380,299	\$101,413	\$3,931,279
FY 2015-16 Debt Service - Principal	D/S Composite	\$838,125	\$227,692	\$1,059,596	\$1,108,964	\$185,623	\$0	\$3,420,000
FY 2015-16 Debt Service - Interest	D/S Composite	\$625,724	\$169,989	\$791,068	\$827,925	\$138,582	\$0	\$2,553,288
Subtotal - Capital Expenses		\$2,199,817	\$597,620	\$2,754,391	\$3,546,822	\$704,504	\$101,413	\$9,904,567
	<i>Cap Composite</i>	<i>22.2%</i>	<i>6.0%</i>	<i>27.8%</i>	<i>35.8%</i>	<i>7.1%</i>	<i>1.0%</i>	<i>100.0%</i>
Subtotal - O&M and Capital		\$18,571,896	\$1,437,728	\$5,358,826	\$7,410,642	\$4,719,600	\$256,974	\$37,755,668
	<i>Exp Composite</i>	<i>49.2%</i>	<i>3.8%</i>	<i>14.2%</i>	<i>19.6%</i>	<i>12.5%</i>	<i>0.7%</i>	<i>100.0%</i>
Non-Operating Revenue								
Ordinance violations	Exp Composite	-\$1,581	-\$122	-\$456	-\$631	-\$402	-\$22	-\$3,214
ISF receipts	Exp Composite	-\$513,655	-\$39,764	-\$148,213	-\$204,961	-\$130,533	-\$7,107	-\$1,044,233
Lease of Property	Exp Composite	-\$4,953	-\$383	-\$1,429	-\$1,976	-\$1,259	-\$69	-\$10,069
Subsidy from MWD	Max Day	-\$93,215	-\$25,324	-\$117,847	\$0	\$0	\$0	-\$236,385
Interest Earnings	Exp Composite	-\$228,367	-\$17,679	-\$65,894	-\$91,124	-\$58,034	-\$3,160	-\$464,257
Miscellaneous	Exp Composite	-\$27,657	-\$2,141	-\$7,980	-\$11,036	-\$7,028	-\$383	-\$56,225
		-\$869,427	-\$85,413	-\$341,819	-\$309,728	-\$197,256	-\$10,740	-\$1,814,383
Total Revenue Requirement		\$17,702,469	\$1,352,315	\$5,017,008	\$7,100,914	\$4,522,345	\$246,234	\$35,941,285
					\$31,172,706	Flow-related		

The \$31.2 million portion of the revenue requirement related to quantity charges is converted into unit costs in Figure 4-5 for each of the base and extra capacity levels of demand. These unit costs are then applied to the levels of demand for each of the services required by the customer classes to determine each class's proportionate share of the

cost of service that is related to the quantity charges. These allocations will be used to derive rates for each customer class in Section 5.

Important conclusions about the cost of base and extra capacity demand are indicated in **Figure 4-5**. \$17.7 million (57%) of the total \$31.2 million is related to non-seasonal base demand. In effect, if there were no peak demands, the facilities could be sized much smaller, reducing the cost to 57% of the current cost. However, peaking occurs and the cost to provide extra capacity for this service increases incrementally such that the most expensive category of peak service - maximum hour - is allocated the most cost compared with average and maximum day peaks. To derive the Unit Cost of Service per HCF, we divided the annual revenue requirement for each level of service by their respective annualized daily HCF from **Figure 4-2**. For example, the Unit Cost of Service per HCF for Maximum Hour services was calculated by dividing the \$7,100,914 revenue requirement by 19,151,420 HCF (52,469.643 HCF x 365 days = 19,151,420).

Figure 4-5. Customer Class Cost of Service Allocations

	Nonseasonal Base	Average Day	Maximum Day	Maximum Hour	Quantity Charge Rev. Req. ¹
Unit Cost Calculation					
Revenue Requirement ¹	\$17,702,469	\$1,352,315	\$5,017,008	\$7,100,914	\$31,172,706
Units of Service (hcf)	3,776,040	4,801,869	9,575,710	19,151,420	
Unit Cost of Service per HCF	\$ 4.69	\$ 0.28	\$ 0.52	\$ 0.37	
Units of Service (hcf per year)					
SFR	1,847,124	2,645,666	4,979,369	9,958,738	
MFR	899,958	943,935	2,106,656	4,213,312	
Comm	1,028,958	1,212,268	2,489,685	4,979,369	
Cost of Service (Unit Cost x Units of Service)					
SFR	\$ 8,659,510	\$ 745,080	\$ 2,608,844	\$ 3,692,475	\$ 15,705,909
MFR	\$ 4,219,097	\$ 265,833	\$ 1,103,742	\$ 1,562,201	\$ 7,150,873
Comm	\$ 4,823,862	\$ 341,402	\$ 1,304,422	\$ 1,846,238	\$ 8,315,924
	\$ 17,702,469	\$ 1,352,315	\$ 5,017,008	\$ 7,100,914	\$ 31,172,706

The resulting average cost of service allocations shown in **Figure 4-6** indicate that Multi-Family Residential customers are the most costly to serve (\$8.49 per HCF); Single-Family Residential and Commercial customers are nearly equivalent (\$7.95 and \$7.91 per HCF, respectively).

Figure 4-6. Average Cost of Service

	Quantity Charge Rev. Req.	Proj. Annual Demand (hcf)	Average Cost/hcf
SFR	\$ 15,705,909	1,976,384	\$7.95
MFR	\$ 7,150,873	842,197	\$8.49
Comm	\$ 8,315,924	1,051,530	\$7.91
Total	\$ 31,172,706	3,870,111	\$8.05

Figure 4-7 compares the revenue projected from current rates with a 19.4% conservation savings with the cost of service allocations. The comparison indicates that 19.2%

(\$5,798,689) additional revenue is needed. Revenue from service charges is nearly equal to the cost of service allocation. Revenue from the current quantity charges is 23% below the cost of service. The percentage increases in additional revenue required for Single-Family Residential (17.7%) and Commercial (19.7%) are nearly the same; the Multi-Family Residential increase (41.6%) is substantially higher.

Figure 4-7. Current Rate Revenue Compared With the Cost of Service

Customer Class	Revenue		FY 2015-16 Cost		Difference		
	at Current Rates		of Service		\$	%	
Quantity Charges							
SFR	\$	13,339,114	\$	15,705,909	\$	2,366,795	17.7%
MFR	\$	5,048,397	\$	7,150,873	\$	2,102,476	41.6%
Commercial	\$	6,947,005	\$	8,315,924	\$	1,368,919	19.7%
Total	\$	25,334,516	\$	31,172,706	\$	5,838,190	23.0%
		84%		87%			
Service (Meter) Charges	\$	4,808,080	\$	4,768,578	\$	(39,501)	-0.8%
		16%		13%			
Grand Total	\$	30,142,596	\$	35,941,285	\$	5,798,689	19.2%

Rates need to be designed to generate each class's share of the revenue requirement related to quantity charges. Because the revenue generated by the current service charges is very close to the cost of service allocated to the service charges, no modification to the service charges is required at this time. Section 5 provides the recommended modifications to the quantity charges in order to meet the current cost of service requirement.

5. RATE DESIGN

DESIGN OBJECTIVES

The City's current rate structure is described in Section 2. Generally speaking, its structure is a representative example of retail water rate structures found in California. Setting rates in California is subject to key laws and court decisions of which Article XIID of the California Constitution.

Article XIID has three substantive provisions that must be met: (1) the revenue from rates must not exceed the cost of providing service, (2) the revenue from rates must be used for providing service, and (3) the fees and charges must be proportional to the cost of providing the service. In meeting these provisions, the water supplier is responsible for meeting the burden of proof. The first two provisions are more closely related to developing revenue requirements and revenue projections. Only the last provision is an objective in rate structure design.

The *San Juan Capistrano* decision is a 2015 appellate court decision that requires that tiered rates must be proportionate to the cost of service across the range of consumption. While acknowledging that such an analysis may be complex, no formulas, rules, or specific procedures are prescribed in the decision for how to set tiered rates, only that each tier must be cost-based. This is a recent court decision from which clarifying interpretations will undoubtedly follow.

For purposes of designing the quantity charges, it is safe to assume that the theoretical rationale and associated calculations must be documented explaining how the size of each tier and the rate per tier was determined. This documentation should also include the service charge structure.

QUANTITY CHARGE STRUCTURE

The City has separate quantity charges for Single-Family Residential, Multi-Family Residential, and Commercial customers, which is appropriate as different levels of service are being provided to the average customer within each class. However, within each customer class we have identified some recommended changes in the number and size of tiers. Our analysis of historical customer billing data for each class led to changes in the amount of usage within each of the Single-Family Residential tiers and in the number of tiers for Multi-Family Residential and Commercial customers. Each class's rate design is described below.

Single-Family Residential Quantity Charges

Tiered rate structures are well suited to Single-Family Residential quantity charges because of the wide variation in peak demand patterns. The use of four tiers has been in place for the City's Single-Family Residential customers and continues to be appropriate. With four tiers, it is possible to size tiers corresponding to each range of base demand and average day, maximum day, and maximum hour peak demand. Analyzing recent customer billing data led to two modifications in the locations of the breakpoints that demarcate the size of each tier. **Figure 2-2** references the City's current Single-Family Residential breakpoints. The proposed breakpoints align the cost associated with each level of demand with the demand in each tier.

The current breakpoint of 10 HCF corresponds to a very low level of demand for which, based on current usage data, there is no direct relationship with the cost of service. The breakpoint for base demand is more appropriately located at 42 HCF, which is average base demand in the lowest billing period. Hence, it is recommended that the first breakpoint at 10 HCF should be increased to 42 HCF for Tier 1.

The current second breakpoint at 55 HCF is slightly lower than the average bill of 61 HCF. The second breakpoint should be increased from 55 HCF to 61 HCF so that the cost of average day demand corresponds with average bills.

The current highest breakpoint at 120 HCF is well above the average summer bill of 93 HCF, which is when the maximum day peak occurs. Hence, the third breakpoint at 120 HCF should be reduced to 93 HCF to align maximum day peak costs with the corresponding demand.

Maximum hour peak demands occur in Tier 4 for use above 93 HCF. Maximum hour costs are recovered from peak demands that occur in Tier 4.

In this way, the sizes of the tiers correspond to the cost of supplying water in each tier. Tier 1 corresponds to the non-seasonal base costs, Tier 2 corresponds to the average day peak costs, Tier 3 corresponds to the maximum day peak costs, and Tier 4 to the maximum hour peak costs.

Figure 5-1 shows the calculation of the rates for each tier for Beverly Hills and West Hollywood. The total revenue requirement for the Single-Family Residential class was distributed across the tiers using the allocation factors from **Figure 4-3**. The analysis also sets the West Hollywood rate at 1.25 times the Beverly Hills rate in recognition that Beverly Hills has extended service out of the city limits to customers that had not contributed to the City's General Fund which funded the initial construction of the City's water system.

Figure 5-1. Proposed Single-Family Residential Quantity Charges

	Tier 1	Tier 2	Tier 3	Tier 4	Total
Size of Tier	0-42 hcf	43-61 hcf	62-92 hcf	93+ hcf	
SFR Revenue Reqmt by Tier (\$/yr)	\$8,659,510	\$745,080	\$2,608,844	\$3,692,475	\$15,705,909
Beverly Hills	\$8,054,879	\$736,255	\$2,591,000	\$3,676,383	\$15,058,516
West Hollywood	\$604,631	\$8,825	\$17,844	\$16,093	\$647,392
	<u>\$8,659,510</u>	<u>\$745,080</u>	<u>\$2,608,844</u>	<u>\$3,692,475</u>	<u>\$15,705,909</u>
SFR Flow (hcf/yr)					
Beverly Hills	1,864,423	869,041	631,853	394,355	
West Hollywood	111,961	8,333	3,481	1,381	
	<u>1,976,384</u>	<u>877,375</u>	<u>635,334</u>	<u>395,736</u>	
SFR Rates (\$/hcf)					
Beverly Hills					
Cost per tier	\$8,054,879	\$736,255	\$2,591,000	\$3,676,383	
Demand	1,864,423	869,041	631,853	394,355	
Cost increment	\$4.32	\$0.85	\$4.10	\$9.32	
Rate per tier	\$4.32	\$5.17	\$9.27	\$18.59	
West Hollywood					
Cost per tier	\$604,631	\$8,825	\$17,844	\$16,093	
Demand	\$111,961	\$8,333	\$3,481	\$1,381	
Cost increment	\$5.40	\$1.06	\$5.13	\$11.65	
Rate per tier	\$5.40	\$6.46	\$11.59	\$23.24	

Figure 5-2 is a tabular comparison of the current and proposed Single-Family Residential (SFR) quantity charge rate structures. Note that the size of each tier is shown in HCF and also in gallons per day. The typical water usage per person in normal water supply years is 60 to 70 gallons per day for inside uses (not including irrigation).

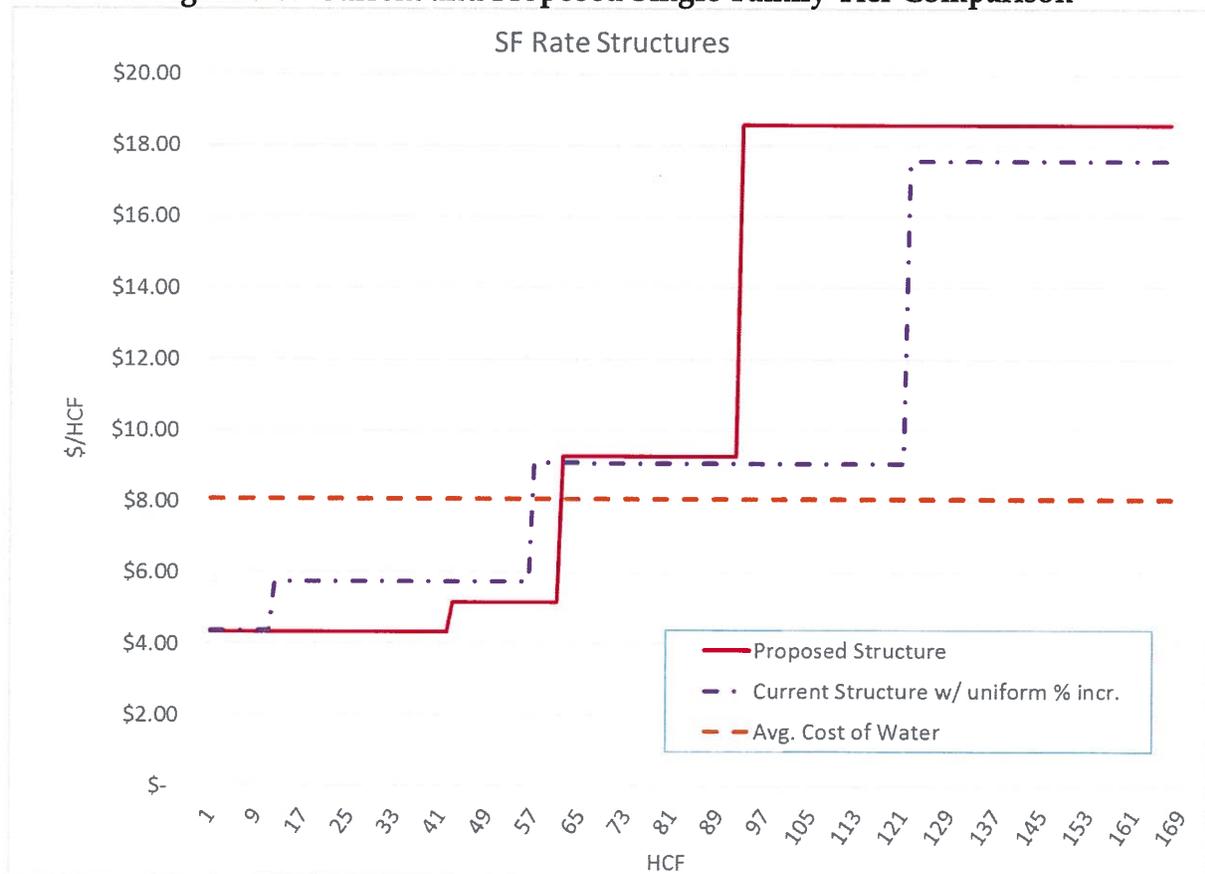
Figure 5-2. Current and Proposed Single-Family Residential Quantity Charges

● CURRENT - November 2015				
SFR				
	hcf/acct	gals/day	Rate (\$/hcf)	(\$/gal)
Tier 1	0-10	1 - 136	\$ 3.71	\$ 0.005
Tier 2	11-55	137 - 697	\$ 4.90	\$ 0.007
Tier 3	56-120	698 - 1,507	\$ 7.73	\$ 0.010
Tier 4	121+	1,508+	\$ 14.93	\$ 0.020
● Proposed Quantity Charges				
SFR				
	hcf/acct	gals/day	Rate (\$/hcf)	(\$/gal)
Tier 1	0-42	1 - 535	\$ 4.32	\$ 0.006
Tier 2	43-61	536 - 772	\$ 5.17	\$ 0.007
Tier 3	62-92	773 - 1,158	\$ 9.27	\$ 0.012
Tier 4	93+	1,159+	\$ 18.59	\$ 0.025

Quantity charges are for Beverly Hills. West Hollywood is 25% higher.

Figure 5-3 is a graphical comparison of the current and proposed Single-Family Residential quantity charge rate structures. Note that the horizontal dashed line represents the average unit cost. This shows how the rates in each tier compare with the average rate. Rates in the first two tiers are significantly below average and in the top two tiers are significantly above average, which reflects how the cost of service varies to provide for base and extra capacity service levels.

Figure 5-3. Current and Proposed Single-Family Tier Comparison



Multi-Family Residential Quantity Charges

Multi-Family Residential (MFR) quantity charges are currently structured with four tiers that are billed per dwelling unit. The rates per tier have been equal to the Single-Family Residential rates, but the sizes of the Multi-Family Residential tiers are smaller (on a per dwelling unit basis) for Multi-Family Residential than for Single-Family Residential customers. This is appropriate because Multi-Family Residential customers do not typically have significant landscape irrigation; most of the water demand is for indoor use only. As a result, the range of water use in different times of the year is not as

great for Multi-Family Residential dwelling units as it is for Single-Family Residential dwelling units.

An analysis of Multi-Family Residential customer billing data indicated that there was very small variation between the non-seasonal (or base) demand average and the peak demand average. As such, the current four-tier structure should be replaced with a two-tier structure. The breakpoint is located at 9 HCF per dwelling unit, which is the median non-seasonal demand per dwelling unit.

To calculate the rates per tier, non-seasonal (base) costs were allocated to Tier 1, and average day costs, maximum day, and maximum hour peak costs are combined in Tier 2. The calculation of the rates for the two tiers for Beverly Hills and West Hollywood is shown in Figure 5-4.

Figure 5-4. Proposed Multi-Family Quantity Charges

	Tier 1	Tier 2	Total
Size of Tier (per dwelling unit)	0-9 hcf	10+ hcf	
MFR Revenue Reqmt by Tier (\$/yr)			
Beverly Hills	\$4,219,097	\$2,931,776	\$7,150,873
West Hollywood	\$2,989,314	\$2,419,482	\$5,408,796
	\$1,229,783	\$512,294	\$1,742,078
	<u>\$4,219,097</u>	<u>\$2,931,776</u>	<u>\$7,150,873</u>
MFR Flow (hcf/yr)			
Beverly Hills	633,653	189,249	
West Hollywood	208,544	32,057	
	<u>842,197</u>	<u>221,306</u>	
MFR Rates (\$/hcf per DU)			
Beverly Hills			
Cost per tier	\$2,989,314	\$2,419,482	
Demand	633,653	189,249	
Cost increment	\$4.72	\$12.78	
Rate per tier	\$4.72	\$17.50	
West Hollywood			
Cost per tier	\$1,229,783	\$512,294	
Demand	208,544	32,057	
Cost increment	\$5.90	\$15.98	
Rate per tier	\$5.90	\$21.88	

Figure 5-5 compares the current and proposed Multi-Family Residential quantity charge rate structures. The proposed breakpoint at 124 gallons per day per dwelling unit is equivalent to an average use of 62 gallons per person for an apartment with two occupants. The Multi-Family Residential Tier 1 rate is slightly less than the Single-Family Residential Tier 2 rates. The Multi-Family Residential Tier 2 rate is slightly less than the Single-Family Residential Tier 4 rate. This pricing is consistent with the cost of

serving these two classes. When demand exceeds average in the Multi-Family Residential Class, the cost of peaking is comparable to the cost of Single-Family Residential peaking in the highest tier. For both Single-Family Residential and Multi-Family Residential classes, there is a considerable cost increase for maximum day and maximum hour peak service.

Figure 5-5. Current and Proposed Multi-Family Residential Quantity Charges

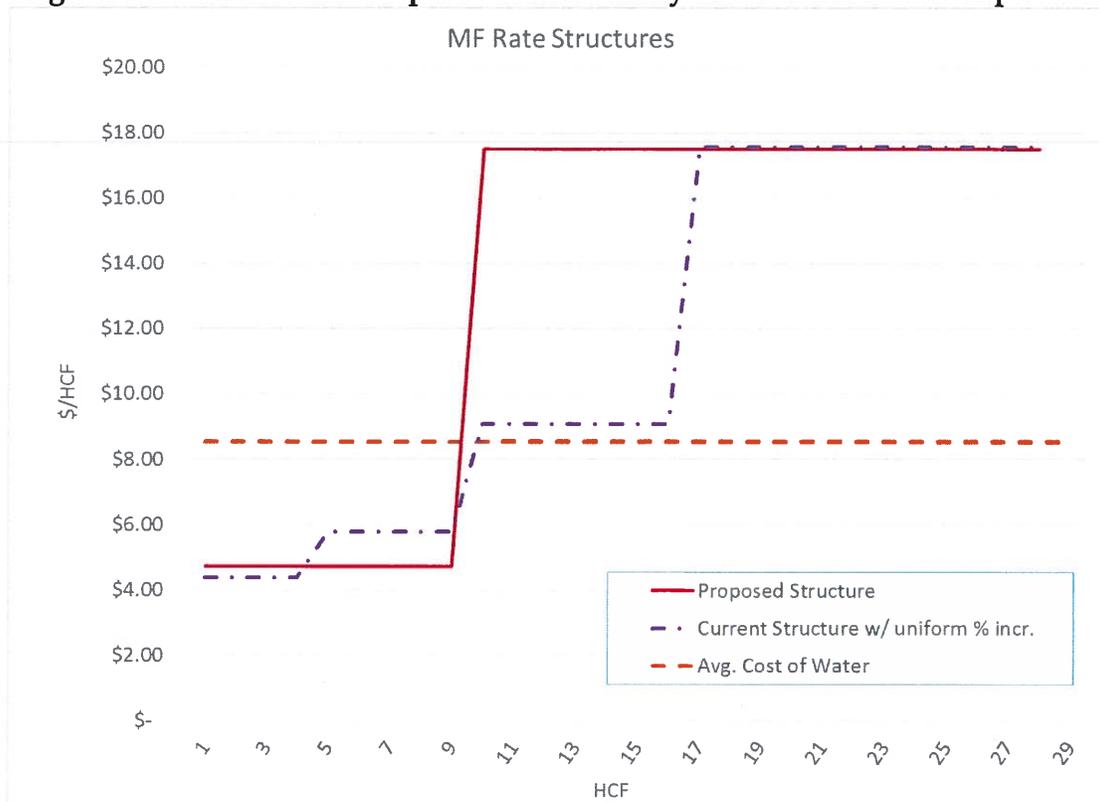
● CURRENT - November 2015				
MFR				
	<u>hcf/DU</u>	<u>gals/day/DU</u>	<u>Rate (\$/hcf)</u>	<u>(\$/gal)</u>
Tier 1	0-4	1 - 61	\$ 3.71	\$ 0.005
Tier 2	5-9	62 - 124	\$ 4.90	\$ 0.007
Tier 3	10-16	125 - 211	\$ 7.73	\$ 0.010
Tier 4	17+	212+	\$ 14.93	\$ 0.020

● Proposed Quantity Charges				
MFR				
	<u>hcf/DU</u>	<u>gals/day/DU</u>	<u>Rate (\$/hcf)</u>	<u>(\$/gal)</u>
Tier 1	0-9	1 - 124	\$ 4.72	\$ 0.006
Tier 2	10+	125+	\$ 17.50	\$ 0.023
Tier 3				
Tier 4				

Quantity charges are for Beverly Hills. West Hollywood is 25% higher.

Figure 5-6 compares the current and proposed Multi-Family Residential tier structures. The proposed two-tier structure aligns the cost of base and extra capacity demand with the size of the tiers. When demand exceeds average, the cost of peaking is comparable to the cost of Single-Family Residential peaking.

Figure 5-6. Current and Proposed Multi-Family Residential Tier Comparison



Commercial Quantity Charges

The current Commercial quantity charge is a uniform, un-tiered charge. Commercial quantity charges had previously been tiered. A review of billing data revealed that, as in the Single-Family Residential class, there was a wider variation between the Commercial non-seasonal base demand and the maximum day and maximum hour usage; hence, it was appropriate for the Commercial Class to have four tiers. The proposed four-tiered structure would more accurately reflect the cost of providing service across the range of Commercial consumption. The revenue requirements and resulting calculated rates per tier are shown in Figure 5-7.

Figure 5-7. Proposed Commercial Quantity Charges

	Tier 1	Tier 2	Tier 3	Tier 4	Total
Size of tier	0-119 hcf	120-140 hcf	141-177 hcf	178+ hcf	
Comm Revenue Reqmt by Tier (\$/yr)	\$4,823,862	\$341,402	\$1,304,422	\$1,846,238	\$8,315,924
Beverly Hills	\$3,853,609	\$282,164	\$1,079,956	\$1,531,853	\$6,747,582
West Hollywood	\$970,253	\$59,238	\$224,466	\$314,385	\$1,568,342
	\$4,823,862	\$341,402	\$1,304,422	\$1,846,238	\$8,315,924
Comm Flow (hcf/yr)					
Beverly Hills	875,238	569,475	540,108	495,408	
West Hollywood	176,292	95,645	89,808	81,339	
	1,051,530	665,121	629,916	576,747	
Comm Rates (\$/hcf)					
Beverly Hills					
Cost per tier	\$3,853,609	\$282,164	\$1,079,956	\$1,531,853	
Demand	875,238	569,475	540,108	495,408	
Cost increment	\$ 4.40	\$ 0.50	\$ 2.00	\$ 3.09	
Rate per tier	\$ 4.40	\$ 4.90	\$ 6.90	\$ 9.99	
West Hollywood					
Cost per tier	\$970,253	\$59,238	\$224,466	\$314,385	
Demand	176,292	95,645	89,808	81,339	
Cost increment	\$ 5.50	\$ 0.62	\$ 2.50	\$ 3.87	
Rate per tier	\$ 5.50	\$ 6.12	\$ 8.62	\$ 12.49	

Figure 5-8 compares the current and proposed Commercial quantity charges. In going from a uniform to a tiered structure, the alignment of base and extra capacity demands with cost was made. As in the Single-Family Residential structure, the Tier 1 breakpoint occurs at the non-seasonal (base) demand, the Tier 2 breakpoint occurs at the average demand, and the Tier 3 breakpoint occurs at the average summer demand.

Figure 5-8. Current and Proposed Commercial Quantity Charges

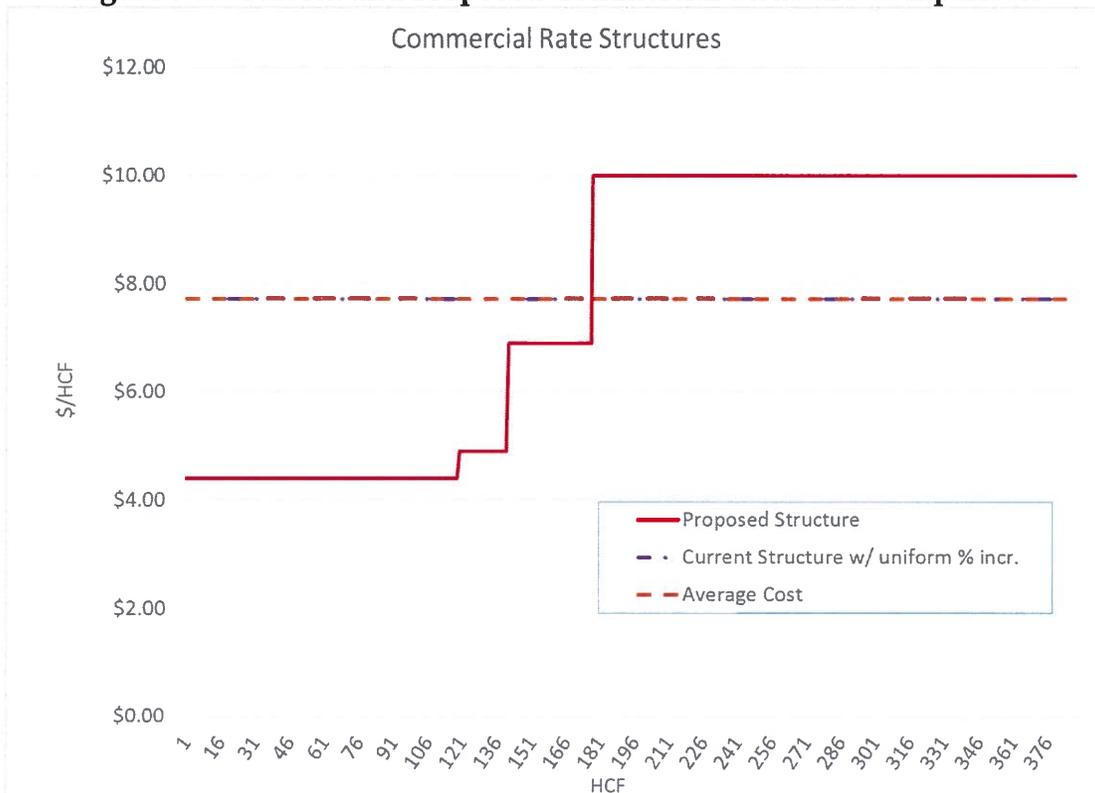
● CURRENT - November 2015				
Commercial				
	hcf/acct	gals/acct	Rate (\$/hcf)	(\$/gal)
Tier 1	None.		\$ 6.34	\$ 0.008
Tier 2	Uniform			
Tier 3	rate for all			
Tier 4	usage.			

● Proposed Quantity Charges				
Commercial				
	hcf/acct	gals/day	Rate (\$/hcf)	(\$/gal)
Tier 1	0-119	1 - 1,495	\$ 4.40	\$ 0.006
Tier 2	120-144	1,496 - 1,807	\$ 4.90	\$ 0.007
Tier 3	145-177	1,808 - 2,218	\$ 6.90	\$ 0.009
Tier 4	178+	2,219+	\$ 9.99	\$ 0.013

Quantity charges are for Beverly Hills. West Hollywood is 25% higher.

Figure 5-9 compares the uniform rate with the tiered rates. The uniform rate and average unit cost are the same horizontal line. The first three tiers are charged at less than the average cost. The fourth tier reflects the cost of supplying demand to the largest users.

Figure 5-9. Current and Proposed Commercial Structure Comparison



SERVICE CHARGE STRUCTURE

As previously shown in **Figure 4-7**, the revenue generated by the existing service charges is nearly equal to how much the cost of service analysis determined should be generated by the service charges. **Figure 4-4** shows the costs that were allocated to Customer Billing, which is the cost category in the cost of service analysis associated with the service charges. The majority of the costs are related to Water Services and Installations. The resulting \$4,522,345 allocation is 13% of rate revenue.

Guidelines promulgated by the California Urban Water Conservation Council recommend recovering no more than 30% of revenue from fixed service charges so that customers' bills respond noticeably to changes in consumption, thereby rewarding customers who conserve and discouraging wasteful or inefficient demand. At 13%, the City's rates have a strong conservation orientation. However, with this conservation orientation comes less revenue stability that would occur if the service charges generated a greater portion of the rate revenue. At 13%, the service charge revenue also does not exceed the Council's guideline. Most importantly, at 13%, the service charges are consistent with the cost of service.

Because the service charges generate 13% of the projected rate revenue, 87% of the revenue is generated by the quantity charges, which can vary depending on climate and economic conditions. The City's climate is moderate and results in significant year-round irrigation compared with less moderate climates where the winters are colder and wetter. As a result, only about 20% of the water demand is seasonal, leaving 80% as a stable level of non-seasonal demand that produces a relatively fixed source of revenue.

Combining the 13% of fixed revenue from the service charges with the 70% (80% of non-seasonal demand times 87% of total rate revenue equals 70% of revenue from non-seasonal demand) of fairly fixed revenue from non-seasonal water sales yields 83% (13% of service charge revenue plus 70% of non-seasonal quantity charge revenue). This 83% of revenue from fixed sources provides reasonable stability given the fact that the water enterprise's fixed costs are 70% to 80% of the total costs. As a result, there is no need to change the service charges to generate more or less revenue at this time.

The service charge structure is graduated in proportion to service connection size and does not differ by customer class. Capacity is capacity regardless of what class is using it when the same water is being supplied (i.e., potable water as opposed to untreated or recycled water), capacity is capacity regardless of what class is using it. Larger connections pay more for the increased demand they place on the system. The current graduation from lowest to smallest connection has been in place for many years and does not need to be changed. It is recommended that the current service charge structure remain unchanged.

Figure 5-10 summarizes the proposed service charges, which are the same as the current service charges.

Figure 5-10. Current and Proposed Bi-monthly Service Charges

Meter Size	BH Rate	WH Rate
1"	\$ 43.36	\$ 54.20
1 1/2"	\$ 75.16	\$ 93.95
2"	\$113.32	\$141.66
3"	\$202.36	\$252.94
4"	\$329.55	\$411.94
6"	\$647.53	\$809.41

6. CUSTOMER BILL IMPACTS

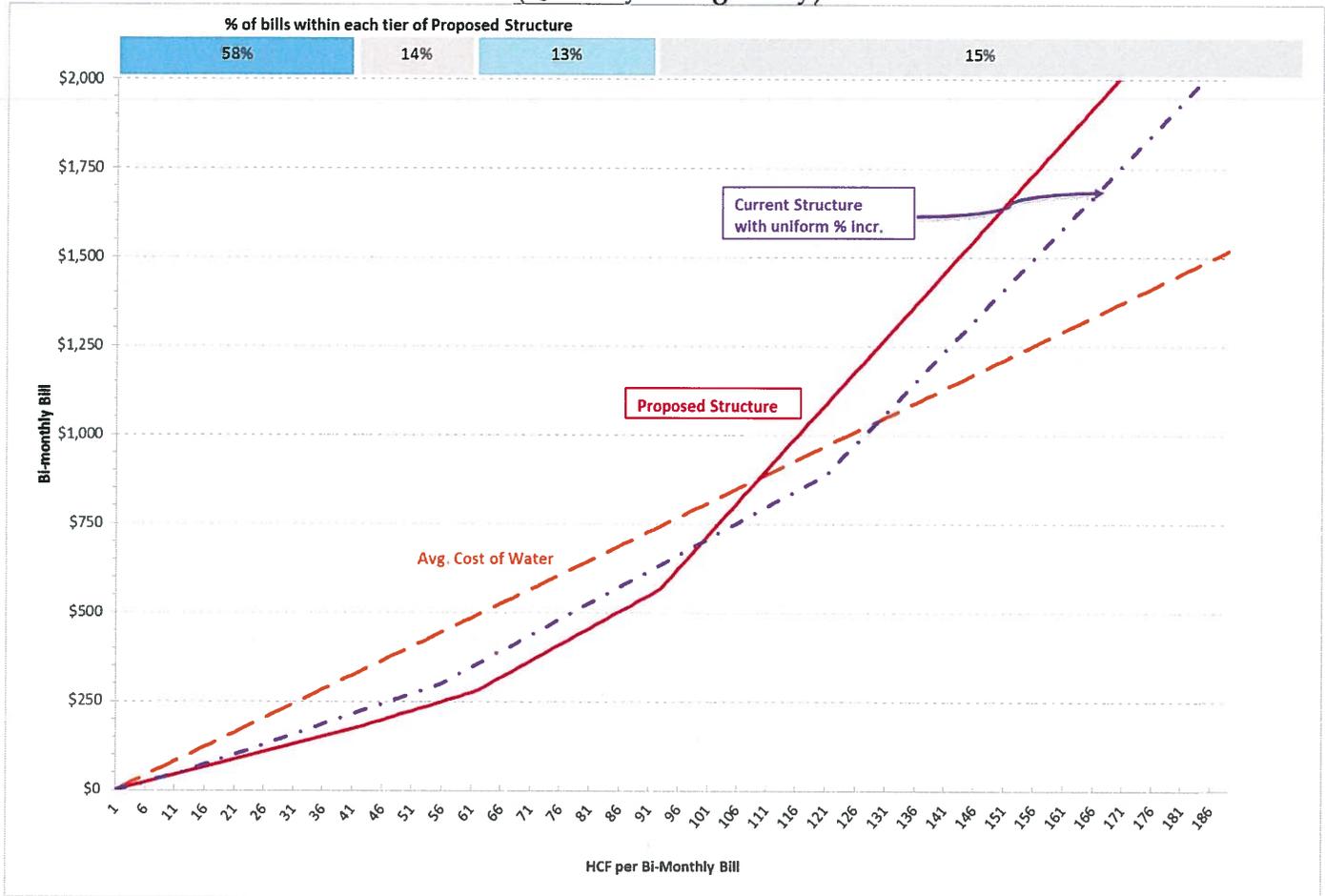
Customer bill impacts are shown in graph and table form for Single-Family Residential, Multi-Family Residential, and Commercial customers. The current rate structure includes a uniform 23% increase in the quantity charge revenue, which is required to generate the same revenue as the proposed rates. The bills portrayed graphically do not include the service charge, which vary depending on the size of a customer's meter; however, the tabular charts do include service charges related to assumed meter sizes.

Each of the graphs shows the bi-monthly bill across a range of consumption for the current and proposed rate structures. For example, for Single-Family Residential bills, the proposed bills will be less than the current rate structure until demand reaches the top tier. The amount by which bills differ across this range of consumption reflects the difference in the cost of service.

The graphs also compare the current and proposed bills with what the bill would be if the uniform, average cost were charged (dashed line). For example, Single-Family Residential bills do not exceed the average cost for that class until demand exceeds about 110 HCF, which is greater than the average summer bill of 92 HCF.

The graphs indicate across the top the number of bills that fall within the tiers. For example, for Single-Family Residential customers, 58% of the bills fall within Tier 1 and only the highest 15% of bills reach Tier 4.

**Figure 6-1. Single-Family Residential Bill Comparison
(Quantity Charge Only)**



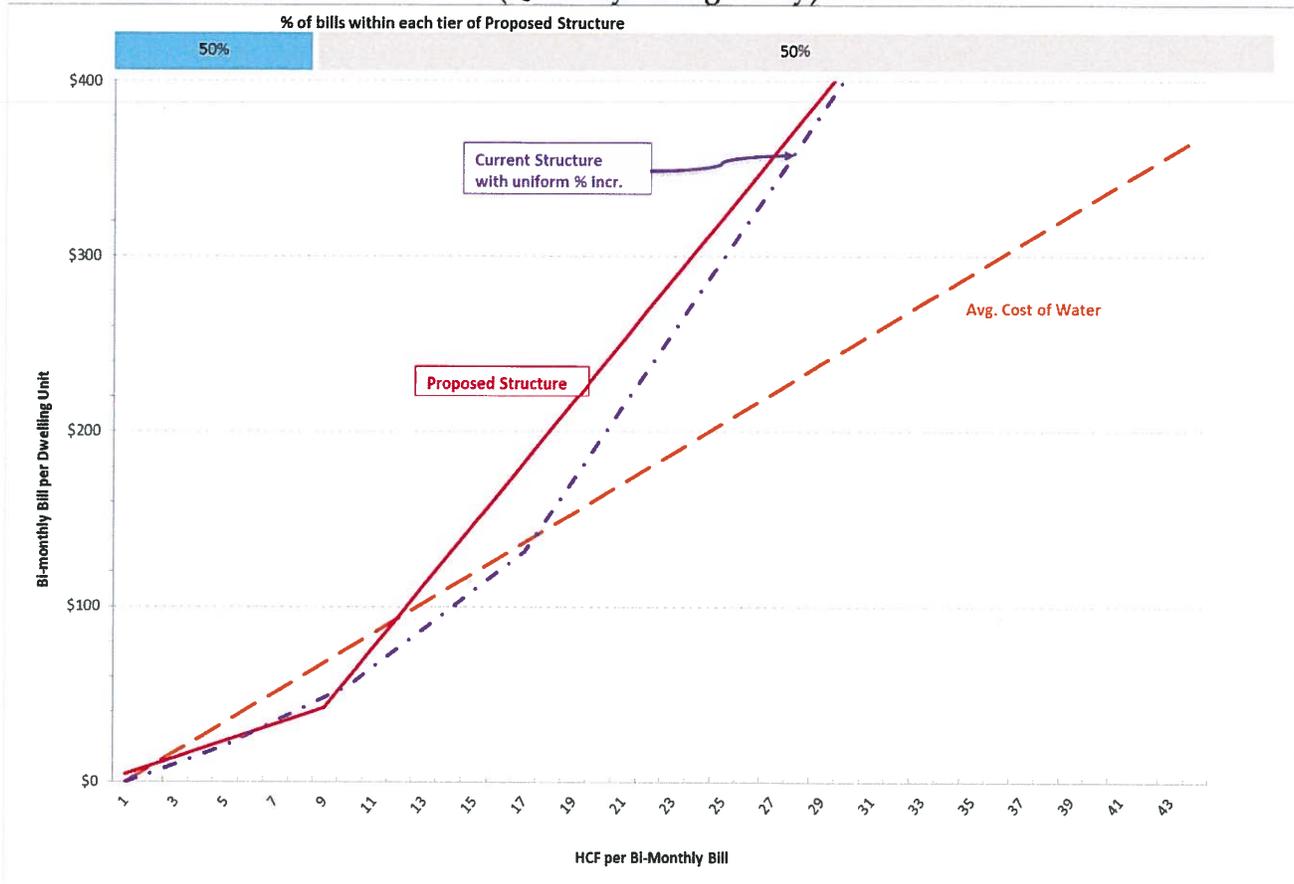
The impacts shown in Figure 6-2 occur for various reasons. Bills for low use increase slightly because the rate for the current Tier 1 is lower than the cost of service for non-seasonal base service. A bill for medium, average demand goes down slightly under the proposed quantity charge, which corresponds to the cost of service for average peaking. Bills for high and very high water use increase significantly because of the premium cost associated with meeting above-average demands.

**Figure 6-2. Typical Single-Family Bills
(Quantity and Service Charges)**

Water Use	bi-monthly hcf	gals/day	Meter Size	Current Bill*	Proposed Bill*	Change vs. Current	
						\$	%
Low	6	75	1"	\$ 65.62	\$ 69.28	\$ 3.66	5.6%
Med	60	748	1"	\$ 339.61	\$ 317.83	\$ (21.78)	-6.4%
High	130	1,621	1"	\$ 952.71	\$ 1,316.75	\$ 364.04	38.2%
Very High	300	3,740	1"	\$ 3,490.81	\$ 4,477.17	\$ 986.36	28.3%

* Bills include Service and Quantity charge; No change is necessary to the Service Charge.

**Figure 6-3. Multi-Family Bill Comparison
(Quantity Charge Only)**



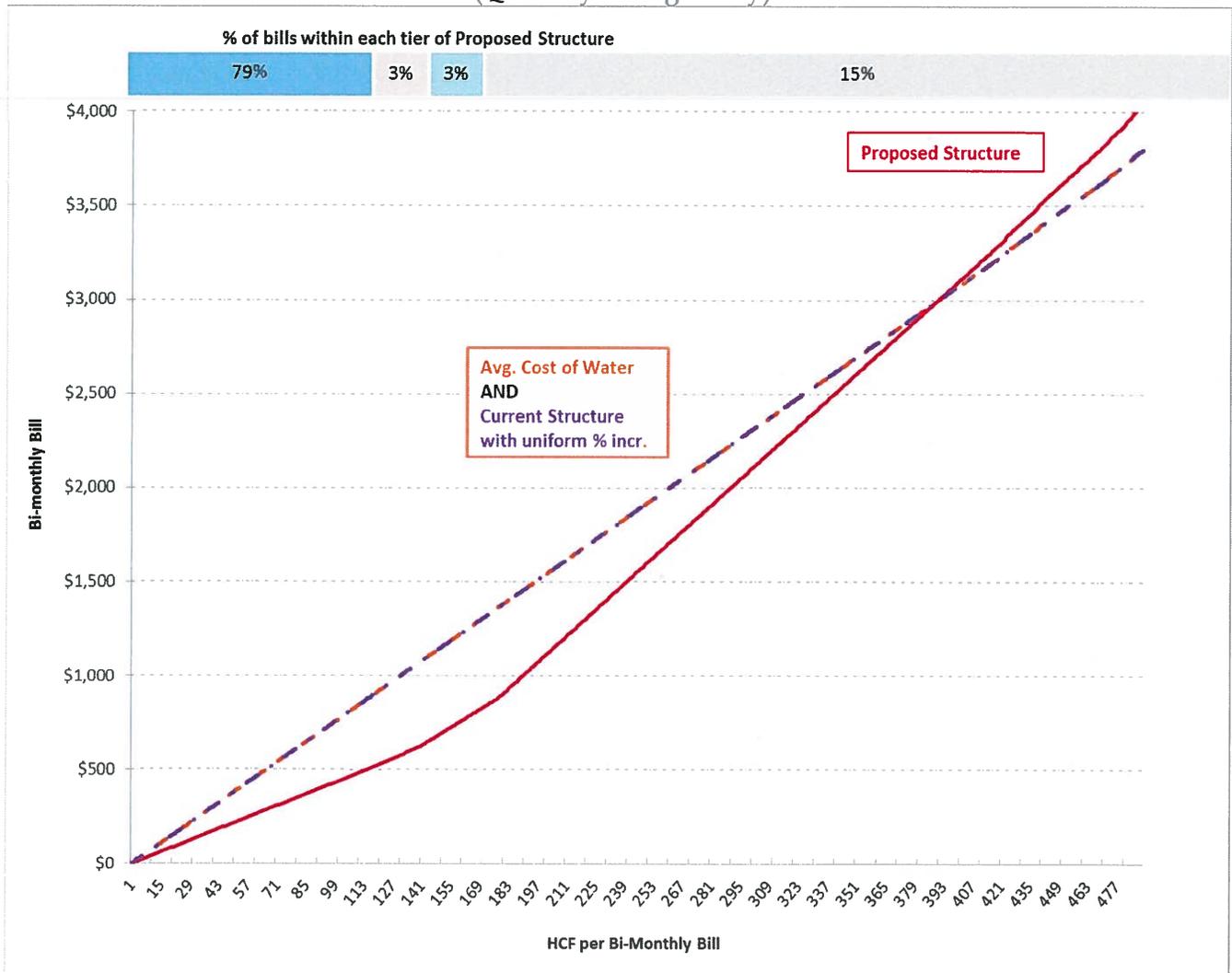
The significant increases in the customer bill amounts reflects the fact that the current rates are set well below the cost of service for the Multi-Family Residential customer class based on current consumption. Re-aligning the rates with the cost of service, as well as the increased need for revenue to offset conservation and reducing the number of tiers from four to two results in greater increases for above-average demands than for low use. This is appropriate because of the higher cost of service related to providing for peak demands.

**Figure 6-4. Typical Multi-Family Bills
(Quantity and Service Charges)**

Water Use	bi-monthly hcf/DU	gals/day/DU	Meter Size	Current	Proposed	Change vs. Current	
				Bill/DU*	Bill/DU*	\$	%
Low	6	75	1"	\$ 28.98	\$ 32.64	\$ 3.67	12.7%
Med	12	150	1"	\$ 66.87	\$ 99.30	\$ 32.44	48.5%
High	24	299	1"	\$ 217.23	\$ 309.33	\$ 92.10	42.4%

* Bills include Service and Quantity charge; No change is necessary to the Service Charge.

Figure 6-5. Commercial Bill Comparison
(Quantity Charge Only)



Commercial customers with low to average demand will experience decreased bills as a result of expanding the number of tiers from 1 to 4 and the fact that the subsequent Tier 1 and Tier 2 rates are lower than the current uniform rate. Commercial customers with high demand place the greatest burden on the water system, and will therefore experience increased bills because the proposed Tier 3 and Tier 4 rates are higher than the current uniform rate.

Figure 6-6. Typical Commercial Bills
(Quantity and Service Charges)

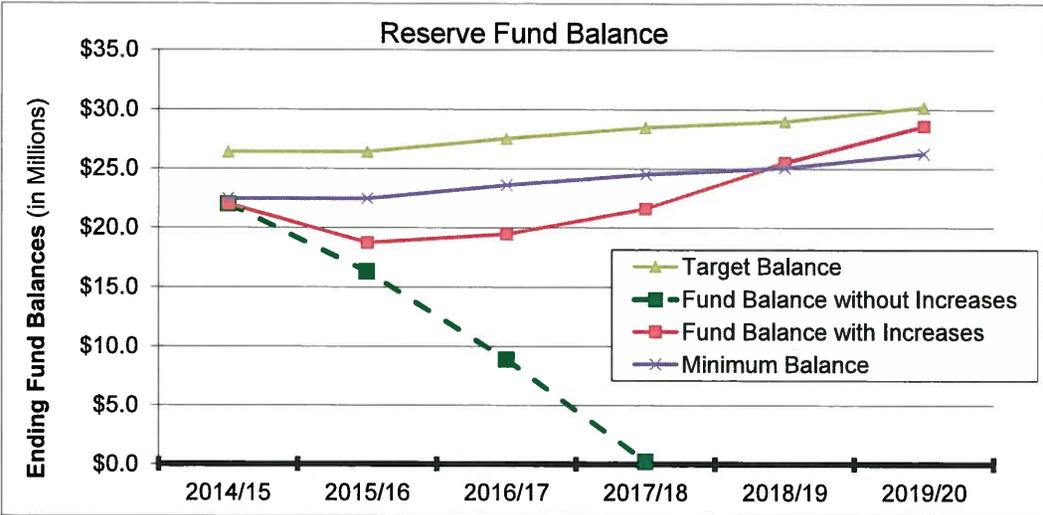
Water Use	bi-monthly hcf	gals/ day	Meter Size	Current Bill*	Proposed Bill*	Change vs. Current	
						\$	%
Low	20	249	1"	\$ 170.16	\$ 131.42	\$ (38.74)	-22.8%
Med	150	1,870	2"	\$ 1,026.16	\$ 762.96	\$ (263.20)	-25.6%
High	300	3,740	4"	\$ 2,231.55	\$ 2,432.36	\$ 200.81	9.0%
Very High	5000	62,333	4"	\$ 32,029.55	\$ 49,385.51	\$ 17,355.96	54.2%

* Bills include Service and Quantity charge; No change is necessary to the Service Charge.

APPENDIX:

WATER RATE MODEL

	A	B	C	D	E	F	G	H
1	City of Beverly Hills							
2	Water Rate Analysis							
3	Table 1. Summary	Approved Budget	Projections					
4		2014/15	2015/16	2016/17	2017/18	2018/19	2019/20	
5								
6	Service (Meter) Charge Revenue Changes		-0.8%	6.0%	6.0%	5.0%	5.0%	
7								
8	Quantity Charge Revenue Changes		23.0%	6.0%	6.0%	5.0%	5.0%	
9								
10								
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	A	B	C	D	E	F	G	H	I
1	City of Beverly Hills								
2	Water Rate Analysis								
3	Table 1B. General								
4									
5			2015/16	2016/17	2017/18	2018/19	2019/20	Source	Notes
6	Assumptions								
7	(1)	Personnel	Per Budget	4.0%	3.0%	3.0%	3.0%	3.0% per WEP 10-year plan	To Table 2
8	(2)	Material & Supplies	Per Budget	4.0%	4.0%	4.0%	4.0%	4.0% per WEP 10-year plan	To Table 2
9	(3)	Contractual Services	Per Budget	4.0%	4.0%	4.0%	4.0%	4.0% per WEP 10-year plan	To Table 2
10	(4)	ISF Charges	Per Budget	3.7%	2.7%	3.0%	3.0%	3.0% per WEP 10-year plan	To Table 2
11	(5)	Miscellaneous	Per Budget	4.0%	4.0%	4.0%	4.0%	4.0% per WEP 10-year plan	To Table 2
12	(6)	Lease Revenue	Per Budget	3.0%	3.0%	3.0%	3.0%	3.0% per WEP 10-year plan	To Table 2
13	(7)	Proj. Admin. and CIP Mgmt. Charges	Per Budget	2.2%	2.3%	2.4%	2.7%	2.7% per WEP 10-year plan	To Table 2
14	(8)	Interest on Fund Balance	0.5%	0.5%	0.5%	0.5%	0.5%		
15	(9)	General Inflation		3.0%	3.0%	3.0%	3.0%		
16	(10)	WEP Personnel	Per Budget	24.5%	79.9%	3.0%	3.0%	3.0% per WEP 10-year plan	To Table 2
17	(11)								
18	(12)								
19	(13)								
20	(14)	Construction Cost Inflation	Per Budget	2.5%	2.5%	2.5%	2.5%		To Table 5
21									
22	Fund Balance Policies								
23		<u>Operating Reserve - Minimum balance</u>							
24		Purpose	For O&M cash flow during the year						
25		Minimum balance	Cannot go negative						
26		Target balance	50% of Annual Service Charges						
27									
28		<u>Debt Reserve</u>							
29		Purpose	Reserve requirement for existing Bonds						
30		Minimum balance	\$4,512,127						
31		Target balance	\$4,512,127						
32									
33		<u>Capital Reserve</u>							
34		Purpose	Fund ongoing PAYGo projects, unforeseen capital expenditures						
35		Minimum balance	Cannot go negative						
36		Target balance	5-Year Average Annual CIP Projects						
37									
38		<u>Target balance</u>							
39		Minimum balance	O&M cash flow + Debt reserve						
40		Target balance	O&M cash flow + Debt reserve + Capital reserve						
41									

	A	B	C	D	E	F	G	H	I
1		City of Beverly Hills							
2		Water Rate Analysis							
3		Table 2. Revenue Requirement							
4									
5									
6			Tbl. 1B	Budgeted	Projected				
7				2015/16	2016/17	2017/18	2018/19	2019/20	Notes
8		O&M Expenses							
9		Personnel Services	(1)	4,172,627	\$4,339,532	\$4,469,718	\$4,603,810	\$4,741,924	WEP 10-year Master Plan
10		WEP Personnel	(10)	763,561	950,473	1,709,761	1,760,559	1,812,881	WEP 10-year Master Plan
11		Materials and Supplies	(2)	1,834,407	1,907,783	1,984,094	2,063,458	2,145,996	WEP 10-year Master Plan
12		Purchased Water		10,308,231	10,727,246	11,194,550	11,562,384	12,016,303	From Table 9
13		Contractual Services	(3)	1,525,264	1,586,275	1,649,726	1,715,715	1,784,343	WEP 10-year Master Plan
14		ISF Charges	(4)	7,181,913	7,447,644	7,648,731	7,878,193	8,114,538	WEP 10-year Master Plan
15		Project Admin. and CIP Mgmt. Charges	(7)	1,062,406	1,085,778	1,110,751	1,137,409	1,168,119	WEP 10-year Master Plan
16		Vehicles & Equipment		105,960	-	-	-	-	WEP 10-year Master Plan
17		Other Miscellaneous	(5)	896,731	932,600	969,904	1,008,700	1,049,048	WEP 10-year Master Plan
18		Subtotal, O&M Expenses		\$27,851,100	\$28,977,331	\$30,737,235	\$31,730,227	\$32,833,154	
19		<i>Annual Change</i>			<i>4.0%</i>	<i>6.1%</i>	<i>3.2%</i>	<i>3.5%</i>	
20		Capital Expenses							
21		PayGo Projects		\$3,931,279	\$3,931,279	\$3,931,279	\$3,931,279	\$3,931,279	From Table 5
22		Debt Service Interest - Existing		2,553,288	2,406,938	2,254,688	2,105,488	1,949,888	From City's Debt Service Schedule
23		Debt Service Principal - Existing		3,420,000	3,575,000	3,730,000	3,890,000	4,045,000	From City's Debt Service Schedule
24		Debt Service Interest - Future			816,000	801,451	786,319	1,586,583	WEP 10-year Master Plan
25		Debt Service Principal - Future			363,734	378,283	393,415	772,885	WEP 10-year Master Plan
26		Subtotal, Capital Expenses		\$9,904,567	\$11,092,951	\$11,095,701	\$11,106,501	\$12,285,635	
27									
28		Less: Non-Operating Revenues							
29		Ordinance violations		(\$3,214)	(\$3,214)	(\$3,214)	(\$3,214)	(\$3,214)	WEP 10-year Master Plan
30		Lease of Property		(\$10,069)	(\$10,371)	(\$10,682)	(\$11,003)	(\$11,333)	WEP 10-year Master Plan
31		ISF receipts		(\$1,044,233)	(\$1,044,233)	(\$1,044,233)	(\$1,044,233)	(\$1,044,233)	WEP 10-year Master Plan
32		Subsidy from MWD		(\$236,385)	(\$236,385)	(\$236,385)	(\$236,385)	(\$236,385)	WEP 10-year Master Plan
33		Interest Earnings		(\$464,257)	(\$470,462)	(\$412,780)	(\$328,554)	(\$232,107)	WEP 10-year Master Plan
34		Miscellaneous		(\$56,225)	(\$57,911)	(\$59,649)	(\$61,438)	(\$63,281)	WEP 10-year Master Plan
35		Subtotal, Non-Operating Revenues		(\$1,814,383)	(\$1,822,576)	(\$1,766,942)	(\$1,684,827)	(\$1,590,553)	
36									
37		Net Revenue Requirement		\$35,941,285	\$38,247,705	\$40,065,994	\$41,151,901	\$43,528,235	To Table 1
38		<i>Annual Change</i>			<i>6.4%</i>	<i>4.8%</i>	<i>2.7%</i>	<i>5.8%</i>	
39									

	A	B	C	D	E	F	G	H
1	City of Beverly Hills							
2	Water Rate Analysis							
3	Table 3. Revenue Increases							
4								
5		No. of	Budget	Projected				
6		Months						
7		in First Year	2015/16	2016/17	2017/18	2018/19	2019/20	Notes
8	Revenue at Current Dec 2015 Rates							
9	Service Charges - Fire Protection		\$912,177	\$912,177	\$912,177	\$912,177	\$912,177	FY2014-15 Actual
10	Service Charges - Water Service		\$3,895,902	\$3,895,902	\$3,895,902	\$3,895,902	\$3,895,902	From Table 7b
11	Total Meter Revenue		\$4,808,080	\$4,808,080	\$4,808,080	\$4,808,080	\$4,808,080	
12	Quantity Charge Revenue							
13	Quantity Revenue (@ reduced consumption)		\$25,334,516	\$25,334,516	\$25,334,516	\$25,334,516	\$25,334,516	From Table 8
14	Quantity Revenue (from consumption rebound)		\$0	\$623,454	\$1,259,377	\$1,583,698	\$1,911,262	From Table 8
15	Total Quantity Charge Revenue		\$25,334,516	\$25,957,971	\$26,593,894	\$26,918,215	\$27,245,779	
16								
17	Total Rate Revenue before Rate Incrs.		\$30,142,596	\$30,766,050	\$31,401,973	\$31,726,294	\$32,053,858	
18	Revenue Requirement		(\$35,941,285)	(\$38,247,705)	(\$40,065,994)	(\$41,151,901)	(\$43,528,235)	From Table 2
19	To/(From) Reserves before Rate Incrs.		(\$5,798,689)	(\$7,481,655)	(\$8,664,020)	(\$9,425,607)	(\$11,474,377)	To Table 4
20								
21	Service Charge Revenue Increase		-0.8%	6.0%	6.0%	5.0%	5.0%	
22	<u>Revenue from Service Charge Increases</u>							
23	FY 2015-16 (eff. Jan 1, 2016)	5	(\$16,462)	(\$39,508)	(\$39,508)	(\$39,508)	(\$39,508)	
24	FY 2016-17 (eff. Jul 1, 2016)	12		\$286,114	\$286,114	\$286,114	\$286,114	
25	FY 2017-18 (eff. Jul 1, 2017)	12			\$303,281	\$303,281	\$303,281	
26	FY 2018-19 (eff. Jul 1, 2018)	12				\$267,898	\$267,898	
27	FY 2019-20 (eff. Jul 1, 2019)	12					\$281,293	
28	Subtotal, Service Charge Revenue Incr		(\$16,462)	\$246,606	\$549,887	\$817,786	\$1,099,079	
29								
30	Quantity Charge Revenue Increase		23.0%	6.0%	6.0%	5.0%	5.0%	
31	<u>Revenue from Quantity Charge Rate Increases</u>							
32	FY 2015-16 (eff. Jan 1, 2016)	5	\$2,432,579	\$5,981,861	\$6,128,406	\$6,203,144	\$6,278,629	
33	FY 2016-17 (eff. Jul 1, 2016)	12		\$1,916,390	\$1,963,338	\$1,987,282	\$2,011,464	
34	FY 2017-18 (eff. Jul 1, 2017)	12			\$2,081,138	\$2,106,518	\$2,132,152	
35	FY 2018-19 (eff. Jul 1, 2018)	12				\$2,101,162	\$2,123,805	
36	FY 2019-20 (eff. Jul 1, 2019)	12					\$822,098	
37	Subtotal, Quantity Charge Revenue Incr		\$2,432,579	\$7,898,251	\$10,172,882	\$12,398,106	\$13,368,149	
38								
39	Total Revenue		\$32,558,713	\$38,910,908	\$42,124,743	\$44,942,186	\$46,521,086	From above
40	Revenue Requirement		(\$35,941,285)	(\$38,247,705)	(\$40,065,994)	(\$41,151,901)	(\$43,528,235)	
41	To/(From) Reserves after Rate Incr.		(\$3,382,572)	\$663,202	\$2,058,749	\$3,790,284	\$2,992,851	

	A	B	C	D	E	F	G	H
1	City of Beverly Hills							
2	Water Rate Analysis							
3	Table 4. Reserves							
4								
5		Table 1b	Budget	Projected				
6		factor	2015/16	2016/17	2017/18	2018/19	2019/20	Notes
7								
8	Operating/Capital Reserves							
9	Beginning Balance		\$ 17,514,779	\$ 14,211,325	\$ 14,947,241	\$ 17,085,874	\$ 20,971,063	
10	Operating Surplus/(Deficit)		(3,382,572)	663,202	2,058,749	3,790,284	2,992,851	From Table 3
11								
12	Transfers (To)/From:							
13	Revenue Requirements							To Table 2
14	Capital Reserves		-	-	-	-	-	From Below
15	Subtotal		\$ 14,132,207	\$ 14,874,527	\$ 17,005,991	\$ 20,876,158	\$ 23,963,914	
16	Estimated interest earnings	(8)	79,117	72,715	79,883	94,905	112,337	
17	Ending Balance		\$14,211,325	\$14,947,241	\$17,085,874	\$20,971,063	\$24,076,252	
18	Minimum Target Balance		\$ 17,970,643	\$ 19,123,853	\$ 20,032,997	\$ 20,575,951	\$ 21,764,118	50% of Rev. Req.
19								
38	Debt Coverage Reserves							
39	Beginning Balance		\$ 4,512,127	\$ 4,523,407	\$ 4,534,716	\$ 4,546,053	\$ 4,557,418	
40	Transfers (To)/From:							
41	Operating Reserve		\$ -	\$ -	\$ -	\$ -	\$ -	From Above
42	Revenue Requirement		-	-	-	-	-	To Table 2
43	Subtotal		\$ 4,512,127	\$ 4,523,407	\$ 4,534,716	\$ 4,546,053	\$ 4,557,418	
44	Estimated interest earnings	(8)	11,280	11,309	11,337	11,365	11,394	
45	Ending Balance		\$ 4,523,407	\$ 4,534,716	\$ 4,546,053	\$ 4,557,418	\$ 4,568,811	
46	Target Balance		\$ 4,512,127	\$ 4,512,127	\$ 4,512,127	\$ 4,512,127	\$ 4,512,127	
47								
48	Total Interest Earnings		90,398	84,023	91,220	106,270	123,731	
49								

	A	B	C	D	E	F	G
1	City of Beverly Hills						
2	Water Rate Analysis						
3	Table 5. Water Enterprise CIP						
4							
5		Estm Actual		Budgeted			
6		2015/16	2016/17	2017/18	2018/19	2019/20	
7	PayGo Water Projects						
8	STREET AND SIDEWALK IMPROVEMENTS*	275,000	275,000	275,000	275,000	275,000	
9	WATER MAIN AND HYDRANT REPLACEMENT	1,000,000	4,000,000	4,000,000	3,500,000	3,500,000	
10	WATER MASTER PLAN	-	-	-	-	-	
11	COLDWATER CANYON RESERVOIR	-	-	-	-	-	
12	IRRIGATION UPGRADES	-	-	-	-	-	
13	REPLACEMENT OF WATER METERS	500,000	-	-	-	-	
14	WATER TREATMENT PLANT MAINTENANCE	273,897	250,000	250,000	250,000	250,000	
15	RESERVOIR REPLACEMENT/WATER TANKS	75,000	75,000	75,000	75,000	75,000	
16	PUBLIC WORKS ASSET MANAGEMENT SYSTEM	26,500	26,500	26,500	26,500	26,500	
17	ROBERTSON YARD IMPROVEMENTS	-	-	-	-	-	
18							
19							
20	Total PayGo Project Costs	2,150,397	4,626,500	4,626,500	4,126,500	4,126,500	
21							
22					5-yr Average	3,931,279	
23							
24							
25	Debt Financed						
26	WELL REHAB AND GROUNDWATER DEVELOPMENT	290,000	2,446,000	1,777,000	2,841,000	9,792,000	
27	WATER CONSERVATION PROGRAM	817,625	273,801	280,451	157,764	162,524	
28	WATER BANKING	-	43,775	1,262,471	1,300,345	47,834	
29		1,107,625	2,763,576	3,319,922	4,299,109	10,002,358	Total 21,492,590

	A	B	C	D	E	F	G	
1	City of Beverly Hills							
2	Water Rate Analysis							
3	Table 6. Debt Service Schedule							
4								
5		Budget	Projected					
6		2015/16	2016/17	2017/18	2018/19	2019/20	Notes	
7								
8	Bond - Existing							
9		Principal	3,420,000	3,575,000	3,730,000	3,890,000	4,045,000	From Schedule
10		Interest	2,553,288	2,406,938	2,254,688	2,105,488	1,949,888	From Schedule
11		Total	\$5,973,288	\$5,981,938	\$5,984,688	\$5,995,488	\$5,994,888	
12								
13	FY 2016-17 Debt Issuance							
14		Principal		363,734	378,283	393,415	408,415	From Schedule
15		Interest		816,000	801,451	786,319	771,319	From Schedule
16		Total	\$0	\$1,179,734	\$1,179,734	\$1,179,734	\$1,179,734	
17								
18	FY 2019-20 Debt Issuance							
19		Principal				364,470		From Schedule
20		Interest				815,264		From Schedule
21		Total	\$0	\$0	\$0	\$0	\$1,179,734	
22								
23	Other							
24		Principal						From Schedule
25		Interest						From Schedule
26		Total	\$0	\$0	\$0	\$0	\$0	
27								
28		Subtotal: Debt Service	\$5,973,288	\$7,161,672	\$7,164,422	\$7,175,222	\$8,354,356	
29		Other Costs						
30		Total Debt Service Payments	\$5,973,288	\$7,161,672	\$7,164,422	\$7,175,222	\$8,354,356	
31								

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
1	City of Beverly Hills								City of Beverly Hills							
2	Water Rate Analysis								Water Rate Analysis							
3	Table 7a. Service Charges: Beverly Hills								Table 7b. Service Charges: West Hollywood							
4																
5		Current	2015/16	2016/17	2017/18	2018/19	2019/20	Notes		Current	2015/16	2016/17	2017/18	2018/19	2019/20	Notes
6	Water Meters - Beverly Hills (1)								Water Meters - West Hollywood (1)							
7	Single Family								Single Family							
8	1"	4,315	4,315	4,315	4,315	4,315	4,315		1"	1,025	1,025	1,025	1,025	1,025	1,025	
9	1 1/2"	1,333	1,333	1,333	1,333	1,333	1,333		1 1/2"	7	7	7	7	7	7	
10	2"	490	490	490	490	490	490		2"	4	4	4	4	4	4	
11	3"	5	5	5	5	5	5		3"	-	-	-	-	-	-	
12	4"	2	2	2	2	2	2		4"	-	-	-	-	-	-	
13	6"	-	-	-	-	-	-		6"	-	-	-	-	-	-	
14	Total	6,145	6,145	6,145	6,145	6,145	6,145		Total	1,036	1,036	1,036	1,036	1,036	1,036	
15																
16	Multi Family								Multi Family							
17	1"	577	577	577	577	577	577		1"	126	126	126	126	126	126	
18	1 1/2"	224	224	224	224	224	224		1 1/2"	95	95	95	95	95	95	
19	2"	207	207	207	207	207	207		2"	72	72	72	72	72	72	
20	3"	37	37	37	37	37	37		3"	14	14	14	14	14	14	
21	4"	8	8	8	8	8	8		4"	4	4	4	4	4	4	
22	6"	2	2	2	2	2	2		6"	-	-	-	-	-	-	
23	Total	1,055	1,055	1,055	1,055	1,055	1,055		Total	311	311	311	311	311	311	
24																
25	Commercial								Commercial							
26	1"	429	429	429	429	429	429		1"	299	299	299	299	299	299	
27	1 1/2"	181	181	181	181	181	181		1 1/2"	51	51	51	51	51	51	
28	2"	269	269	269	269	269	269		2"	57	57	57	57	57	57	
29	3"	79	79	79	79	79	79		3"	7	7	7	7	7	7	
30	4"	60	60	60	60	60	60		4"	6	6	6	6	6	6	
31	6"	8	8	8	8	8	8		6"	4	4	4	4	4	4	
32	Total	1,026	1,026	1,026	1,026	1,026	1,026		Total	424	424	424	424	424	424	
33	Grand Total	8,226	8,226	8,226	8,226	8,226	8,226		Total	1,771	1,771	1,771	1,771	1,771	1,771	
34	No of New Connections								No of New Connections							
35																
36	Bi-monthly Meter Rates - Beverly Hills		1/1/2016	7/1/2016	7/1/2017	7/1/2018	7/1/2019		Bi-monthly Meter Rates - West Hollywood		1/1/2016	7/1/2016	7/1/2017	7/1/2018	7/1/2019	
37	Rate Increases	Current	-0.8%	6.0%	6.0%	5.0%	5.0%	From Table 3	Rate Increases	Current	-0.8%	6.0%	6.0%	5.0%	5.0%	From Table 3
38	1"	\$ 43.36	\$ 43.00	\$ 45.58	\$ 48.32	\$ 50.73	\$ 53.27		1"	\$ 54.20	\$ 53.75	\$ 56.98	\$ 60.40	\$ 63.42	\$ 66.59	
39	1 1/2"	\$ 75.16	\$ 74.54	\$ 79.02	\$ 83.76	\$ 87.94	\$ 92.34		1 1/2"	\$ 93.95	\$ 93.18	\$ 98.77	\$ 104.69	\$ 109.93	\$ 115.43	
40	2"	\$ 113.32	\$ 112.39	\$ 119.13	\$ 126.28	\$ 132.59	\$ 139.22		2"	\$ 141.66	\$ 140.49	\$ 148.92	\$ 157.85	\$ 165.74	\$ 174.03	
41	3"	\$ 202.36	\$ 200.70	\$ 212.74	\$ 225.50	\$ 236.78	\$ 248.62		3"	\$ 252.94	\$ 250.87	\$ 265.92	\$ 281.88	\$ 295.97	\$ 310.77	
42	4"	\$ 329.55	\$ 326.84	\$ 346.45	\$ 367.24	\$ 385.60	\$ 404.88		4"	\$ 411.94	\$ 408.55	\$ 433.07	\$ 459.05	\$ 482.00	\$ 506.10	
43	6"	\$ 647.53	\$ 642.21	\$ 680.74	\$ 721.59	\$ 757.67	\$ 795.55		6"	\$ 809.41	\$ 802.76	\$ 850.93	\$ 901.98	\$ 947.08	\$ 994.44	
44																
45	Meter Sales								Meter Sales							
46	Single Family								Single Family							
47	1"	\$ 1,122,590	\$ 1,113,368	\$ 1,180,170	\$ 1,250,980	\$ 1,313,529	\$ 1,379,205		1"	\$ 333,330	\$ 330,591	\$ 350,427	\$ 371,453	\$ 390,025	\$ 409,526	
48	1 1/2"	\$ 601,130	\$ 596,191	\$ 631,963	\$ 669,880	\$ 703,374	\$ 738,543		1 1/2"	\$ 3,946	\$ 3,913	\$ 4,148	\$ 4,397	\$ 4,617	\$ 4,848	
49	2"	\$ 333,161	\$ 330,424	\$ 350,249	\$ 371,264	\$ 389,827	\$ 409,319		2"	\$ 3,400	\$ 3,372	\$ 3,574	\$ 3,788	\$ 3,978	\$ 4,177	
50	3"	\$ 6,071	\$ 6,021	\$ 6,382	\$ 6,765	\$ 7,103	\$ 7,459		3"	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
51	4"	\$ 3,955	\$ 3,922	\$ 4,157	\$ 4,407	\$ 4,627	\$ 4,859		4"	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
52	6"	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -		6"	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
53	Subtotal	\$ 2,066,906	\$ 2,049,925	\$ 2,172,921	\$ 2,303,296	\$ 2,418,461	\$ 2,539,384		Subtotal	\$ 340,676	\$ 337,877	\$ 358,149	\$ 379,638	\$ 398,620	\$ 418,551	
54	Multi Family								Multi Family							
55	1"	\$ 150,112	\$ 148,879	\$ 157,812	\$ 167,281	\$ 175,645	\$ 184,427		1"	\$ 40,975	\$ 40,639	\$ 43,077	\$ 45,661	\$ 47,945	\$ 50,342	
56	1 1/2"	\$ 101,015	\$ 100,185	\$ 106,196	\$ 112,568	\$ 118,196	\$ 124,106		1 1/2"	\$ 53,552	\$ 53,112	\$ 56,298	\$ 59,676	\$ 62,660	\$ 65,793	
57	2"	\$ 140,743	\$ 139,587	\$ 147,962	\$ 156,840	\$ 164,682	\$ 172,916		2"	\$ 61,197	\$ 60,690	\$ 64,331	\$ 68,191	\$ 71,601	\$ 75,181	
58	3"	\$ 44,924	\$ 44,555	\$ 47,228	\$ 50,062	\$ 52,565	\$ 55,193		3"	\$ 21,247	\$ 21,073	\$ 22,338	\$ 23,678	\$ 24,862	\$ 26,105	
59	4"	\$ 15,818	\$ 15,688	\$ 16,630	\$ 17,628	\$ 18,509	\$ 19,434		4"	\$ 9,887	\$ 9,805	\$ 10,394	\$ 11,017	\$ 11,568	\$ 12,146	
60	6"	\$ 7,770	\$ 7,707	\$ 8,169	\$ 8,659	\$ 9,092	\$ 9,547		6"	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
61	Subtotal	\$ 460,383	\$ 456,601	\$ 483,997	\$ 513,037	\$ 538,689	\$ 565,623		Subtotal	\$ 186,857	\$ 185,319	\$ 196,438	\$ 208,224	\$ 218,635	\$ 229,567	
62	Commercial								Commercial							
63	1"	\$ 111,609	\$ 110,692	\$ 117,333	\$ 124,373	\$ 130,592	\$ 137,121		1"	\$ 97,235	\$ 96,436	\$ 102,222	\$ 108,355	\$ 113,773	\$ 119,462	
64	1 1/2"	\$ 81,624	\$ 80,953	\$ 85,810	\$ 90,959	\$ 95,507	\$ 100,282		1 1/2"	\$ 28,749	\$ 28,513	\$ 30,223	\$ 32,037	\$ 33,638	\$ 35,320	
65	2"	\$ 182,898	\$ 181,396	\$ 192,280	\$ 203,816	\$ 214,007	\$ 224,708		2"	\$ 48,448	\$ 48,046	\$ 50,929	\$ 53,985	\$ 56,684	\$ 59,518	
66	3"	\$ 95,919	\$ 95,131	\$ 100,838	\$ 106,889	\$ 112,233	\$ 117,845		3"	\$ 10,623	\$ 10,537	\$ 11,169	\$ 11,839	\$ 12,431	\$ 13,052	
67	4"	\$ 118,638	\$ 117,663	\$ 124,723	\$ 132,207	\$ 138,817	\$ 145,758		4"	\$ 14,830	\$ 14,708	\$ 15,590	\$ 16,526	\$ 17,352	\$ 18,220	
68	6"	\$ 31,081	\$ 30,826	\$ 32,676	\$ 34,636	\$ 36,368	\$ 38,186		6"	\$ 19,426	\$ 19,266	\$ 20,422	\$ 21,648	\$ 22,730	\$ 23,867	
69	Subtotal	\$ 621,769	\$ 616,661	\$ 653,660	\$ 692,880	\$ 727,524	\$ 763,900		Total	\$ 219,310	\$ 217,506	\$ 230,556	\$ 244,389	\$ 256,609	\$ 269,439	
70	Beverly Hills Total	\$ 3,149,059	\$ 3,123,187	\$ 3,310,579	\$ 3,509,213	\$ 3,684,674	\$ 3,868,908		West Hollywood Total	\$ 746,843	\$ 740,701	\$ 785,143	\$ 832,252	\$ 873,864	\$ 917,557	
71									Beverly Hills Total	\$ 3,149,059	\$ 3,123,187	\$ 3,310,579	\$ 3,509,213	\$ 3,684,674	\$ 3,868,908	
72									Grand Total - Service Charges	\$ 3,895,902	\$ 3,863,888	\$ 4,095,722	\$ 4,341,465	\$ 4,558,538	\$ 4,786,465	
73																

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
1	City of Beverly Hills								City of Beverly Hills							
2	Water Rate Analysis								Water Rate Analysis							
3	Table 7b. Fire Protection Charges: Beverly Hills								Table 7c. Fire Protection Charges: West Hollywood							
4																
5		Current	2015/16	2016/17	2017/18	2018/19	2019/20	Notes		Current	2015/16	2016/17	2017/18	2018/19	2019/20	Notes
6	Water Meters - Beverly Hills (1)								Water Meters - West Hollywood (1)							
7	Single Family								Single Family							
8	<= 2"								<= 2"							
9	2 1/2"	5	5	5	5	5	5		2 1/2"							
10	3"								3"							
11	4"	3	3	3	3	3	3		4"	3	3	3	3	3	3	
12	6"	3	3	3	3	3	3		6"							
13	8"								8"							
14	10"	1	1	1	1	1	1		10"							
15	Total	12	12	12	12	12	12		Total	3	3	3	3	3	3	
16																
17	Multi Family								Multi Family							
18	<= 2"								<= 2"	5	5	5	5	5	5	
19	2 1/2"								2 1/2"	1	1	1	1	1	1	
20	3"								3"							
21	4"	55	55	55	55	55	55		4"	57	57	57	57	57	57	
22	6"	16	16	16	16	16	16		6"	12	12	12	12	12	12	
23	8"								8"	1	1	1	1	1	1	
24	10"								10"							
25	Total	84	84	84	84	84	84		Total	76	76	76	76	76	76	
26																
27	Commercial								Commercial							
28	<= 2"	56	56	56	56	56	56		<= 2"							
29	2 1/2"	1	1	1	1	1	1		2 1/2"	5	5	5	5	5	5	
30	3"	5	5	5	5	5	5		3"							
31	4"	305	305	305	305	305	305		4"	39	39	39	39	39	39	
32	6"	135	135	135	135	135	135		6"	22	22	22	22	22	22	
33	8"	33	33	33	33	33	33		8"	7	7	7	7	7	7	
34	10"	3	3	3	3	3	3		10"	3	3	3	3	3	3	
35	Total	538	538	538	538	538	538		Total	76	76	76	76	76	76	
36	Grand Total	634	634	634	634	634	634		Grand Total	155	155	155	155	155	155	
37	No of New Connections	-	-	-	-	-	-		No of New Connections	-	-	-	-	-	-	
38																
39	Bi-monthly Meter Rates - Beverly Hills								Bi-monthly Meter Rates - West Hollywood							
40	Rate Increases	Current	-0.8%	6.0%	6.0%	5.0%	5.0%	From Table 3	Rate Increases	Current	-0.8%	6.0%	6.0%	5.0%	5.0%	From Table 3
41	<= 2"	\$ 26.41	\$ 26.19	\$ 27.76	\$ 29.43	\$ 30.90	\$ 32.45		<= 2"	\$ 33.01	\$ 32.74	\$ 34.70	\$ 36.79	\$ 38.62	\$ 40.56	
42	2 1/2"	\$ 39.38	\$ 39.06	\$ 41.40	\$ 43.88	\$ 46.08	\$ 48.38		2 1/2"	\$ 49.23	\$ 48.83	\$ 51.76	\$ 54.86	\$ 57.60	\$ 60.48	
43	3"	\$ 57.36	\$ 56.89	\$ 60.30	\$ 63.92	\$ 67.12	\$ 70.47		3"	\$ 71.71	\$ 71.12	\$ 75.39	\$ 79.91	\$ 83.91	\$ 88.10	
44	4"	\$ 110.79	\$ 109.88	\$ 116.47	\$ 123.46	\$ 129.63	\$ 136.12		4"	\$ 138.49	\$ 137.35	\$ 145.59	\$ 154.33	\$ 162.05	\$ 170.15	
45	6"	\$ 302.54	\$ 300.05	\$ 318.06	\$ 337.14	\$ 354.00	\$ 371.70		6"	\$ 378.18	\$ 375.07	\$ 397.58	\$ 421.43	\$ 442.50	\$ 464.63	
46	8"	\$ 633.26	\$ 628.06	\$ 665.74	\$ 705.69	\$ 740.97	\$ 778.02		8"	\$ 791.57	\$ 785.07	\$ 832.17	\$ 882.10	\$ 926.21	\$ 972.52	
47	10"	\$ 1,130.71	\$ 1,121.42	\$ 1,188.71	\$ 1,260.03	\$ 1,323.03	\$ 1,389.18		10"	\$ 1,413.39	\$ 1,401.78	\$ 1,485.88	\$ 1,575.04	\$ 1,653.79	\$ 1,736.48	
48																
49	Meter Sales								Meter Sales							
50	Single Family								Single Family							
51	<= 2"	\$ 792	\$ 786	\$ 833	\$ 883	\$ 927	\$ 973		<= 2"	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
52	2 1/2"	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -		2 1/2"	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
53	3"	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -		3"	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
54	4"	\$ 1,994	\$ 1,978	\$ 2,097	\$ 2,222	\$ 2,333	\$ 2,450		4"	\$ 2,493	\$ 2,472	\$ 2,621	\$ 2,778	\$ 2,917	\$ 3,063	
55	6"	\$ 5,446	\$ 5,401	\$ 5,725	\$ 6,069	\$ 6,372	\$ 6,691		6"	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
56	8"	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -		8"	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
57	10"	\$ 6,784	\$ 6,729	\$ 7,132	\$ 7,560	\$ 7,938	\$ 8,335		10"	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
58	Subtotal	\$ 15,017	\$ 14,893	\$ 15,787	\$ 16,734	\$ 17,571	\$ 18,449		Subtotal	\$ 2,493	\$ 2,472	\$ 2,621	\$ 2,778	\$ 2,917	\$ 3,063	
59	Multi Family								Multi Family							
60	<= 2"	\$ 2,060	\$ 2,043	\$ 2,166	\$ 2,296	\$ 2,410	\$ 2,531		<= 2"	\$ 990	\$ 982	\$ 1,041	\$ 1,104	\$ 1,159	\$ 1,217	
61	2 1/2"	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -		2 1/2"	\$ 295	\$ 293	\$ 311	\$ 329	\$ 346	\$ 363	
62	3"	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -		3"	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
63	4"	\$ 36,561	\$ 36,260	\$ 38,436	\$ 40,742	\$ 42,779	\$ 44,918		4"	\$ 47,364	\$ 46,974	\$ 49,793	\$ 52,781	\$ 55,420	\$ 58,191	
64	6"	\$ 29,044	\$ 28,805	\$ 30,534	\$ 32,366	\$ 33,984	\$ 35,683		6"	\$ 27,229	\$ 27,005	\$ 28,626	\$ 30,343	\$ 31,860	\$ 33,453	
65	8"	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -		8"	\$ 4,749	\$ 4,710	\$ 4,993	\$ 5,293	\$ 5,557	\$ 5,835	
66	10"	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -		10"	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
67	Subtotal	\$ 67,665	\$ 67,109	\$ 71,135	\$ 75,403	\$ 79,173	\$ 83,132		Subtotal	\$ 80,628	\$ 79,965	\$ 84,763	\$ 89,849	\$ 94,341	\$ 99,058	
68	Commercial								Commercial							
69	<= 2"	\$ 8,874	\$ 8,801	\$ 9,329	\$ 9,889	\$ 10,383	\$ 10,902		<= 2"	\$ 990	\$ 982	\$ 1,041	\$ 1,104	\$ 1,159	\$ 1,217	
70	2 1/2"	\$ 236	\$ 234	\$ 248	\$ 263	\$ 276	\$ 290		2 1/2"	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
71	3"	\$ 1,721	\$ 1,707	\$ 1,809	\$ 1,918	\$ 2,013	\$ 2,114		3"	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
72	4"	\$ 202,746	\$ 201,080	\$ 213,145	\$ 225,934	\$ 237,230	\$ 249,092		4"	\$ 32,407	\$ 32,140	\$ 34,069	\$ 36,113	\$ 37,919	\$ 39,815	
73	6"	\$ 245,057	\$ 243,044	\$ 257,627	\$ 273,084	\$ 286,739	\$ 301,076		6"	\$ 49,920	\$ 49,510	\$ 52,480	\$ 55,629	\$ 58,410	\$ 61,331	
74	8"	\$ 125,385	\$ 124,355	\$ 131,817	\$ 139,726	\$ 146,712	\$ 154,048		8"	\$ 33,246	\$ 32,973	\$ 34,951	\$ 37,048	\$ 38,901	\$ 40,846	
75	10"	\$ 20,353	\$ 20,186	\$ 21,397	\$ 22,681	\$ 23,815	\$ 25,005		10"	\$ 25,441	\$ 25,232	\$ 26,746	\$ 28,351	\$ 29,768	\$ 31,257	
76	Subtotal	\$ 604,372	\$ 599,407	\$ 635,371	\$ 673,494	\$ 707,168	\$ 742,527		Subtotal	\$ 142,004	\$ 140,837	\$ 149,287	\$ 158,244	\$ 166,157	\$ 174,465	
77	Beverly Hills Total	\$ 687,053	\$ 681,409	\$ 722,293	\$ 765,631	\$ 803,912	\$ 844,108		West Hollywood Total	\$ 225,124	\$ 223,275	\$ 236,671	\$ 250,871	\$ 263,415	\$ 276,586	
78									Grand Total - Fire Protection Charge	\$ 912,177	\$ 904,683	\$ 958,964	\$ 1,016,502	\$ 1,067,327	\$ 1,120,694	
79									Annual \$ Change	\$ (7,494)	\$ 54,281	\$ 57,538	\$ 50,825	\$ 53,366	\$ 53,366	
80																
81									Plus: Meter Charge	\$ 3,895,902	\$ 3,863,888	\$ 4,095,722	\$ 4,341,465	\$ 4,558,538	\$ 4,786,465	
82									TOTAL FIXED	\$ 4,808,080	\$ 4,768,572	\$ 5,054,686	\$ 5,357,967	\$ 5,625,865	\$ 5,907,159	

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R		
1	City of Beverly Hills									City of Beverly Hills										
2	Water Rate Analysis									Water Rate Analysis										
3	Table 8a. Quantity Charges: Beverly Hills (before rate increases)									Table 8b. Quantity Charges: West Hollywood (before rate increases)										
4																				
5	Proj. 2015-16									Proj. 2015-16										
6	Demand		Projected							Demand		Projected								
7	@ Current Tiers		2014-15	2015/16	2016/17	2017/18	2018/19	2019/20	Notes	@ Current Tiers		2014-15	2015/16	2016/17	2017/18	2018/19	2019/20	Notes		
8	Single Family									Single Family										
9	Tier 1	295,139	354,439	995,382	1,015,290	1,035,595	1,045,951	1,056,411	from Table 9	Tier 1	49,003	53,559	103,627	105,700	107,814	108,892	109,981	from Table 9		
10	Tier 2	872,413	1,122,392	237,188	241,932	246,771	249,238	251,731		Tier 2	58,444	66,363	4,852	4,949	5,048	5,099	5,150			
11	Tier 3	426,513	605,970	237,498	242,248	247,093	249,564	252,059		Tier 3	3,714	4,940	2,100	2,142	2,185	2,207	2,229			
12	Tier 4	270,351	436,717	394,355	402,242	410,287	414,390	418,534		Tier 4	800	1,286	1,381	1,409	1,437	1,451	1,466			
13	Tier 5	-	-	-	-	-	-	-		Tier 5	-	-	-	-	-	-	-			
14	Subtotal	1,864,423	2,519,518	1,864,423	1,901,712	1,939,746	1,959,143	1,978,735		Subtotal	111,961	126,148	111,961	114,200	116,484	117,649	118,825			
15																				
16	Multi Family									Multi Family										
17	Tier 1	214,650	236,976	444,404	453,292	462,357	466,981	471,651	from Table 9	Tier 1	95,717	104,404	176,487	180,017	183,618	185,454	187,308	from Table 9		
18	Tier 2	229,753	257,486	189,249	193,034	196,895	198,864	200,852		Tier 2	80,770	88,613	32,057	32,698	33,352	33,685	34,022			
19	Tier 3	140,908	158,679	-	-	-	-	-		Tier 3	24,602	27,587	-	-	-	-	-			
20	Tier 4	48,341	59,236	-	-	-	-	-		Tier 4	7,455	10,954	-	-	-	-	-			
21	Tier 5	-	-	-	-	-	-	-		Tier 5	-	-	-	-	-	-	-			
22	Subtotal	633,653	712,377	633,653	646,326	659,252	665,845	672,503		Subtotal	208,544	231,558	208,544	212,715	216,970	219,139	221,331			
23																				
24	Commercial									Commercial										
25	Tier 1	875,238	1,000,433	305,762	311,878	318,115	321,296	324,509	from Table 9	Tier 1	176,292	211,835	80,647	82,260	83,905	84,744	85,592	from Table 9		
26	Tier 2	-	-	29,367	29,954	30,554	30,859	31,168		Tier 2	-	-	5,837	5,954	6,073	6,134	6,195			
27	Tier 3	-	-	44,700	45,594	46,506	46,971	47,441		Tier 3	-	-	8,469	8,639	8,811	8,900	8,989			
28	Tier 4	-	-	495,408	505,316	515,422	520,577	525,782		Tier 4	-	-	81,339	82,966	84,625	85,471	86,326			
29	Tier 5	-	-	-	-	-	-	-		Tier 5	-	-	-	-	-	-	-			
30	Subtotal	875,238	1,000,433	875,238	892,742	910,597	919,703	928,900		Subtotal	176,292	211,835	176,292	179,818	183,415	185,249	187,101			
31	Beverly Hills Total	3,373,314	4,232,328	3,373,314	3,440,780	3,509,595	3,544,691	3,580,138		West Hollywood Total	569,541	496,797	506,733	516,868	522,037	527,257	532,511			
32										Grand Total										
33										-19.4% 2% 2% 1% 1%										
34	Quantity Rates - Beverly Hills									Quantity Rates - West Hollywood										
35	Single Family		1/1/2016	7/1/2016	7/1/2017	7/1/2018	7/1/2019			Single Family		1/1/2016	7/1/2016	7/1/2017	7/1/2018	7/1/2019				
36	Current		Nov 2015								Current		Nov 2015							
37	Tier 1	\$ 3.53	\$ 3.71	\$ 4.32	\$ 4.32	\$ 4.32	\$ 4.32	\$ 4.32		Tier 1	\$ 4.41	\$ 4.63	\$ 5.40	\$ 5.40	\$ 5.40	\$ 5.40	\$ 5.40			
38	Tier 2	\$ 4.67	\$ 4.90	\$ 5.17	\$ 5.17	\$ 5.17	\$ 5.17	\$ 5.17		Tier 2	\$ 5.84	\$ 6.13	\$ 6.46	\$ 6.46	\$ 6.46	\$ 6.46	\$ 6.46			
39	Tier 3	\$ 7.36	\$ 7.73	\$ 9.27	\$ 9.27	\$ 9.27	\$ 9.27	\$ 9.27		Tier 3	\$ 9.21	\$ 9.67	\$ 11.59	\$ 11.59	\$ 11.59	\$ 11.59	\$ 11.59			
40	Tier 4	\$ 14.22	\$ 14.93	\$ 18.59	\$ 18.59	\$ 18.59	\$ 18.59	\$ 18.59		Tier 4	\$ 17.77	\$ 18.66	\$ 23.24	\$ 23.24	\$ 23.24	\$ 23.24	\$ 23.24			
41	Tier 5	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -		Tier 5	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -			
42	Multi Family									Multi Family										
43	Current		Nov 2015								Current		Nov 2015							
44	Tier 1	\$ 3.53	\$ 3.71	\$ 4.72	\$ 4.72	\$ 4.72	\$ 4.72	\$ 4.72		Tier 1	\$ 4.41	\$ 4.63	\$ 5.90	\$ 5.90	\$ 5.90	\$ 5.90	\$ 5.90			
45	Tier 2	\$ 4.67	\$ 4.90	\$ 17.50	\$ 17.50	\$ 17.50	\$ 17.50	\$ 17.50		Tier 2	\$ 5.84	\$ 6.13	\$ 21.88	\$ 21.88	\$ 21.88	\$ 21.88	\$ 21.88			
46	Tier 3	\$ 7.36	\$ 7.73	\$ -	\$ -	\$ -	\$ -	\$ -		Tier 3	\$ 9.21	\$ 9.67	\$ -	\$ -	\$ -	\$ -	\$ -			
47	Tier 4	\$ 14.22	\$ 14.93	\$ -	\$ -	\$ -	\$ -	\$ -		Tier 4	\$ 17.77	\$ 18.66	\$ -	\$ -	\$ -	\$ -	\$ -			
48	Tier 5	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -		Tier 5	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -			
49	Commercial									Commercial										
50	Current		Nov 2015								Current		Nov 2015							
51	Tier 1	\$ 6.04	\$ 6.34	\$ 4.40	\$ 4.40	\$ 4.40	\$ 4.40	\$ 4.40		Tier 1	\$ 7.55	\$ 7.93	\$ 5.50	\$ 5.50	\$ 5.50	\$ 5.50	\$ 5.50			
52	Tier 2	\$ -	\$ -	\$ 4.90	\$ 4.90	\$ 4.90	\$ 4.90	\$ 4.90		Tier 2	\$ -	\$ -	\$ 6.12	\$ 6.12	\$ 6.12	\$ 6.12	\$ 6.12			
53	Tier 3	\$ -	\$ -	\$ 6.90	\$ 6.90	\$ 6.90	\$ 6.90	\$ 6.90		Tier 3	\$ -	\$ -	\$ 8.62	\$ 8.62	\$ 8.62	\$ 8.62	\$ 8.62			
54	Tier 4	\$ -	\$ -	\$ 9.99	\$ 9.99	\$ 9.99	\$ 9.99	\$ 9.99		Tier 4	\$ -	\$ -	\$ 12.49	\$ 12.49	\$ 12.49	\$ 12.49	\$ 12.49			
55	Tier 5	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -		Tier 5	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -			
56																				
57	Proj. Rev.									Proj. Rev.										
58	@ Nov 2015 Rates		Projected							@ Nov 2015 Rates		Projected								
59	& Proj. 2015/16 Demand		2015/16	2016/17	2017/18	2018/19	2019/20	& Proj. 2015/16 Demand		2015/16	2016/17	2017/18	2018/19	2019/20						
60	Single Family									Single Family										
61	Tier 1	\$ 1,094,966	\$ 4,300,355	\$ 4,386,362	\$ 4,474,089	\$ 4,518,830	\$ 4,564,018	Tier 1		\$ 226,886	\$ 559,628	\$ 570,821	\$ 582,237	\$ 588,059	\$ 593,940					
62	Tier 2	\$ 4,274,825	\$ 1,225,672	\$ 1,250,186	\$ 1,275,189	\$ 1,287,941	\$ 1,300,821	Tier 2		\$ 358,262	\$ 31,342	\$ 31,969	\$ 32,608	\$ 32,934	\$ 33,264					
63	Tier 3	\$ 3,296,995	\$ 2,201,164	\$ 2,245,187	\$ 2,290,091	\$ 2,312,992	\$ 2,336,121	Tier 3		\$ 35,910	\$ 24,331	\$ 24,817	\$ 25,314	\$ 25,567	\$ 25,822					
64	Tier 4	\$ 4,036,347	\$ 7,331,326	\$ 7,477,952	\$ 7,627,511	\$ 7,703,787	\$ 7,780,824	Tier 4		\$ 14,923	\$ 32,092	\$ 32,734	\$ 33,388	\$ 33,722	\$ 34,059					
65	Tier 5	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	Tier 5		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -					
66	Subtotal	\$ 12,703,133	\$ 15,058,516	\$ 15,359,687	\$ 15,666,880	\$ 15,823,549	\$ 15,981,785	Subtotal		\$ 635,981	\$ 647,392	\$ 660,340	\$ 673,547	\$ 680,283	\$ 687,085					
67	Multi Family									Multi Family										
68	Tier 1	\$ 796,353	\$ 2,096,514	\$ 2,138,444	\$ 2,181,213	\$ 2,203,025	\$ 2,225,055	Tier 1		\$ 443,170	\$ 1,040,744	\$ 1,061,559	\$ 1,082,790	\$ 1,093,618	\$ 1,104,555					
69	Tier 2	\$ 1,125,790	\$ 3,312,282	\$ 3,378,528	\$ 3,446,098	\$ 3,480,559	\$ 3,515,365	Tier 2		\$ 495,122	\$ 701,333	\$ 715,360	\$ 729,667	\$ 736,964	\$ 744,333					
70	Tier 3	\$ 1,089,218	\$ -	\$ -	\$ -	\$ -	\$ -	Tier 3		\$ 237,902	\$ -	\$ -	\$ -	\$ -	\$ -					
71	Tier 4	\$ 721,735	\$ -	\$ -	\$ -	\$ -	\$ -	Tier 4		\$ 139,107	\$ -	\$ -	\$ -	\$ -	\$ -					
72	Tier 5	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	Tier 5		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -					
73	Subtotal	\$ 3,733,096	\$ 5,408,796	\$ 5,516,972	\$ 5,627,311	\$ 5,683,584	\$ 5,740,420	Subtotal		\$ 1,315,301	\$ 1,742,078	\$ 1,776,919	\$ 1,812,457	\$ 1,830,582	\$ 1,848,888					
74	Commercial									Commercial										
75	Tier 1	\$ 5,549,007	\$ 1,346,250	\$ 1,373,175	\$ 1,400,638	\$ 1,414,645	\$ 1,428,791	Tier 1		\$ 1,397,998	\$ 443,854	\$ 452,731	\$ 461,786	\$ 466,404	\$ 471,068					
76	Tier 2	\$ -	\$ 143,852	\$ 146,729	\$ 149,668	\$ 151,160	\$ 152,672	Tier 2		\$ -	\$ 35,741	\$ 36,456	\$ 37,185	\$ 37,557	\$ 37,932					
77	Tier 3	\$ -	\$ 308,340	\$ 314,507	\$ 320,797	\$ 324,005	\$ 327,245	Tier 3		\$ -	\$ 73,026	\$ 74,486	\$ 75,976	\$ 76,736	\$ 77,503					
78	Tier 4	\$ -	\$ 4,949,140	\$ 5,048,123	\$ 5,149,086	\$ 5,200,576	\$ 5,252,582	Tier 4		\$ -	\$ 1,015,722	\$ 1,036,036	\$ 1,056,757	\$ 1,067,324	\$ 1,077,998					
79	Tier 5	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	Tier 5		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -					
80	Subtotal	\$ 5,549,007	\$ 6,747,582	\$ 6,882,534	\$ 7,020,184	\$ 7,090,386	\$ 7,161,290	Subtotal		\$ 1,397,998	\$ 1,568,342	\$ 1,599,709	\$ 1,631,703	\$ 1,648,020	\$ 1,664,501					
81	Beverly Hills Total	\$ 21,985,236	\$ 27,214,894	\$ 27,759,192	\$ 28,314,376	\$ 28,597,519	\$ 28,883,495	West Hollywood Total		\$ 3,349,280	\$ 3,957,812	\$ 4,036,969	\$ 4,117,708	\$ 4,158,885	\$ 4,200,474					
82										Grand Total										
83										\$ 25,334,516 \$ 31,172,706 \$ 31,796,160 \$ 32,432,084 \$ 32,756,405 \$ 33,083,969										
84										Effective % Incr 23.0% 2.0% 2.0% 1.0%										
85										Revenue using FY2015/16 Consumption Levels \$ 31,172,706 \$ 31,172,706 \$ 31,172,706 \$ 31,172,706										
86										Revenue due to Consumption "Rebound" before rate increases \$ 623,454 \$ 1,259,377 \$ 1,583,698 \$ 1,911,262 To Table 3										

	A	B	C	D	E	F	G	H	I	J	K
1	City of Beverly Hills										
2	Water Rate Analysis										
3	Table 9. Purchased Water										
4											
5		<u>2014-15</u>	<u>2015/16</u>	<u>2016/17</u>	<u>2017/18</u>	<u>2018/19</u>	<u>2019/20</u>	<u>Notes</u>			
6	Projected Water Use (hcf)										
7	Water Use Adj			2.0%	2.0%	1.0%	1.0%	estimated "bounce back" after drought conditions			
8	Single Family	2,619,484	1,976,384	2,015,912	2,056,230	2,076,792	2,097,560	From Table 8			
9	Multi Family	941,046	842,197	859,041	876,222	884,984	893,834				
10	Commercial	1,287,018	1,051,530	1,072,561	1,094,012	1,104,952	1,116,001	From Table 8			
11	Billed Use Total (hcf)	4,847,548	3,870,111	3,947,513	4,026,463	4,066,728	4,107,395				
12	Billed Use Total (AF)	11,128	8,885	9,062	9,243	9,336	9,429				
13	Losses/Unaccounted for (AF) @7%		622	634	647	654	660				
14	Total Water Purchases	11,128	9,507	9,696	9,890	9,990	10,089				
15	% Change		-14.6%	2.0%	2.0%	1.0%	1.0%				
16											
17	MWD Rates (per AF)		2015	2016	2017	2018	2019	2020			
18											
19	Tier 1 Rate		\$ 923	\$ 942	\$ 973	\$ 999	\$ 1,027	\$ 1,069	MWD 10-yr Financial Forecast		
20	Tier 1 MWD Allocation		10,819	10,819	10,819	10,819	10,819	10,819			
21	Tier 2 Rate		\$ 1,055	\$ 1,076	\$ 1,107	\$ 1,133	\$ 1,161	\$ 1,199	MWD 10-yr Financial Forecast		
22											
23											
24											
25											
26	Purchased Water Costs - Volumetric										
27	Tier 1 Water (AF)		9,507	9,696	9,890	9,990	10,089				
28	Tier 1 Rate		\$ 932.50	\$ 957.50	\$ 986.00	\$ 1,013.00	\$ 1,048.00				
29	Subtotal		\$ 8,865,231	\$ 9,284,246	\$ 9,751,550	\$ 10,119,384	\$ 10,573,303				
30											
31	Tier 2 Water (AF)		-	-	-	-	-	only if Tier 1 Water exceeds 10,819 AF			
32	Tier 2 Rate		\$ 1,065.50	\$ 1,091.50	\$ 1,120.00	\$ 1,147.00	\$ 1,180.00				
33	Subtotal		\$ -	\$ -	\$ -	\$ -	\$ -				
34											
35											
36											
37											
38											
39	Total Purchased Water Costs - Volumetric		\$ 8,865,231	\$ 9,284,246	\$ 9,751,550	\$ 10,119,384	\$ 10,573,303				
40											
41	MWD Ready to Serve Charge		\$ 1,443,000	\$ 1,443,000	\$ 1,443,000	\$ 1,443,000	\$ 1,443,000				
42											
43	Total Purchased Water Costs		\$ 10,308,231	\$ 10,727,246	\$ 11,194,550	\$ 11,562,384	\$ 12,016,303				
44											



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