LOS ANGELES DEPARTMENT OF WATER AND POWER

WATER SYSTEM RATE ACTION REPORT

Chapter 5: Water Rate Design

July 2015

CONTENTS

FIGURES

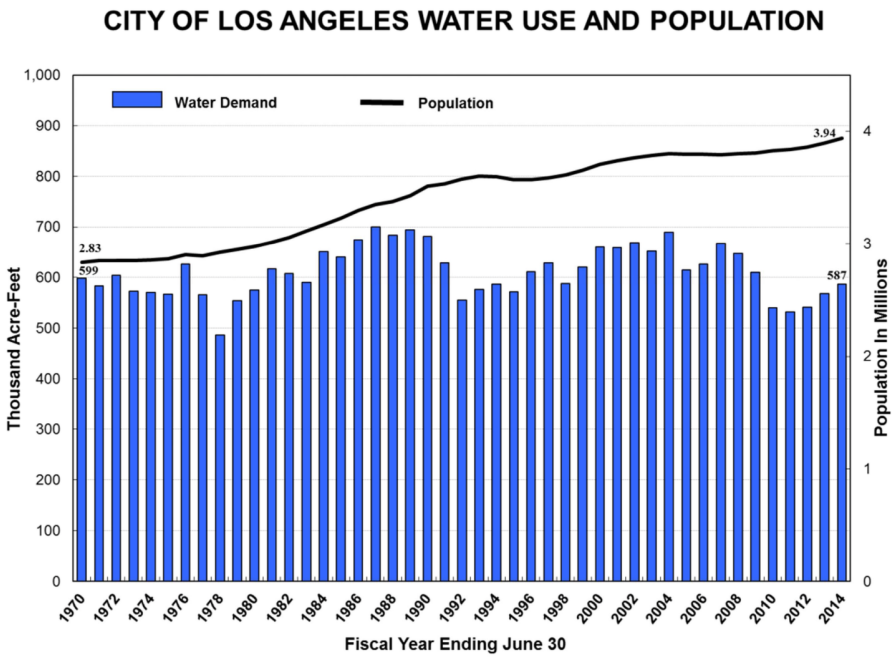
WATER RATE DESIGN

5.1 SUMMARY

This Chapter will discuss the Department's proposed water service rate design objectives, applicable trends in the industry, changes to the Department's overall rate structure and specific rate design and rates for each major customer class.

Given the current drought situation in Southern California, a primary objective of LADWP's rate structure and rates is to provide price signals that afford customers incentives to conserve. On October 14, 2014 the Mayor announced Executive Directive No. 5 to reduce Los Angeles water consumption by 20% on a per capita basis by the end of 2017. LADWP customers have historically responded well to calls for conservation; as shown in Figure 1, since 1970, water usage by LADWP customers has been virtually unchanged despite an approximate 25% growth in population in the region.

Figure 1: Historical LADWP Water Use[1]



[1] Population was updated with 2010 US Census data. Usage records are subject to change based on findings from the Water Loss Component Audit.

The proposed rates help promote water conservation as envisioned by the Mayor's goal for an additional 20% per capita reduction in consumption, comply with all legal principles, achieve recovery of costs (without over-recovery) and minimize the bill impacts for customers (especially low usage customers).

The Department's proposed rates are designed to recover the revenue requirement that reflects the rate drivers and budgeted program amounts outlined in Chapter 3, Rate Drivers. Consistent with the revenue requirement, the proposed rates are developed based on Financial Plan Case No. 33. Subsequent to completing the revenue requirement, in response to the San Juan Capistrano decision discussed below, LADWP modified its approach to recovery of water supply costs by creating a new Water Supply Cost Adjustment (WSCA) factor to replace the existing Water Procurement Adjustment (WPA) factor.[2] Separately identifying the costs for the WSCA for rate design purposes required minor modifications to the classification of revenue from the original Financial Plan Case No. 33 revenue requirement. However, since the impact of the new WSCA on the revenue requirement is immaterial, LADWP has not restated the revenue requirement at this time. If subsequent to review by the Ratepayer Advocate and the public outreach process, other changes that have a more material impact on the revenue requirement and rates are necessary, LADWP will make the appropriate updates to the financial plan, revenue requirement and rates at that time. The development of the WSCA is discussed in section 5.4.7 of this chapter.

5.1.1 Recent Industry Approach to Rate Setting

In 2006, The California Supreme Court held that Proposition 218, which introduced Articles XIII C and XIII D into the California Constitution, applies to domestic water service. Since then, several appellate courts have provided additional guidance as to the application of Proposition 218 to water rates. Most recently, in Capistrano Taxpayers Association v. City of San Juan Capistrano, the Fourth Appellate District of the California Court of Appeals suggested that usage of water supply costs was one appropriate approach for setting rate tiers that are consistent with Proposition 218's requirements. The Department has considered these appellate decisions and the differential costs of providing water in establishing the proposed rates.

Though LADWP had developed proposed rates prior to the San Juan Capistrano decision, LADWP determined that guidance might call for a revised method that aligns costs to rates at a more granular level. This chapter includes an explanation of how these proposed rates align to the costs of sources of supply so that rates for higher tiers reflect more expensive sources of water.

For reference, Appendix A provides the original rates and rate design developed prior to the San Juan Capistrano decision. In terms of total rates and system average increases, the two approaches are similar. One of the main differences is the irregularity in the overall trend of the new rates from year to year. Whereas the original proposed rates had a smoothly increasing

[2] Financial Plan Case No. 33 reflects the WPA approach historically followed by LADWP.

trend over the rate period, the new proposed rates are more closely tied to the cost of water supply projects and the level of sources of water supply that fluctuate from year to year.

LADWP believes that both sets of developed rates provide increased incentives for conservation in line with rate design guidance from the Blue Ribbon Commission (BRC), UCLA California Center of Sustainable Communities (UCLA Study) and industry standard practices. (Sections 5.2.3 and 5.2.4 provide additional information on the BRC and UCLA Study).

5.1.2 Cost of Service Alignment

The proposed rates also consider guidance that limits water utility rates to the Department's revenue requirement and suggests that revenue from each customer class should not exceed the cost of service for that specific customer class. As discussed in Chapter 4, LADWP has completed a new cost of service study to determine the percentage of revenue requirement allocated to each major customer class. The results indicate that the proportions of total cost of service recovered from each customer class are reasonable since they are within 10% of the current revenue proportions, with the exception of Schedule F. The proposed rate design includes a transition plan to better align costs and revenues for Schedule F over the next five years. (Refer to Section 5.10 for additional information about proposed rate changes for Schedule F.)

5.1.3 Industry Challenges

Currently, water utilities in California are dealing with multiple challenges including, but not limited to:

- Drought;
- Aging infrastructure; and
- Compliance with regulatory mandates.

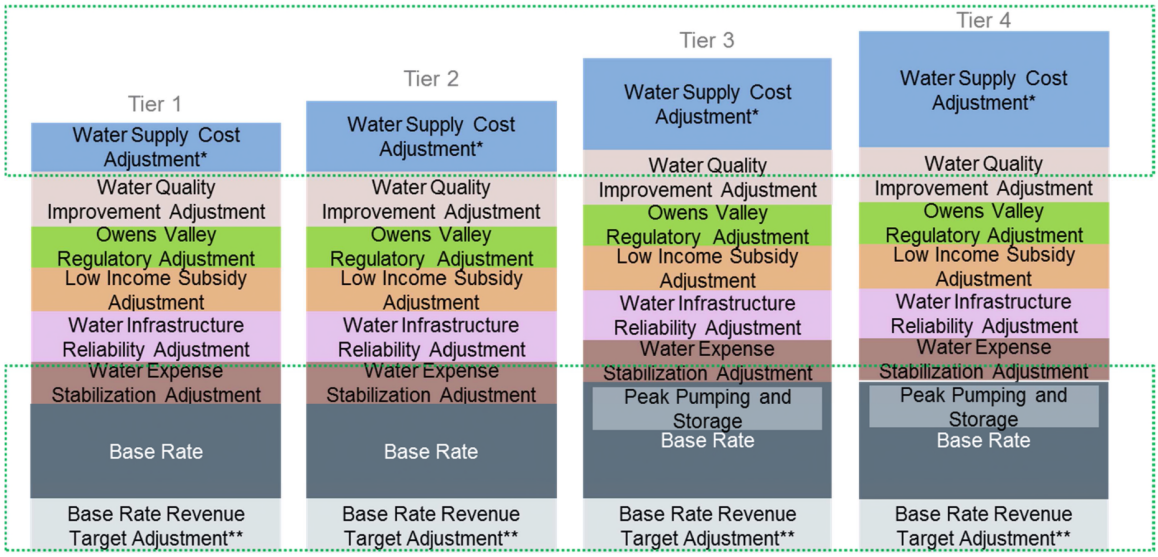
These items have a significant impact on a water utility's ability to maintain and enhance service reliability while maintaining reasonable rates. In order to overcome these challenges, in general, water utilities in California and elsewhere are carefully developing rate structures and employing a number of tools, including, but not limited to:

- Aligning supply costs directly to rates and tier differentials;
- Increased number of tiers;
- Tighter water budget allotments;
- Infrastructure factors; and
- Increased rates.

5.1.4 Proposed Rate Structure

To collect adequate revenue to fund the revenue requirements outlined in Chapter 3 of this report in a balanced manner, while ensuring conservation objectives are met, the Department is proposing several changes to both the rates and overall rate structure. The current rate structure was developed prior to the current drought situation and did not include adequate mechanisms to fund the large investments required to improve the reliability of the water delivery infrastructure and to develop local water supplies. These proposed changes are designed to make the rate structure consistent across all tiers and major customer classes while providing LADWP more certainty that revenue collected will cover its costs. Figure 2 outlines the proposed overall rate structure for Single-Dwelling Unit Residential customers and shows the proposed four tiers. The components of the proposed rate structure for Multi-Dwelling Unit Residential and Commercial, Industrial, Governmental and Temporary Construction customers are the same, but will continue to have two tiers.

Figure 2: Proposed Single-Dwelling Unit Residential Customer LADWP Rate Structure



*Includes costs for all major supply sources including conservation and recycled water.

**Base Rate Revenue Target Adjustment could be positive (under-collection) or negative (over-collection).

Note: For simplification the Water Security Adjustment factor is consolidated with the Water Quality factor (or base rates depending on the cost component).

Within each customer class the main differentiating amounts among tier rates is proposed to be the Water Supply Cost Adjustment (WSCA) factor and the peak pumping and storage component of base rates, which reflect the increasing costs of supply associated with higher levels of usage.

Historically, LADWP's rates have been structured to provide incentives for conservation through a combination of water budget allotments, tiered rates, and a completely volumetric rate design that ties customers' bills directly to the level of consumption. Actual customer rates are a combination of base rates to recover the costs of general operations and administration and adjustment factors structured to recover specific program costs such as water quality. The proposed rates maintain these general characteristics and ensure the Department collects its revenue requirement while further protecting customers from over-collection of costs.

5.1.5 Water Budget Approach

Water budget allotments determine the amount of water provided to customers within each tier. Conservation is enhanced by reducing the allotment available at lower tiered rates. Since water usage increases in the summer months, allotments are also increased this time of year to minimize the financial burden on customers. In addition, given the wide variety of Single-Dwelling Unit Residential customers due to factors such as lot size and temperature zone, additional allowances are made to develop reasonable water budgets for this class of customers. LADWP proposes to make minor adjustments to recognize the need for additional conservation and start simplifying the rate design. The major elements used to establish current water budget allotments and LADWP's proposed changes for each major customer class are outlined in Figure 3 at the end of Section 5.1.7 below.

5.1.6 Changes to Adjustment Factors

The proposed rate structure will continue to include both base rates and adjustment factors designed to align program costs and rates/revenues. Several changes are proposed to the adjustment factors to increase the alignment of costs and revenues. LADWP proposes that all customer classes pay the same amount for each adjustment factor, except a new Base Rate Revenue Target Adjustment (BRRTA) factor and a new Water Supply Cost Adjustment (WSCA) factor. Revenues from customer classes will continue to be proportional to costs due to the application of volumetric rates.

Water Supply Cost Adjustment

The Water Supply Cost Adjustment (WSCA) will replace the Water Procurement Adjustment. This new adjustment factor was created to correspond at a more granular level the rates for each tier in each customer class to water supply costs using percentages of water supply. It is designed based on the economic premise of cost causation that customers who cause costs must pay for these costs.

Beginning with the least expensive water supply, each source of supply is assigned to each tier, based on the percentage of water demand of the tier. The cost per HCF of the various sources of supply are calculated based on LADWP's cost to provide the specific water supply, divided by the forecasted hydrologic supply (in HCF) of the specific source. These costs are calculated and adjusted on a semi-annual basis reflecting the appropriate year's costs.

Water Security Adjustment

In FY 2014-15, LADWP recovered $59.7 million from the Water Security Adjustment. However, approximately 80% of these costs are associated with water quality programs. Therefore, LADWP proposes to eliminate the security factor and incorporate these costs into the existing Water Quality Improvement Adjustment (WQIA) factor with any remaining costs included in base rates. This change will help simplify the rate structure while better matching cost recovery with rates.

Water Infrastructure Reliability Adjustment (WIRA)

LADWP proposes to establish a new Water Infrastructure Reliability factor to ensure investments are made to improve the reliability of the water distribution system. This factor recovers the capital costs associated specifically with these investments. The proposed factor will align costs and cost recovery in a transparent manner, ensure customers pay for only the expenditures actually incurred, provide LADWP the flexibility to shift investment among a portfolio of projects, and establish a specific balancing account to track costs associated with infrastructure projects, allowing easy reporting and auditing.

Water Expense Stabilization Adjustment (WESA)

Preparing for unforeseen events such as earthquakes or major weather events is an important aspect of utility management. The purpose of the WESA is to maintain funds, representing approximately 5% of average annual capital expenditures, to help stabilize rates in the event of unforeseen events impacting water service delivery.

Base Rate Revenue Target Adjustment (BRRTA)

The Department will set annual base rate revenue targets and track the over or under-recovery[3] for each major customer class. The BRRTA factor will be designed to collect additional revenue or credit over-collected revenue based on the consumption of the specific customer class in accordance with Proposition 218's requirement to align customer class costs and revenue. The BRRTA is designed by customer class to ensure base rates for each major customer class fully recover their associated costs for each customer class by decoupling usage from revenue.

5.1.7 Decoupling

Decoupling is a standard utility solution to ensure the recovery of fixed costs while protecting customers from over-recovery of cost. Decoupling separates cost recovery from the usage underlying the calculated overall rate. If, after accounting for actual usage and revenue, designated costs are under-recovered, the decoupling mechanism adjusts rates to fully recover, but not over-recover these costs. If usage is less than forecast, the decoupling mechanism

[3] Previously, LADWP used a Water Revenue Adjustment (WRA) factor to collect only the under-recovery of base rate revenue.

adjusts rates to collect the shortfall; if usage exceeds forecasts resulting in an over-recovery of fixed costs, customers receive a credit. With decoupling, the over or under-collection is resolved in the following accounting period, after actual revenue is known, through an adjustment in rates- either as a reduced or added charge to customers.

To help alleviate the risk associated with revenue variation in a fair manner, LADWP proposes to implement a symmetrical decoupling mechanism for all major customer classes using the BRRTA factor.

Figure 3 provides a summary of the major elements of the Department's proposed rate design.

Figure 3: Summary of Rate Design Changes

	Current Approach	Proposed Approach
Number of Tiers	Two tiers for all major customer classes	• Single-Dwelling Unit Residential: Four • Multi-Dwelling Unit Residential: Two • Commercial, Industrial, Governmental and Temporary Construction: Two
Water Budget Allotments – Single-Dwelling Unit Residential	• Lot size (Five groups) • Temperature zone (Three zones) • Time of year (Summer: June-Oct.) • Family size • Each factor used to establish tier 1 allotment	• Lot size (Five groups with allotments for top two groups set the same) – to set tier 2 and 3 allotments • Temperature zone (Three zones) – to set tier 2 and 3 allotments • Time of year (Summer: June-Sept.) – to set tier 2 and 3 allotments) • Set tier 1 allotment at eight HCF per customer in lieu of household size adjustments
Water Budget Allotments – Multi-Dwelling Units Residential	• Past usage level • Time of year (Summer: June-Oct.)	• Past usage level (followed by annual reductions to incentivize conservation) • Time of year (Summer: June-Sept.)
Water Budget Allotments – Commercial, Industrial, Governmental and Temporary Construction	• Past usage level • Time of year (Summer: June-Oct.)	• Winter - recent winter usage level • Summer – prior year winter usage plus five percent • Time of year (Summer: June-Sept.)
Base Rates	• Cover costs of general operations, support services, infrastructure maintenance and new investments • Amount varies by tier and customer class	• Cover costs of general operations, support services, infrastructure maintenance and new investments not covered by the WIRA factor • Amount varies by tier and customer class; Schedule A tiers 3 and 4 and Schedule B and C tier 2 will include an additional peak pumping and storage component

	Current Approach	Proposed Approach
Adjustment Factors	• Water Procurement (WPA) • Water Quality Improvement (WQIA) • Owens Valley Regulatory (OVRA) • Low Income Subsidy (LISA) • Water Security (WSA) • Water Revenue (WRA) – recovers base rate revenue under-collection up to a cap (no return of over-collection)	• Water Supply Cost (WSCA) – replaces WPA to include all water supply costs and align available water supply amounts with tier usage, starting with the least expensive source of supply and lowest use tier • Water Quality Improvement (WQIA) – adjusted to also include most of the prior WSA • Owens Valley Regulatory (OVRA) – adjusted to include capital expenditures and remove the rate stabilization account target • Low Income Subsidy (LISA) – no change • Water Security (WSA) – eliminated; programs incorporated into WQIA or base rates • Water Infrastructure Reliability (WIRA) – new adjustment factor for capital investment in system infrastructure improvements to provide flexibility to plan longer term projects without risk of funding uncertainty while ensuring customers pay only actual programs' costs • Water Expense Stabilization (WESA) – new adjustment to reflect expense stabilization account previously embedded in OVRA to provide a cash cushion beyond the 150 days of cash on hand metric requirement to mitigate risk of major natural disasters or unexpected shocks to the system • Base Rate Revenue Target (BRRTA) – replaces WRA with a symmetrical adjustment to account for over and under-target recovery by major customer class
Adjustment Factor Caps	Differing caps for each adjustment factor or group of adjustment factors	• Eliminate all caps except LISA • LISA cap adjusted from $0.015 per HCF per quarter to $0.030 per HCF semi-annually
Application of Adjustment Factors to Tiers	• Inconsistent for tiers 1 and 2 – WQIA and WPA embedded in base for tier 2 resulting in disproportionate impact on tier 1 as purchased water component of WPA increased in recent years	All adjustment factors apply consistently to all tiers and customer classes (except as noted below for the WSCA and BRRTA)
Changes to Adjustment Factors	Quarterly: WPA, WQIA, WSA, OVRA, LISA Annually: WRA	To reduce rate volatility and administrative burdens of more frequent changes, LADWP proposes the following changes in adjustment frequency: • Semi-annually: WSCA, WQIA, OVRA, LISA, WESA • Annually: WIRA (July); BRRTA (January)[4]

[4] The BRRTA will be calculated based on the actual audited results of the prior fiscal year which should be available by January.

	Current Approach	Proposed Approach
Tier Rate Differential	• OVRA, LISA, WSA and WPA applied equally to tiers 1 and 2 • WQIA and WPA embedded in base rate for tier 2	• WSCA varies by tier to reflect increasing cost of water supply for higher levels of usage • Schedule A tiers 3 and 4 and Schedule B and C tier 2 base rates include cost of peak pumping and storage • BRRTA calculated based on specific over/under-collection for each major customer class
Volumetric Rates	Rates are volumetric for all customers	Rates are volumetric for all customers
Seasonal Pricing	Seasonal pricing for following customer classes: • Single-Dwelling Unit Residential – tiers 1 and 2 • Multi-Dwelling Unit Residential– tier 2 • Commercial, Industrial, Governmental and Temporary Construction-tier 2 • Publicly-Sponsored Irrigation – tier 2	• Temperature zone component of Schedule A budget allotments has an inherent seasonality impact • Eliminate seasonal pricing; water budget allotments for Schedule C will have seasonal component to increase lower tier allotment in summer
5% Adder	Adjustment factor adder for financial stability	Eliminate adder from ordinance.
Minimum Charge[5]	Minimum charge of $5.00 per month may be applied per service to accounts which have no recorded consumption for a period of more than two months.	Eliminate minimum charge to maintain fully volumetric rate structure
Shortage Year Rates and Allotments	Shortage year rates and allotment in place since July 2009	Eliminate shortage year rates; new permanent allotment structure is based on shortage year levels
Recycled Water (Schedule D)[6]	• Separate customer class. • Contract arrangement with rates based on approximately 80% of the in-City potable base rate. • A wastewater treatment surcharge can be included as long as the resulting rate does not exceed the in-City potable base rate.	No change
Private Fire (Schedule E)	• Service availability charge rates based on connection size • Changes typically based on system average	Service availability charge rates increase annually based on projected inflation (as measured by the GDP Price Index)[7]
Public Irrigation (Schedule F)	Separate usage based rates, which have been determined to be under cost by the new cost of service study (see Chapter 4)	Increase rates annually on a steady basis over five years to bring rates and costs into alignment

[5] The minimum charge has not been implemented by LADWP.

[6] LADWP is proposing to change the name of Schedule D to Recycled Water Service

[7] Source: Table 2-1, "GDP Price Index": https://www.cbo.gov/sites/default/files/cbofiles/attachments/49892-Outlook2015.pdf

5.1.8 Proposed Rates[8]

Residential and Commercial Customers (Schedules A, B and C)

Figure 4, Figure 5 and Figure 6 show the Department's proposed rates for the five-year rate action by major customer class. The rates for each class are contained in separate schedules.

Figure 4: Proposed Single-Dwelling Unit Residential Rates (Schedule A)

	Current	Proposed				
Fiscal Year	**FY 2014-15**	**FY 2015-16**	**FY 2016-17**	**FY 2017-18**	**FY 2018-19**	**FY 2019-20**
Tier 1	$ 4.96	$ 4.45	$ 4.61	$ 4.92	$ 5.18	$ 5.32
Tier 2	$ 5.90	$ 5.41	$ 5.78	$ 6.29	$ 6.67	$ 7.32
Tier 3		$ 6.31	$ 6.59	$ 7.47	$ 8.37	$ 8.11
Tier 4		$ 7.91	$ 8.29	$ 8.77	$ 9.01	$ 9.97

Figure 5: Proposed Multi-Dwelling Unit Residential Rates (Schedule B)

	Current	Proposed				
Fiscal Year	**FY 2014-15**	**FY 2015-16**	**FY 2016-17**	**FY 2017-18**	**FY 2018-19**	**FY 2019-20**
Tier 1	$4.97	$4.45	$4.61	$4.923	$5.18	$5.32
Tier 2	$5.90	$7.82	$7.48	$7.65	$8.03	$8.68

Figure 6: Proposed Commercial, Industrial, Governmental and Temporary Construction Customer Rates (Schedule C)

	Current	Proposed				
Fiscal Year	**FY 2014-15**	**FY 2015-16**	**FY 2016-17**	**FY 2017-18**	**FY 2018-19**	**FY 2019-20**
Tier 1	$5.06	$4.45	$4.61	$4.92	$5.18	$5.32
Tier 2	$5.90	$6.86	$7.23	$7.74	$8.11	$8.77

Recycled Water (Schedule D)

Over time, as facilities to deliver Recycled Water Service (Schedule D) become more widely available, several levels of standard service may be established; however, for now, LADWP proposes to continue its current contract approach.

[8] All proposed rates are developed based on Financial Plan Case Number 33 as modified by Financial Plan Case Number 77a and to include the new WSCA.

Private Fire (Schedule E)

Figure 7 provides LADWP's proposed service availability charges for Private Fire service. The commodity charges will be the same as Schedule C rates.

Figure 7: Proposed LADWP Private Fire (Schedule E) Service Availability Charges

Size	Current	FY 2015-16 (Proposed)	FY 2016-17 (Proposed)	FY 2017-18 (Proposed)	FY 2018-19 (Proposed)	FY 2019-20 (Proposed)
≤1-in	$ 3.10	$ 3.15	$ 3.20	$ 3.26	$ 3.33	$ 3.39
1.5-in	$ 11.00	$ 11.18	$ 11.35	$ 11.57	$ 11.80	$ 12.04
2-in	$ 15.63	$ 15.88	$ 16.13	$ 16.44	$ 16.77	$ 17.10
3-in	$ 38.49	$ 39.11	$ 39.73	$ 40.49	$ 41.30	$ 42.12
4-in	$ 61.35	$ 62.33	$ 63.33	$ 64.53	$ 65.82	$ 67.14
6-in	$ 108.48	$ 110.22	$ 111.98	$ 114.11	$ 116.39	$ 118.72
8-in	$ 212.39	$ 215.79	$ 219.24	$ 223.41	$ 227.87	$ 232.43
10-in	$ 255.79	$ 259.88	$ 264.04	$ 269.06	$ 274.44	$ 279.93
12-in	$ 328.87	$ 334.13	$ 339.48	$ 345.93	$ 352.85	$ 359.90
14-in	$ 511.58	$ 519.77	$ 528.08	$ 538.12	$ 548.88	$ 559.85
16-in	$ 612.07	$ 621.86	$ 631.81	$ 643.82	$ 656.69	$ 669.83
20-in	$ 821.03	$ 834.17	$ 847.51	$ 863.62	$ 880.89	$ 898.51

Publicly-Sponsored Irrigation; Recreational; Agricultural, Horticultural, and Floricultural Uses; Community Gardens and Youth Sports (Schedule F)

Figure 8 provides the proposed rates for Schedule F that are designed to align revenues and cost of service by the end of the five-year rate period. In the fifth year Schedule F rates will be the same as Schedule C rates.

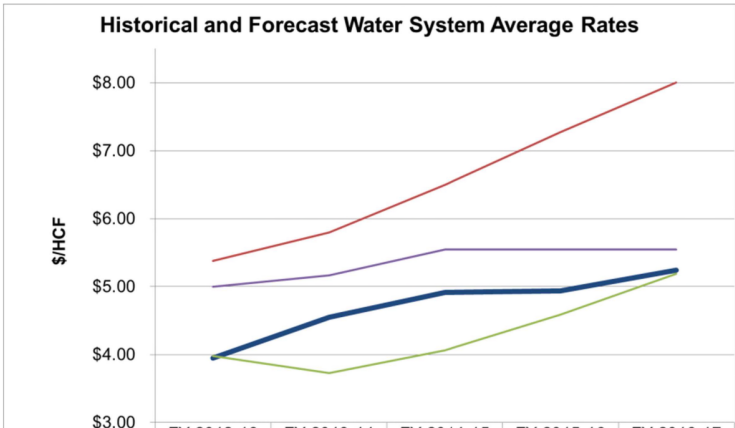
Figure 8: Proposed Schedule F Rate Transition

	Current	Proposed				
Fiscal Year	FY 2014-15	FY 2015-16	FY 2016-17	FY 2017-18	FY 2018-19	FY 2019-20
Tier 1	$1.37	$1.97	$2.65	$3.48	$4.40	$5.32
Tier 2	$5.90	$6.81	$7.18	$7.71	$8.11	$8.77

Peer Utility Rate Comparisons

Water utility rates have been increasing throughout California. As shown in Figure 9, other major city water utilities in California have already increased rates and/or have announced future rate increases; however, LADWP's proposed system average rates will continue to be less than those of the other large cities in the State.

Figure 9: Historical and Forecast Water Utility System Average Rates[9]



	FY 2012-13	FY 2013-14	FY 2014-15	FY 2015-16	FY 2016-17
LADWP	$3.95	$4.55	$4.92	$4.94	$5.25
San Francisco	$5.38	$5.80	$6.50	$7.28	$8.00
Santa Monica	$3.98	$3.73	$4.06	$4.59	$5.19
San Diego	$5.00	$5.17	$5.55	$5.55	$5.55

As discussed further in Section 5.5.5, the Department's residential rates currently compare favorably to other major California water utilities – a trend that is expected to continue after implementation of the proposed rates.

5.2 RATE DESIGN OBJECTIVES

LADWP's proposed rate design is influenced by a variety of factors, especially the importance of additional conservation in light of the unprecedented drought facing California and the need to comply with several legal requirements. These considerations headline the following objectives the Department has established to guide its rate design:

- Minimize individual bill impacts for low usage customers;
- Continue to promote water conservation as envisioned by the Mayor's goal for a 20% per capita reduction in consumption by 2017;

[9] Rates are computed on an annual system-wide basis for all customer classes.

- Comply with all guiding legal principles;
- Recover costs in consideration of the new water cost of service study;
- Align water supply costs to sources of supply;
- Retain water-budget rate structure and marginal-cost based conservation principles;
- Achieve full recovery of costs (without over-recovery) in a cost causative manner;
- Implement symmetrical decoupling mechanism for base rate revenue;
- Help facilitate economic development;
- Simplify where possible;
- Make bills easier to understand; and
- Consider implications for customer care and billing system (CC&B).

The objectives have evolved over the years and remain fundamentally consistent with the recommendations of the Mayor's Blue Ribbon Commission (BRC) report issued in the early 1990s. The objectives and aspects of the proposed rate design are also supported by recent UCLA California Center for Sustainable Communities research. The BRC report and UCLA report are discussed later in this section.

5.2.1 Legal Considerations

Several legal considerations provide guidance for setting water rates.

Los Angeles City Charter

The Board of Water and Power Commissioners (Board) is currently obligated under Charter Section 609(c)[10] and the Master Resolution to establish rates for water service (Water Rates) and collect charges in an amount which, together with other available funds, will be sufficient to service the Department's Water System indebtedness and pay the necessary expenses of operating and maintaining the Water System. This obligation under the Charter and the Master Resolution is known as the rate covenant. Necessary expenses include meeting regulatory mandates, investing in infrastructure for better reliability, and accelerating the availability of local water supply sources.

[10] For full text see:
http://www.amlegal.com/nxt/gateway.dll?f=jumplink$jumplink_x=Advanced$jumplink_vpc=first$jumplink_xsl=querylink.xsl$jumplink_sel=title;path;content-type;home-title;item-bookmark$jumplink_d=california(laac)$jumplink_q=[field%20folio-destination-name:%27Ch609.%27]$jumplink_md=target-id=JD_Ch609

Water Rates are subject to the approval of the City Council by ordinance (a rate ordinance). The Charter provides that such rates will, except as otherwise authorized by the Charter, be of uniform operation for customers of similar circumstances throughout the City, taking into consideration, among other things, the nature of the uses, the quantity supplied and the value of the service. Changes in technology, changes in quality standards, availability and cost of water, loss of large customers, increased or decreased development, increases of the debt service on the bonds and other debt obligations of the Department, increases in the cost of operation and/or other expenses are some conditions that could require increases in rates or charges in order to comply with the Department's rate covenant.

California Constitution Article X, Section 2

Section 2 of Article X requires "that the waste or unreasonable use or unreasonable method of use of water be prevented, and that the conservation of such waters is to be exercised with a view to the reasonable and beneficial use thereof in the interest of the people and for the public welfare."

Proposition 218 (California Constitution Articles XIII C and D)[11]

Proposition 218 was adopted by California voters in November 1996 to add provisions to the California Constitution governing the adoption of taxes, assessments and property-related fees by local governmental agencies. For property-related fees, which include water and sewer fees, Proposition 218 established procedural requirements that must be followed prior to imposing or increasing fees, as well as substantive requirements that apply to the determination of the fee amount and the use of fee revenues. The substantive requirements include:

"A fee or charge shall not be extended, imposed, or increased by any agency unless it meets all of the following requirements:

> "(1) Revenues derived from the fee or charge shall not exceed the funds required to provide the property related service."
>
> "(2) Revenues derived from the fee or charge shall not be used for any purpose other than that for which the fee or charge was imposed."
>
> "(3) The amount of a fee or charge imposed upon any parcel or person as an incident of property ownership shall not exceed the proportional cost of the service attributable to the parcel."
>
> "(4) No fee or charge may be imposed for a service unless that service is actually used by, or immediately available to, the owner of the property in question. Fees or charges based on potential or future use of a service are not permitted. Standby charges, whether

[11] The complete text for Proposition 218 can be found at: http://vote96.sos.ca.gov/bp/218text.htm

> characterized as charges or assessments, shall be classified as assessments and shall not be imposed without compliance with Section 4 [procedures and requirements for proposed assessments]."
>
> "(5) No fee or charge may be imposed for general governmental services . . . where the service is available to the public at large in substantially the same manner as it is to property owners. . . . In any legal action contesting the validity of a fee or charge, the burden shall be on the agency to demonstrate compliance with this article." (Art. XIII D, section 6(b)).

The interpretation of Proposition 218 has evolved over time. In 2006, the California Supreme Court held that fees for domestic water service through an existing connection are property-related fees subject to Proposition 218 (Bighorn-Desert View Water Agency v. Verjil).

In 2011, the Second Appellate District of the California Court of Appeal concluded that, "California Constitution, article X, section 2 is not at odds with article XIII D so long as, for example, conservation is attained in a manner that 'shall not exceed the proportional cost of the service attributable to the parcel.'" (City of Palmdale v. Palmdale Water Dist.).

In 2013, the Sixth Appellate District of the California Court of Appeal noted a fee for which the question of proportionality "is not measured on an individual basis. Rather, it is measured collectively considering all rate payers." That court held, "Given that Proposition 218 prescribes no particular method for apportioning a fee or charge other than the amount shall not exceed the proportional cost of the service attributable to the parcel, defendant's method of grouping similar users together for the same augmentation rate and charging the users according to usage is a reasonable way to apportion the cost of service. That there may be other methods favored by plaintiffs does not render defendant's method unconstitutional. Proposition 218 does not require a more finely calibrated apportion." (Griffith v. Pajaro Valley Water Management Agency).

In 2015, the Fourth Appellate District of the California Court of Appeal stated that there is nothing "in Proposition 218 that prevents water agencies from passing on the incrementally higher costs of expensive water to incrementally higher users." (Capistrano Taxpayers Association v. City of San Juan Capistrano).

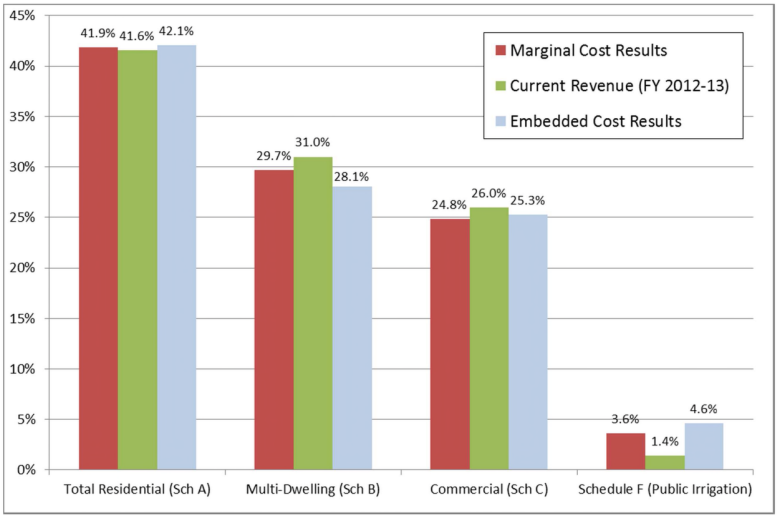
Based on this guidance, LADWP has elected to set its rates by customer class. Further, the pricing of its tiers factors in the differential costs of providing water.

5.2.2 Allocation of Costs to Customer Classes

One of the major objectives of the proposed rate design is to ensure revenue from each customer class is relatively proportionate to the cost of providing service to that class. The Charter requires LADWP to establish rates that are of "uniform operation for customers of similar circumstances." Other legal guidance indicates that rates can be set to produce revenue from each major customer class proportionately to the costs of service for that customer class. In

addition, to meet financial obligations, LADWP also must ensure rates fully recover costs without over-recovery. The results of LADWP's recent marginal cost of service study as shown in Figure 10 indicate that the proportions of the total cost of service and current revenue for each major customer class are fairly close, with the exception of Schedule F. This relationship is reinforced by similar results from an embedded cost of service analysis.

Figure 10: Cost of Service Study Results



The variances between the cost of service and revenue proportions are less than 10% for all major customer classes with the exception of Schedule F, as shown in Figure 11.

Figure 11: Variance Between Customer Class Revenue (FY 12-13) and Cost of Service

Customer Class	Marginal Cost Study	Embedded Cost Analysis
Schedule A	0.66%	1.08%
Schedule B	-4.28%	-9.47%
Schedule C	-4.44%	-2.71%
Schedule F	156.80%	227.80%

Given typical annual variances in costs and revenues, a 10% variance is reasonable; therefore, for Schedules A, B, and C, no further reallocation of costs/revenues is necessary. However, as discussed in more detail in Section 5.10, reallocation of cost recovery to Schedule F customers will be required over time.

5.2.3 Blue Ribbon Commission

To meet its rate design objectives, LADWP has been guided by long-standing philosophies that have resulted in Los Angeles being a leader in conservation and innovative rate design as well as setting industry trends in California and across the United States. One of the long-term guide posts for the Department's rate design philosophy is the Mayor's Blue Ribbon Committee on Water Rates (BRC) Report from 1992. The BRC Report was the result of an extensive effort to develop a rate structure that was tailored to the unique needs of the Los Angeles area in terms of geography, the need for signals to conserve in light of limited water supplies and other factors. LADWP's current water budget approach stemmed from the BRC recommendations. This report addressed issues related to the structure and level of the Department's rates as well as operational, financial stability and economic implications of those rates. While over twenty years old, many of the report's recommendations continue to apply today. The major rate characteristics in the BRC Report as well as a brief synopsis of the Department's current and proposed performance are shown in Figure 12.

Figure 12: Blue Ribbon Committee Report Synopsis

Key Rate Characteristics in 1992 BRC Report	Department's Approach in 2015
Affordable	The Department's water rates have historically been among the lowest across comparable water suppliers in California.
Designed to Maximize the Efficient Allocation of Resources	The Department has no fixed monthly charges, and customer bills are based solely on water usage. As a result, customers have greater control over their water bills. A volumetric rate structure offers greater savings than a structure with both fixed and volumetric charges. Customers also pay more for excessive use when all of the revenue is derived from volumetric charges and the tiered rate design is based on a water budget allotment based conservation approach.
Forward-Looking	The Department is proposing to undertake a number of infrastructure and local supply projects that will enhance future reliability and local water supplies to replace expensive purchases from MWD. Using a marginal cost approach to guide rates appropriately considers the costs of these forward-looking projects.
Stable and Predictable	The Department has not had a base rate increase since 2009.
Simple and Understandable	The proposed water rate structure provides simplicity by applying all adjustment factors to all tiers. The tier 2 (and new tiers 3-4 in the case of Single-Dwelling Unit Residential customers) structure will be modified to be identical to the tier 1 structure for all major customer classes. The WSCA will become a rate differential between tiers, reflecting the increased water supply costs associated with higher usage.
Sufficient to Generate Adequate Revenue	Rates are set based on costs as reflected in the Department's financial plan and revenue requirement. The use of adjustment factors tied directly to costs helps to ensure adequate revenue in a manner that directly links costs and rates for many key programs. To provide financial stability the Department is proposing a Base Rate Revenue Target Adjustment factor that will be symmetric. When base rate revenues are less than forecast, this mechanism will allow the Department to recover the shortfall. When base rate revenues are higher than forecast, the Department will

Key Rate Characteristics in 1992 BRC Report	Department's Approach in 2015
	credit the additional base rate revenue back to customers. This process provides customers a fair decoupling of water usage from revenue and ensures that the Department will not have a shortfall in revenue to finance the largely fixed costs of operating the Water System.
Equitable Across Customer Classes	All customers within the same class pay the same rates based on their level of usage. The proposed rates and rate structure are based on the allocation of revenue requirements among the customer classes using a new cost of service study.
Designed to Encourage Conservation	The volumetric rates, allotment structure, the WSCA and tier rates are designed to encourage conservation. Proposed water budget allotments are based on the shortage year approach, which has been successful in incentivizing conservation.
Rate Setting Process Should be Understandable to the Public	Throughout the current rate setting process, the Department will continue to communicate openly with its customers through a variety of media to ensure that they understand the rate setting process. This process has already begun with some stakeholders.
Should Not Discourage Employment	The Department's water rates have historically been among the lowest across comparable water suppliers in California, which encourages businesses to move to Los Angeles, and to hire more employees. Under the current proposal, the majority of commercial and industrial customers will experience a rate increase of less than 6% per year (assuming normal precipitation) over the next five years.

5.2.4 California Center for Sustainable Communities at UCLA Water Rate Report Research Recommendations

LADWP's rate design objectives are consistent with a recent report from the UCLA California Center for Sustainable Communities that advocated for a restructuring of the existing tier structure to incentivize water conservation. In the report, "Residential Water Consumption in Los Angeles: What are the Drivers and are Conservation Measures Working," researchers at UCLA conducted a four-year study of water consumption patterns in the City of Los Angeles and the factors that drive residential water consumption (UCLA Water Rate Report). Their recommendations to further promote conservation included, but were not limited to, the following items[12].

- Implementing a multi-tiered pricing structure to increase conservation while minimizing the burden on low-income consumers.
- Establishing reasonable water budgets for households based on location and household characteristics.

[12] A complete text of the report and recommendations is available at: http://sustainablecommunities.environment.ucla.edu/wp-content/uploads/UCLA-Water-Consumption-Policy-Brief-FINAL.pdf

- Introducing educational programs and stronger financial incentives to promote the use of drought-resistant landscaping and improved irrigation.

LADWP's rate structure contains elements similar to the recommendations in the UCLA Water Rate Report.

5.3 RECENT INDUSTRY TRENDS

Currently, water utilities in California are dealing with multiple challenges including, but not limited to:

- Drought;
- Aging infrastructure; and
- Compliance with regulatory mandates.

In order to overcome these challenges, in general, water utilities in California and elsewhere are employing a number of rate design tools, including, but not limited to:

- Aligning supply costs directly to rates and tier differentials;
- Increased number of tiers;
- Tighter water budget allotments;
- Infrastructure factors; and
- Increased rates.

5.3.1 Drought

The drought has required water utilities to:

- Design rates to encourage customer conservation;
- Invest more in cost of conservation programs; and
- Adequately recover the costs associated with operating a water distribution system from reduced usage and revenue.

The combination of higher costs and reduced revenue from lower expected usage under drought conditions and mandatory water efficiency goals is a significant challenge for water utilities with a large amount of fixed costs.

5.3.2 Aging Infrastructure

As discussed in Chapter 3, LADWP is increasing investments to improve the reliability of its infrastructure. LADWP is not alone in its need to enhance critical water delivery facilities. The EPA's 2013 "Drinking Water Infrastructure Needs Survey and Assessment" forecasts the need for approximately $775 billion of required water and wastewater system investment nationwide over 20 years, including an estimated $384 billion for water infrastructure to replace thousands of miles of pipe as well as thousands of treatment facilities, storage tanks, and other key assets between 2011 and 2030. A similar study from the Conference of Mayors noted that more than $4 trillion may be required over the next 20 years to repair the nation's water and sewer infrastructure and to continue to meet regulatory requirements.[13]

5.3.3 Compliance with Regulatory Mandates

As discussed in Chapter 3, "Water Rate Drivers," continued implementation of multiple regulatory mandates is a major expense for LADWP (and other utilities).

These regulations have a significant impact on both LADWP's financial plans and proposed rate design.

5.3.4 Tier Structure

In response to increased conservation efforts, water utilities are increasing the number of tiers for residential customers to require high users to pay higher rates for excessive usage while protecting low users from significant rate increases. For example, Golden State Water's Arcadia District will be increasing the number of tiers in its rates from three to four in its upcoming rate case. The Palmdale Water District is adding an "essential tier," that will increase its current number of tiers from five to six. In January 2014, San Diego Public Utilities increased its number of tiers from three to four. A higher number of tiers is becoming common practice among California water utilities, as shown by the examples in Figure 13.

[13] Source: U.S. Conference of Mayors' 2010 report, Trends in Local Government Expenditures on Public Water and Wastewater Services and Infrastructure: Past, Present and Future (http:// www.usmayors.org/publications/201002-mwc-trends.pdf)

Figure 13: Examples of California Utility Tier Structures

California Water Agency	Number of Tiers
Long Beach	3
Burbank	3
Glendale	3
Pasadena	4
East Bay Muni (Oakland)	3
San Jose	4
San Diego	4
Simi Valley	3
San Francisco	2
Irvine Ranch	4
Palmdale	5
Western Municipal	5

As noted above, the UCLA California Center for Sustainable Communities has advocated for a restructuring of the Department's existing tier structure to incentivize water conservation. LADWP now has the capability in its customer billing system to add additional tiers to the water rate design, which will provide new opportunities to design rates to achieve the conservation goals set by the Mayor. As discussed below, LADWP's proposed new Single-Dwelling Unit Residential rate design includes four tiers.

5.3.5 Water Budget Allotments

Water budgets are designed to provide customers an adequate, reasonably priced supply of water based on individual customer circumstances such as the temperature zone location or lot size. Water budgets set the amount of water available at lower tier prices. In response to the drought, utilities are tightening tier allotments, moving a higher percentage of water usage into higher end tiers (at higher prices), as shown in Figure 14.

Figure 14: Examples of California Utility Changing Water Budget Levels

Irvine Ranch[14]	Tier 1 (Low Volume)	Tier 2 (Base)	Tier 3 (Inefficient)	Tier 4 (Excessive)	Tier 5 (Wasteful)
2013	0-40%	41-100%	100-150%	151-200%	200%+
2014	0-40%	41-100%	100-130%	131-160%	161%+

[14] Irvine Ranch and Western Municipal set water budget allotments for residential customers and then apply rates based on the percentage of usage as compared to the total applicable water budget for the customer.

Western Municipal	Tier 1 (Indoor)	Tier 2 (Outdoor)	Tier 3 (Inefficient)	Tier 4 (Excessive)	Tier 5 (Unsustainable)
2013	Water budget	Water budget	100-150%	150-200%	200%+
2014	Water budget	Water budget	100-125%	125-150%	150%+
San Diego	**Tier 1**	**Tier 2**	**Tier 3**	**Tier 4**	
2013	0-7 HCF	8-14 HCF	15+ HCF	N/A	
2014	0-4 HCF	5-12 HCF	13-18 HCF	18+ HCF	
Arcadia (GSW)	**Tier 1**	**Tier 2**	**Tier 3**	**Tier 4**	
2013	0-13 HCF	14-21 HCF	21+ HCF	N/A	
2014	0-10 HCF	11-19 HCF	20-45 HCF	45+ HCF	

In June of 2009, LADWP implemented shortage year rates, which reduced allotments by 15% for tier 1 to encourage additional conservation and helped make the Department a leader in water conservation. Given the continued drought, the Department's proposed water budget allotments will be based on the shortage year allotments, making the shortage year approach permanent. In addition, LADWP's proposed four-tier rate structure for Single-Dwelling Unit Residential customers will simplify and, in some cases, reduce water budget allotments, and higher rates for higher tier usage will encourage customers to stay within their allotments for lower tiers.

5.3.6 Infrastructure Factors

To help fund increased investments to replace aging infrastructure, some water utilities are beginning to implement specific rate elements to collect funds specifically for distribution facility upgrades. This rate design tool allows utilities to align specific revenues to specific expenses for infrastructure reliability programs.

To help ensure cost recovery of the high fixed costs of maintaining a water distribution system, in addition to infrastructure factors, some utilities are also implementing decoupling to decouple revenue collection from the volume of sales. As discussed in more detail in Section 5.4.14 below, decoupling is a simple mechanism that encourages conservation while maintaining financial stability for utilities. As there may be variances from forecasted usage and revenue, decoupling ensures fixed utility costs are recovered. Also, if forecasted usage and revenue is higher than expected, decoupling protects the customer from over-collection.

Figure 15 provides a list of states with utilities that use either some form of distribution system improvement charge and/or decoupling.

Figure 15: States with Utilities that Use Either a Form of Infrastructure Factor and/or Decoupling

Rate Design Mechanism	States with Mechanism in Place for at Least Some Utilities (2013)[15]
Distribution System Improvement Charge or Similar Mechanism Tying Rates to Specific Capital Investments	Arizona, Connecticut, Delaware, Illinois, Indiana, Maine, Missouri, Nevada, New Hampshire, New Jersey, New York, Ohio, Pennsylvania, Rhode Island
General Decoupling (with Periodic True-up)	Arizona, California, Connecticut, Nevada, New York[16]

The Department is proposing a new adjustment factor to capture the costs of new water infrastructure reliability investments. This element of the rate structure should ensure customers pay for only the actual costs related to infrastructure improvements while providing LADWP with flexibility to plan larger projects over longer periods of time, without the risk of reduced or inadequate funding in future years. LADWP is also proposing base rate decoupling as discussed in Section 5.4.14.

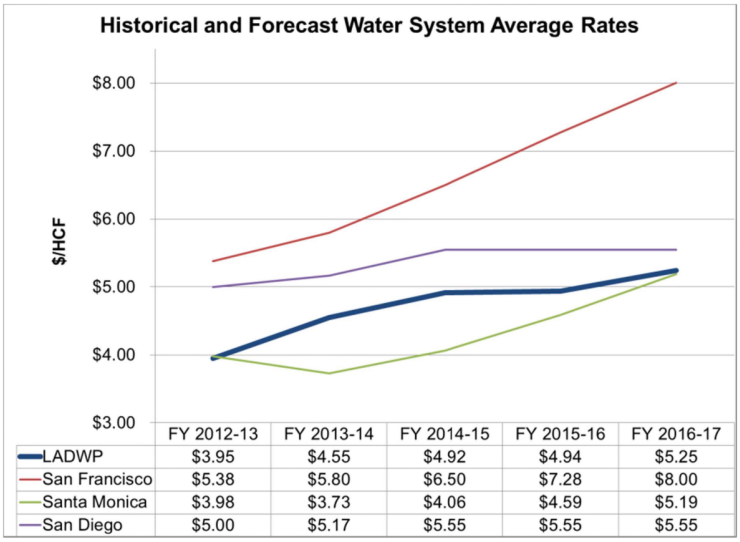
5.3.7 Rate Increases

Water utility rates have been increasing throughout California. In rate proposals to the California Public Utility Commission or local water boards and city councils, many utilities cite the same challenges as LADWP – regulatory mandates, infrastructure reliability and conservation programs – as the main drivers for increased rates. As shown in Figure 16, other major city water utilities in California have already increased rates and/or have announced future rate increases; however, LADWP's proposed system average rates will still be less than many other large cities in the State.

[15] Source: Alternative Regulation and Ratemaking Approaches for Water Companies: Supporting the Capital Investment needs of the 21st Century (Prepared for the National Association of Water Companies, Sept 2013 (http://www.nawc.org/uploads/documents-and-publications/documents/NAWC_Brattle_AltReg_Ratemaking_Approaches_102013.pdf)

[16] Examples include Connecticut Water Company and United Water. In California, Class A water utilities regulated by the CPUC.

Figure 16: Historical and Forecast Water Utility Average Rates[17]



	FY 2012-13	FY 2013-14	FY 2014-15	FY 2015-16	FY 2016-17
LADWP	$3.95	$4.55	$4.92	$4.94	$5.25
San Francisco	$5.38	$5.80	$6.50	$7.28	$8.00
Santa Monica	$3.98	$3.73	$4.06	$4.59	$5.19
San Diego	$5.00	$5.17	$5.55	$5.55	$5.55

As discussed further in Section 5.5 of this Chapter, the Department's residential rates currently compare favorably to other major California water utilities–a trend which is expected to continue after implementation of the proposed rates.

5.4 RATE STRUCTURE OVERVIEW

The Department has not increased base water rates since July of 2009[18]. As discussed above, the United States water industry is undergoing a significant transformation due to increased regulatory mandates, aging infrastructure and heightened need for conservation measures. In response to drought conditions, LADWP implemented shortage year rates in June 2009; to help address significant costs associated with water quality programs, the cap for the WQIA factor was increased to $0.85 per HCF in March 2012. However, the Department has not had a comprehensive rate action with the opportunity to review the overall rate structure since 2009. Figure 17 provides a summary of changes to the Water Rates Ordinance since 1995.

Figure 17: Recent Department Water Rates Ordinance Changes

Ordinance	Date Enacted	Summary of Changes
182047	3/19/2012	Remove $0.06 cap on WQIA factor and increase Provision J cap from $0.50 to $0.85
180823	8/11/2009	Amended Emergency Water Conservation Plan
N/A	6/1/2009	Implemented shortage year rates (enacted by Board resolution)

[17] Computed on an annual system-wide basis for all customer classes.

[18] The amount of adjustment factors have changed according to the approved rate ordinance

Ordinance	Date Enacted	Summary of Changes
180148	8/25/2008	Enacted Emergency Water Conservation Plan
179802	5/19/2008	Increased water revenue – base rates (3.15%: July 2008; 3.1%: July 2009)
177968	11/27/2006	Increased water revenue – base rates (2.75%: January 2007; 2.75%: July 2007)
175964	6/20/2004	Increased water revenue – base rates (11%: June 2004)
173017	2/4/2000	Increased water revenue – Schedule F (from 62 cents per HCF to 99 cents per HCF for tier 1)
171639	7/28/1997	Amended adjustment factors to eliminate WQIA sunset
170435	4/29/1995	Restructured residential rates

Few rate structure changes have been made over the last five years. In light of the continued drought in California and the Mayor's conservation directive, as well as the significant costs associated with Water System programs over the next five or more years, it is critical for LADWP to review both its level of rates and the rate design used to collect adequate revenue to continue providing safe and reliable service to customers.

5.4.1 Water Rate Ordinance

As a municipal utility, the Department's rates, both specific charges for the base rates and the provisions of the pass-through elements, are codified in a rate ordinance. The LADWP Water Rate Ordinance establishes several elements that determine the amount charged to customers:

- Water budget allotments;
- Tiered usage rates; and
- A volumetric approach to rates.

The current ordinance also includes shortage year allotments and rates.

Rates are based on two major components outlined in the ordinance:

- Base rates; and
- Adjustment factor provisions.

The LADWP Water Rate Ordinance covers three major customer classes:

- Single-Dwelling Unit Residential (Rate Schedule A);
- Multi-Dwelling Unit Residential (Rate Schedule B); and
- Commercial, Industrial, Governmental and Temporary Construction (Rate Schedule C).

In addition, rate schedules are provided for several special classes of customers such as Reclaimed Water Service (Rate Schedule D) and Private Fire Service (Rate Schedule E). Furthermore, the current Water Rates Ordinance also includes a separate rate for Publicly-Sponsored Irrigation; Recreational; Agricultural, Horticultural, and Floricultural Uses; Community Gardens and Youth Sports (Rate Schedule F) customers.

Historically, LADWP's rates have been structured to provide incentives for conservation. The Department uses a combination of water budget allotments, tiered rates, and a completely volumetric rate design that ties customers' bills directly to the level of consumption. Actual customer rates consist of base rates (to recover the costs of general operations and administration) and adjustment factors (to recover specific program costs such as water quality or infrastructure reliability). The proposed rates ensure the Department collects its revenue requirement while protecting customers from over and under-collection of costs.

5.4.2 Water Budget Allotments

Water budget allotments are a major component of the LADWP rate design, especially for Single-Dwelling Unit Residential customers. Allotments determine the amount of water provided to customers within each tier; as noted earlier, conservation is enhanced by reducing the allotment available at lower tiered rates. Since water usage increases in the summer months, allotments are also increased this time of year to minimize the financial burden on customers. In addition, given the wide variety of Single-Dwelling Unit Residential customers due to factors such as lot size and temperature zone, additional allowances are made to develop reasonable water budgets for this class of customers.

Under this rate action, LADWP proposes minor adjustments to the allotments to recognize the need for additional conservation and move toward a simpler rate design that is easier for customers to understand and for the Department to implement. The major elements used to establish current water budget allotments and LADWP's proposed changes for each major customer class are summarized in Figure 18. Additional information about the calculation of allotments for each customer class is discussed in more detail in the sections pertaining to the specific customer class later in this chapter.

Figure 18: LADWP Water Budget Allotment Factors

Customer Class	Current Elements	Proposed Elements
Single-Dwelling Unit Residential[19]	• Lot size (five groups) • Temperature zone (three zones) • Time of year (Summer: June-Oct.) • Family size	• Lot size (Five groups with top two groups set the same) • Temperature zone (three zones) • Time of year (Summer: June-Sept.)

[19] The current budget allotment factors for Single-Dwelling Unit customers are used to establish the tier 1 allotment; with the increase in the number of tiers to four, the proposed elements will be used to determine the allotments for tiers 2 and 3.

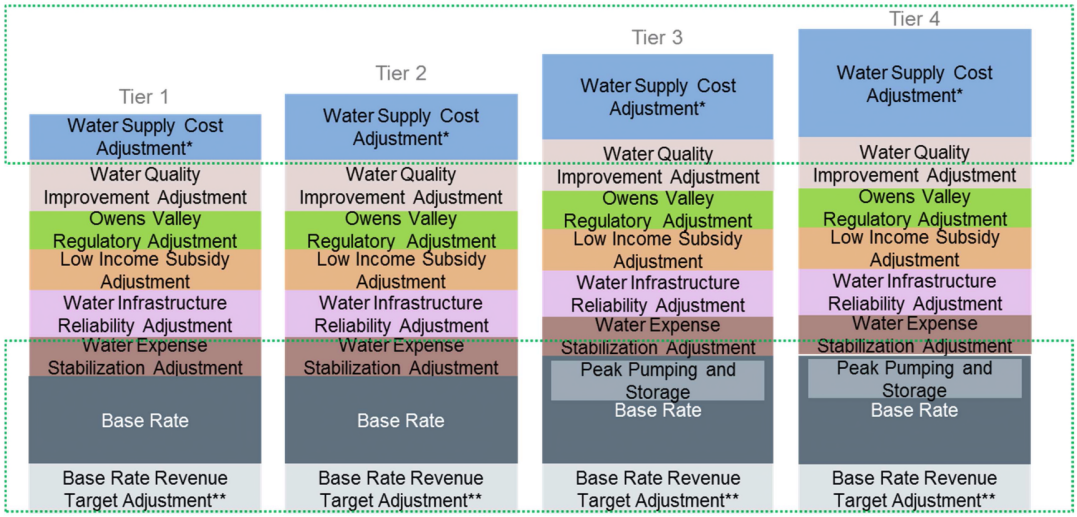
Customer Class	Current Elements	Proposed Elements
Multi-Dwelling Unit Residential	• Past usage level • Time of year (Summer: June-Oct.)	• Past usage level (followed by annual reductions to incentivize conservation) • Time of year (Summer: June-Sept.)
Commercial, Industrial, Governmental and Temporary Construction	• Past usage level • Time of year (Summer: June-Oct.)	• Winter – actual recent winter usage level • Summer – prior year actual winter usage plus five percent • Time of year (Summer: June-Sept.)

5.4.3 Tiered Usage Rates

Tiered rates are designed to increase the unit price as usage increases. Combined with water budget allotments, tiered rates help balance providing lower priced water for more essential needs with providing higher priced water for less essential needs. This balance reflects the cost of service in which the cost to meet higher demands increases as demand increases.

As part of its objectives to encourage conservation while simplifying the overall rate structure, the Department is proposing to synchronize the rate structure for all tiers. As discussed in more detail in Section 5.5 below, the Single-Dwelling Unit Residential rate structure will be expanded to four tiers, while the Multi-Dwelling Unit Residential and Commercial rate structure will continue to be two-tiered. However, the rate elements in each tier for each major customer class will now be the same as shown in Figure 19 for the Single-Dwelling Unit Residential customer class. These changes are key factors in the Department's plan to meet the Mayor's directive to reduce per capita water consumption by 20% by 2017. Customer bills will continue to show just the amount of usage and cost for water in each tier. The specific rate components are used to develop the tier rates but are not outlined on customer bills.

Figure 19: Single-Dwelling Unit Residential Customer Rate Structure



*Includes costs for all major supply sources including conservation and recycled water.

**Base Rate Revenue Target Adjustment could be positive (under-collection) or negative (over-collection).

Note: For simplification, the Water Security Adjustment factor is consolidated with the Water Quality factor (or base rates depending on the cost component).

LADWP proposes that all customer classes pay the same rate ($/HCF) for each adjustment factor, except the WSCA and BRRTA.[20] The unit costs associated with the programs recovered by each of the other factors are the same regardless of the customer class. Customers that consume more water will still pay a higher amount for these programs based on their higher usage level. This approach is both cost based and simple for customers to understand and LADWP to implement.

The WSCA will be one of the main factors used to differentiate rates amongst tiers. As usage increases, the Department must purchase larger amounts of more expensive water from the Metropolitan Water District (MWD) or other providers and invest in more costly water supply programs, incurring additional costs associated directly with these sources of water supply.

The BRRTA factor, a new proposed rate element to implement decoupling, will be different for each major customer class but will be applied to all tiers within each customer class equally.

The peak pumping and storage component of base rates is also tied directly to the level of consumption. LADWP must size its investment in these facilities to meet the peak demand caused by the higher level of consumption, incurring costs which would otherwise be avoided. Therefore, peak pumping and storage costs should be assigned to only higher usage customers.

[20] As discussed below, the peak pumping and storage component of base rates will also vary across customer classes and tiers.

5.4.4 Volumetric Approach to Rates

Another aspect of LADWP's rate design is the use of volumetric rates. This approach has been proven to encourage conservation, making LADWP a leader in this area. This process is consistent with cost-based pricing, as customers that consume more will pay more regardless of their customer class.

5.4.5 Shortage Year Allotments and Rates

Due to the drought situation, on June 1, 2009, 15% shortage year rates went into effect. Under shortage year rates, the first tier usage block was reduced by 15%, and second tier rates in the current high season (June – October) were increased by multiplying the high season tier 2 rate by 1.442. While shortage year rates have been applied, water usage has been reduced by approximately 16.4%[21] .

To continue encouraging conservation, the Department proposes to make shortage year allotments permanent by making usage allotments similar to the current shortage year levels. Minor adjustments to these allotments for specific times of year and customer classes are discussed later in this chapter. In addition, changes are proposed to recognize the use of four tiers for the Single-Dwelling Unit Residential customer class. Technological advancements should continue to provide new opportunities for conservation. Therefore, the Department can maintain lower allotments without adversely impacting customers and eliminate the need for shortage year rates and allotments in the future.

5.4.6 Adjustment Factor Provisions

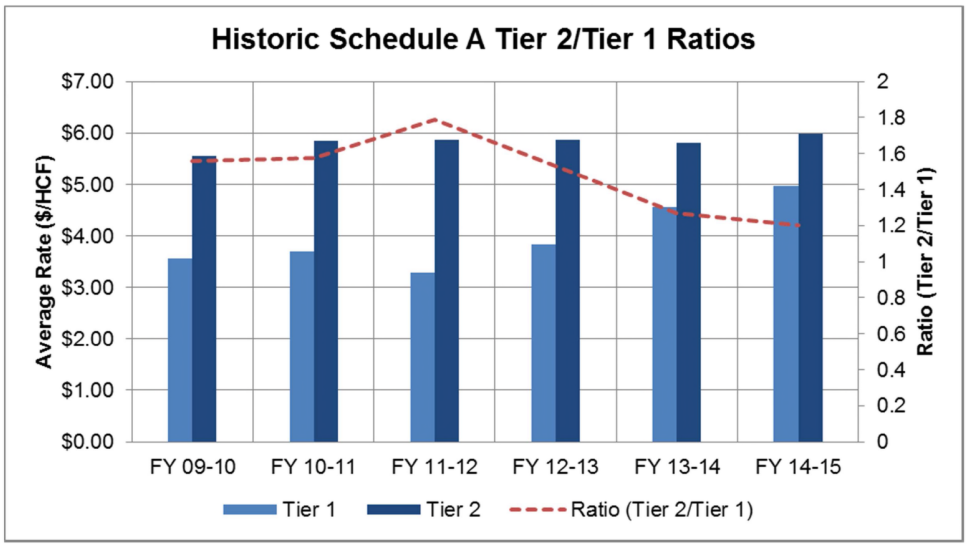
The rate structure outlined in Figure 19 above includes a series of adjustment factors and the base rate. LADWP has traditionally used adjustment factors to associate elements of the rate structure to specific costs. This transparent approach to the rate structure should ensure that customers only pay costs actually incurred for programs such as for water quality or for water procurement.

However, currently the application of the factors is not consistent among the tiers. The WPA and WQIA are currently embedded in the tier 2 base rate for Single-Dwelling Unit Residential customers and the tier 2 high season base rate for Multi-Dwelling Unit Residential and Commercial, Industrial, Governmental and Temporary Construction customers, while these components are broken out as separate pass-through factors for tier 1 rates. When the expenses for purchased water and water quality programs were relatively small components of overall Department costs, embedding these costs in the tier 2 base rate was not a significant concern. However, since 1993, the WPA and WQIA have grown disproportionately compared to other components of the Department's costs; since the WPA is applied as an adjustment factor for tier 1, but not tier 2, the differential between tier 1 and 2 overall rates has decreased from

[21] Data according to usage from June 2009 through August 2014.

1.56 in FY 2008-09 to 1.20 in FY 2014-15, as shown in Figure 20. The purchased water adjustment factor component, which recovers the costs of water purchases from MWD, is now a large part of the WPA and a significant part of the overall rate.

Figure 20: Tier 1 and 2 Rate Differential (Schedule A)



For tier 1 rates, the WPA can currently be changed quarterly with Board approval to reflect the actual cost of water purchases from MWD. MWD rates are expected to keep rising, which, on average, will result in higher purchased water costs in the future. In dry years, the additional demand for purchased water will further increase purchased water expense. All else being equal, the rate increases as additional water is purchased from MWD and decreases when less water is purchased. Unless a structural change is made, as the Department faces increasing MWD rates, tier 1 customers will bear a disproportionate burden of these costs as tier 2 rates do not change when the WPA increases to reflect higher purchased water costs.

The same situation applies to the WQIA, which is currently fixed in the base rate for tier 2 but changes with costs in tier 1 rates. As discussed in Chapter 3, regulatory mandates require the Department to make significant investments in water quality programs. These investments will cause the WQIA to increase in a disproportionate amount compared to other rate factors. Therefore, the Department proposes to separate the WPA (proposed to be replaced by the WSCA) and WQIA from the tier 2 base rates.

The Department proposes to continue the adjustment factor approach in the future with the following major changes:

- Replacing the Water Procurement Adjustment (WPA) factor with the new Water Supply Cost Adjustment (WSCA) factor;
- Elimination of the Water Security Adjustment (WSA) factor;

- Addition of a Water Infrastructure Reliability Adjustment (WIRA) factor;
- Addition of a Water Expense Stabilization Adjustment (WESA) factor; and
- Replacement of Water Revenue Adjustment (WRA) with Base Rate Revenue Target Adjustment (BRRTA).

These changes will apply to all major customer classes and tiers. As discussed above, LADWP proposes that all major customer classes pay the same amount for each adjustment factor, except the WSCA and BRRTA, which will be calculated for and applied to all major customer classes.

5.4.7 Water Supply Cost Adjustment

The Water Supply Cost Adjustment (WSCA) will replace the Water Procurement Adjustment and include all costs associated with water supply.

The WSCA was created in response to the San Juan Capistrano decision to correspond at a more granular level costs of water supply to the rates for each tier in each customer class. It is designed based on the economic premise of cost causation - customers who cause costs should pay for these costs. Residential customers are given an allocation of water proportional to lot size, season, and temperature zone. Water use greater than this allocation requires higher cost water supplies due to increased demand. For example, water use in Residential tier 4 is vastly greater than the water budget allocated amount and causes the need for the most expensive water supply source. Therefore, the principles of cost causation support allocation of the costs for more expensive water supplies to tier 4.

Increasing block rates that assign the highest cost of supplies to the highest water users currently appear to be the most equitable rates for ensuring that charges are proportional. If charging such rates results in high demand customers using less, the need for costly supplies is reduced, and the rates in the higher tier(s) can be reduced, maintaining proportionality.

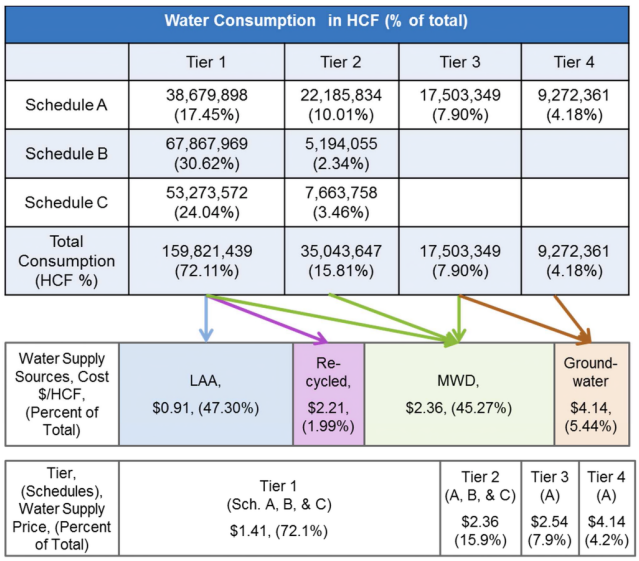
Tiers are defined based on the level and expected type of customer water consumption, as shown in Figure 21. Starting with the least expensive source of supply, water is assigned to each tier, based on the percentage of water demand in the tier met by the source.

Figure 21: Allocation of Water Supply to Tiers

Tier	Water Supply Allocation
Tier 1 (all classes)	Essential and/or indoor usage for all classes; allocated least expensive water sources
Tier 2 (all classes)	Considered necessary/efficient outdoor usage; allocated next lowest cost water sources
Tier 3 (Schedule A)	Less efficient irrigation; allocated higher cost of water supply
Tier 4 (Schedule A)	“Excessive” usage; allocated highest cost source(s) of water

An illustrative alignment of the water source supply costs to tiers, using the supply costs for each tier based on FY 2015-16 costs, forecast supply amounts and tier usage, is shown in Figure 22.

Figure 22: Allocation of Water Supply Sources and Costs to Set Tier Prices for FY 2015-16



The costs of the various sources of supply are calculated based on LADWP's cost to provide the specific water supply, divided by the forecasted hydrologic supply (in HCF) of the specific source. These costs are calculated and adjusted on an annual basis, and will reflect the appropriate year's costs. A summary of the assumptions and calculation for each source of supply and the resulting unit costs are summarized in Figure 23[22]. Note that due to the timing of projects for specific sources and projected supply amounts, these unit costs do not follow a uniform pattern over the five-year period. For more detailed information on the data and calculations underlying the costs of supply, please see Chapter 5 – Appendix C.

Figure 23: Summary of Costs for Each Water Supply Source

	FY 2015-16	FY 2016-17	FY 2017-18	FY 2018-19	FY 2019-20
Groundwater Pumping	$4.14	$4.10	$4.18	$3.72	$1.40
LA Aqueduct	$0.91	$0.69	$0.64	$0.60	$0.60
MWD	$2.36	$2.30	$2.42	$2.50	$2.87
Recycled Water	$2.21	$2.51	$2.63	$4.16	$4.90

[22] Data shown is for FY 2015-16. Included in these total amounts are the over/under-collection amounts from the legacy Water Procurement Adjustment factor, conservation and bad-debt that are spread over the sources of supply based on the percentage of water for each source.

5.4.8 Water Security Adjustment

In FY 2014-15, LADWP recovered $59.7 million from the Water Security Adjustment. However, approximately 80% of these costs are associated with water quality programs. Therefore, LADWP proposes to eliminate the security factor and roll these costs into the existing WQIA factor with any remaining costs included in base rates. This change will help simplify the rate structure while better matching cost recovery with rates.

5.4.9 Water Infrastructure Reliability Adjustment

LADWP proposes to establish a new Water Infrastructure Reliability Adjustment (WIRA) factor to recover the capital costs associated specifically with investments to maintain and improve the reliability of the water distribution system. As discussed earlier, water utility infrastructure is aging, and significant capital investment is required to ensure customers continue to receive reliable water service. Recent water main breaks at UCLA and in the Hollywood Hills section of Los Angeles highlight the fragile nature of the infrastructure that customers depend on every day. Characteristics of the proposed infrastructure reliability factor include, but are not limited to:

- Aligning costs and cost recovery in a transparent manner;
- Ensuring investments are made to maintain and upgrade Water System reliability;
- Ensuring customers pay for only the expenditures actually incurred; if contracts for projects are delayed, customers do not pay;
- Establishing a common adjustment factor rate for similarly situated customers (the level of usage will drive the actual customer cost so larger users will pay more);
- Providing LADWP the flexibility to shift investment among a portfolio of projects and/or accounting periods while maintaining rates that reflect actual costs;
- Establishing a specific balancing account to track costs associated with infrastructure projects, allowing easy reporting and audit; and
- Providing protection for customers and LADWP from uncontrollable cost changes due to events such as material price changes and unforeseen regulatory changes.

The WIRA factor will only recover capital costs. LADWP estimates that water reliability projects will be funded 30-50% by cash to maintain financial stability. A balancing account will track costs and revenues to ensure only actual costs are recovered; adjustments will be made annually in July at the beginning of the fiscal year. Due to the specific alignment of costs and rates, no cap is necessary for the WIRA factor. In addition, to ensure an accurate matching of costs and rates and to avoid the accumulation of over or under-collected balances, uncollectible expenses associated with the WIRA will be included in the calculation of the factor.

Improving service reliability for LADWP customers will require long-term projects with long-term contracts. The certainty and cost based nature of these contracts requires a stable source of funding. The new WIRA factor provides this stability while protecting customers from overcharging due to project delays, cost savings or other unforeseen changes. For several years, the Power System rate structure has included a reliability adjustment factor. LADWP proposes to implement a similar approach for the Water System.

5.4.10 Water Expense Stabilization Adjustment

Preparing for unforeseen events such as earthquakes or major weather events is an important aspect of utility management. LADWP currently has a Water System Expense Stabilization Fund balance of $33 million. However, based on the potential cost of recovering from force majeure type events, the Department believes this balance should be increased to $50 million. The purpose of the Water Expense Stabilization Adjustment (WESA) factor is to establish funds to stabilize rates in the event of unforeseen events impacting water service delivery.

The WESA will provide funds required to meet the 150 days of cash on hand financial metric. Similar to other adjustment factors, uncollectible expense will be included in the balancing account to ensure accurate alignment of costs and rates.

5.4.11 Base Rate Revenue Target Adjustment

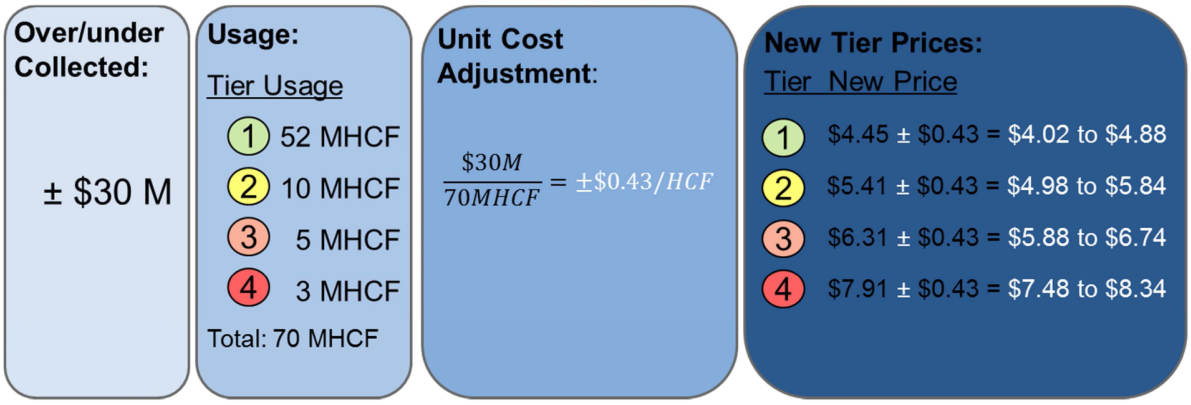
The Base Rate Revenue Target Adjustment (BRRTA) factor is designed to ensure base rates for each major customer class fully recover, but do not over-collect, the associated costs for each customer class by decoupling usage from revenue. LADWP proposes to develop the BRRTA on a customer class basis for the following customer class groups:

- Single-Dwelling Unit Residential (Schedule A);
- Multi-Dwelling Unit Residential (Schedule B); and
- All other customer classes.

The Department will track the over or under-collection by these groups and set the BRRTA factor to collect additional revenue or credit over-collected revenue through an adjustment to the following year's rates based on the consumption of the specific groups. To the extent LADWP over or under-recovers costs associated with base rates, the groups that contribute to the over or under-recovery should proportionately receive the benefit or contribute to the associated costs.

Figure 24 provides an illustrative example of the BRRTA decoupling mechanism based on the proposed four-tier Single-Dwelling Unit Residential customer rate structure. The over or under-collected amount ($30 million in this example) is divided by total usage (70 million HCFs in this example) to give a $/HCF unit cost adjustment ($0.43/HCF in this example).

Figure 24: Illustrative Decoupling Example (Single-Dwelling Unit Residential Customer Class)



Water usage volume is difficult to predict; therefore, the BRRTA decoupling mechanism is necessary, either to reduce extra revenues or to completely recover costs. Though over or under-collection may be noticeable initially, as users adjust to price signals, the BRRTA changes are expected to show a dampened oscillation pattern in the future.

Additional information about decoupling is provided in Section 5.4.14

5.4.12 Other Proposed Adjustment Factor Changes

Several minor changes to other adjustment factors are proposed to establish more consistency and simplicity in the rate structure.

- Remove the 5% adder previously included for financial stability.
- Eliminate the minimum charge of $5.00 per month that may be applied per service to accounts which have no recorded consumption for a period of more than two months.[23]
- Change the frequency of the WQIA, OVRA and LISA factors from quarterly to semi-annually to reduce the administrative cost and burden of system changes, contact center training and any required customer notifications.
- Remove unnecessary caps. Since adjustment factors are tied to specific auditable costs with specific balancing accounts for each factor, caps are an unnecessary administrative burden that lessens the alignment of costs and rates.
- Include uncollectible expenses in the calculation of adjustment factors to accurately align costs and rates.

A complete outline of each existing and proposed new adjustment factor is provided in Chapter 5-Appendix B.

[23] The minimum charge has not been implemented by LADWP.

5.4.13 Base Rates

Base rates cover the general costs of operating the Water System and providing water service that are not associated with specific programs, such as water quality. Costs included in base rates include:

- Routine maintenance and operation of the Water System;
- Infrastructure not covered by adjustment factors;
- Pumping and storage;
- Customer service;
- Billing; and
- Other general administrative costs;

Peak Pumping and Storage

Pumping and storage of water is a standard aspect of a water utility system for meeting both base and peak demand. The amount of customer demand can significantly impact the level of required pumping and storage.

For development of the tier rates, the amount of the base rate included in a tier price is based on whether peak pumping and storage costs are incurred to deliver the required level of water to serve that tier. The base rates for all customers, regardless of class or tier, include a minimum amount for the cost of infrastructure that supports pumping and storage required for base water use (indoor and efficient outdoor usage). In order to recover the cost of peak pumping and storage infrastructure only dispatched for above-normal water use, the Department includes a peak pumping and storage component within the base rates for customer usage that exceeds normal levels – Schedule A tiers 3 and 4, Schedule B tier 2 and Schedule C tier 2. This approach is similar to the treatment of base and peak costs for cost of service studies as outlined in the AWWA M1 Manual. The assignment of base and peak pumping and storage costs is outlined in Figure 25.

Figure 25: Assignment of Base and Peak Pumping and Storage Costs to Tiers

	Tier 1	Tier 2	Tier 3	Tier 4
Schedule A	Base Pumping & Storage Only	Base Pumping & Storage Only	Base + Peak Pumping & Storage	Base + Peak Pumping & Storage
Schedule B	Base Pumping & Storage Only	Base + Peak Pumping & Storage	-	-
Schedule C	Base Pumping & Storage Only	Base + Peak Pumping & Storage	-	-

System-wide water demand fluctuates based on the consumption choices of utility customers. During times of peak demand, additional cost is incurred to meet higher customer demand placed on the distribution system customers, across all classes, that consume amounts of water that typically exceeds the allocated water budget based for their respective customer class. The greater demand these customers place on the distribution system drives the need for increased plant investment in pumping and storage infrastructure to ensure adequate supply to meet their specific peak demand.

Cost of service is based on cost causation. The American Water Works Association (AWWA) M1 Manual, Principles of Water Rates Fees and Charges, uses the concept of base and peak usage to allocate certain costs. Based on the AWWA M1 principles, costs associated with infrastructure incurred to meet peak demand are typically assigned to peak capacity and should be allocated to customers that cause these "peak" costs. Peak pumping and storage costs can fall into this category.

Several components of LADWP's total (base plus peak) pumping and storage costs were determined by the Marginal Cost of Service Study presented in Chapter 4, 2014 Water Service Cost of Service Study:

- $0.110 per HCF for pumping O&M;
- $0.180 per HCF for distribution storage plant; and
- $0.090 per HCF for distribution storage O&M.

The unit marginal cost for pumping plant was not specifically calculated in the cost of service study, but has since been developed in the same manner as the other three components shown above.[24] Pumping plant (capital expense) is itemized in the same ten-year Capital Improvement Program (CIP) used for the cost of service study.[25] The ten-year net present value (NPV) of the pumping capital ($97.7 million) was divided by ten years to calculate the NPV ($9.77). The NPV was divided by the test year customer demand load (231,127,996)[26] to produce a pumping plant marginal cost of $0.042. This methodology mirrors the approach used to calculate the other component cost for pumping and storage.

For each component, the percentage of cost applied to peak pumping and storage is then determined as follows.

- Storage Plant (capital) – 50% - Half of the water stored by the Department is used as base reserve; the other half is dispatched to meet peaking demand. Therefore, half of the unit cost of the storage capital can be applied to the peak component.

[24] The marginal cost study treated pumping plant as part of overall distribution plant.

[25] Pumping capital is budgeted as FI 23220.

[26] Customer demand load for FY 2013-14 through FY 2022-23 consistent with the time period for the plant data in the ten-year CIP.

- Storage O&M – 100% - The Department operates and maintains storage facilities at a level adequate to meet peak supply requirements. Since costs are indifferent to whether the department maintains 50% of stored water as base reserves, 100% of the O&M costs associate with storage is allocated to peak.

- Pumping O&M – 50% of non-power costs - Based on LADWP's analysis of costs for FYs 2011-12 through 2013-14, pumping O&M costs are split approximately 50.4% to power and 49.6% to non-power.[27] The analysis shows that power costs would not vary significantly with the level of usage; therefore, the power component of O&M costs is assigned 100% to base. However, the non-power costs are not sensitive to the level of usage, so the non-power component of pumping O&M is split evenly between base and peak usage.

- Pumping Plant – 50% - Pumping plant investment is designed to provide both base and peak usage, so the unit cost is split evenly between base and peak.

Figure 26 provides the calculation of the peak pumping and storage unit costs.

Figure 26: Calculation of Peak Pumping and Storage Costs

			Total	Percent Applied	Applied to Peak
Storage	Capital		$0.180	50%	$0.090
	O&M		$0.090	100%	$0.090
Total Storage					**$0.180**
Pumping	O&M Total		$0.110		
	O&M Power	50.4%	$0.0554	0%	$0.000
	O&M Non-Power	49.6%	$0.0546	50%	$0.027
	Capital		$0.042	50%	$0.021
Total Pumping					**$0.048**
Total Peak Pumping and Storage					**$0.228**

The resulting total unit cost per HCF for peak pumping and storage is $0.228. As noted above, peak pumping and storage is mainly driven by higher usage, so the $0.228 is applied across only Schedules A tiers 3 and 4, Schedule B tier 2 and Schedule C tier 2. The specific peak pumping and storage costs per HCF for each applicable schedule and tier are derived based on the total costs and consumption applicable to each schedule and tier by applying the formulas shown in Figure 27.

[27] Calculations based on a 3 year average of power O&M expenses.

Figure 27: Distribution of Peak Pumping and Storage Costs Across Customer Rate Schedules

$$\text{Schedule A Tiers 3\&4 Peak Pumping and Storage Costs} = \frac{\text{Schedule A Total Volume} * \$0.22^{28}/\text{HCF}}{\text{(Sch. A Tier 3 + Sch. A Tier 4 Usage)}}$$

$$\text{Schedule B Tier 2 Peak Pumping and Storage Costs} = \frac{\text{Schedule B Total Volume} * \$0.22/\text{HCF}}{\text{(Sch. B Tier 2)}}$$

$$\text{Schedule C Tier 2 Peak Pumping and Storage Costs} = \frac{\text{Schedule C Total Volume} * \$0.22/\text{HCF}}{\text{(Sch. C Tier 2)}}$$

The resulting peak pumping and storage portion of the base rate calculated for each customer schedule and tier are shown in Figure 28.

Figure 28: Peak Water Pumping and Storage Component of Base Rates

Schedule	Tier			
	Tier 1	Tier 2	Tier 3	Tier 4
Schedule – A	$0.000	$0.000	$0.727	$0.727
Schedule – B	$0.000	$2.433		
Schedule – C	$0.000	$1.461		

5.4.14 Decoupling

Decoupling is a standard utility solution to ensure the recovery of fixed costs while protecting customers from over-recovery of cost. Decoupling separates cost recovery from the usage underlying the calculated overall rate. If, after accounting for actual usage and revenue, designated costs are under-recovered, the decoupling mechanism adjusts rates to fully recover these costs. This type of adjustment works for over-collection as well. If usage exceeds forecasts, resulting in an over-recovery of fixed costs, customers receive a credit. With decoupling, the over or under-collection is resolved in the following accounting period through an adjustment in rates-either as a reduced or added charge to customers.

Consumption and revenue variation will sometimes result in the collection of less revenue than was expected. In such cases, fixed costs are "under-recovered." This is particularly true when rates are designed based on average expected consumption. Revenue under-collection can reduce funding for infrastructure maintenance and improvements, increase the likelihood of deterioration in system reliability and compromise meeting financial metrics in the short-term if not mitigated by revenue stability tools. Without revenue stability tools, there is a risk that financial performance will be volatile from year to year, putting the utility's credit rating at risk.

[28] Initial estimates were $0.22 per HCF and were used to design rates. Subsequent analysis refined this estimate to $0.228, which will be detailed in Chapter 6.

Major causes of revenue variation and/or reduction include, but may not be limited to:

- Conservation initiatives: programs initiated by the utility or other entities to provide customers tools and technologies to use less water.
- Weather: variation in conditions differing from projected weather.
- Price elasticity reduction: reduction in consumption as a response to increased prices.
- Programmatic efficiency: reduction in waste rather than restricting use. Programmatic efficiency shows that small changes in consumer behavior can reduce water wastage. Examples of programmatic efficient steps include fixing leaking taps, taking showers rather than baths, installing displacement devices inside toilet cisterns, and using dishwashers and washing machines for full loads. As older appliances are replaced with higher efficiency appliances, water usage will continue to drop.
- Enforcement consumption reduction: conservation measures that are mandated by State and/or local authorities under drought conditions. Under the Urban Water Management Planning Act (UWMPA), passed and signed in 1983 but amended since, the Department can declare drought emergencies of varying severity (consistent with declarations of the California Department of Water Resources (DWR) and the Metropolitan Water District of Southern California (MWD)). Hence, the Department has a drought management plan approved by the DWR that has different levels of mandated conservation enforcement, such as odd-even watering days, specific industry reductions and direct rates that penalize high usage.

To help alleviate the risk associated with revenue variation in a fair manner, LADWP proposes to implement a symmetrical decoupling mechanism for all major customer classes using the BRRTA factor.

The majority of utility costs are fixed and cannot be changed easily (e.g., personnel, debt service); however, utility rates are largely volumetric or consumption based. Forecasting uncertainty presents special challenges to utility finances; revenue targets are typically established using forecasted levels of consumption, which include the impact of expected conservation. Therefore, whether conservation is above or below the forecast can have a direct effect on the financial condition of the utility and the ability to provide reliable service to customers. If actual conservation exceeds expected levels, consumption may be inadequate to produce revenues to recover fixed costs that are incurred regardless of the volume consumed.

Utility rate decoupling is common in California and throughout the United States. LADWP's current rate structure includes forms of decoupling for water and electric services. For example, the current Water Revenue Adjustment (WRA) factor[29] ensures base rate revenues are

[29] LADWP proposes to replace the current WRA factor with a new symmetrical Base Rate Revenue Target Adjustment factor.

adequate to cover fixed base costs. Other California investor-owned water and power utilities regulated by the California Public Utility Commission and the City of San Francisco wholesale water utility employ a form of decoupling. In the rest of the United States, at least twenty states have forms of water or electric utility rate decoupling.

5.4.15 Rate Development Process

Proposed rates for each tier within the three major customer classes (Schedules A, B and C) are equal to the total of the base rates, including the applicable portion of the peak pumping and storage component and all adjustment factors.

The WSCA and peak pumping and storage component of base rates differentiate the prices amongst tiers and customer classes. The BRRTA may also be different amongst the major customer classes, depending on the amount of over or under-collected revenue for each major customer class. The calculation of each of the remaining adjustment factors (WQIA, OVRA, LISA, WIRA and WESA) is based on the total aggregate revenue requirement for each factor divided by total aggregate usage of Schedules A, B, and C.[30] This calculation will result in equal adjustment factor rates for these factors for Schedules A, B and C and for each tier. The Water Rate Ordinance will provide an explanation for how each factor is calculated.

The total rate for each tier is set based on the following process:

- WSCA: Determine the WSCA for each tier at a system level based on the cost of water required to supply each tier, starting with the least expensive supply source; the WSCA will be the same for the same tier in all major customer classes. (See Section 5.4.7 for a description of the calculation of WSCA costs.)
- Peak Pumping and Storage: Determine the portion of the peak pumping and storage cost component of base rates to be allocated to Schedule A tiers 3 and 4, Schedule B tier 2 and Schedule C tier 2; peak pumping and storage costs are calculated separately for each of these tiers and allocated only to these classes/tiers. (See Section 5.4.13 for a description of the calculation of peaking pumping and storage costs for each applicable customer class/tier.)
- WQIA, OVRA, LISA, WIRA, WESA: Determine the system-level revenue requirement of these adjustment factors based on the financial plan. Divide the aggregate revenue requirement of each adjustment factor by total aggregate Schedule A, B and C[31] usage to calculate the amount of the adjustment factors; the amount of each of these factors will be the same for all major customer classes and tiers.

[30] Starting in year five, Schedule F usage will also be included in this calculation

[31] Starting in year five, Schedule F usage will also be included in this calculation

- Base Rate: Determine the system-level base rate for Schedules A, B, and C by calculating the revenue requirement not covered by the WSCA, peak pumping and storage component and the WQIA, OVRA, LISA, WIRA and WESA. Divide the remaining aggregate revenue requirement by the total aggregate system level Schedule A, B and C[32] usage to calculate the base rate. The base rate will be the same for all major customer classes and tiers.
- BRRTA: If a base rate over or under-collection amount exists for one or more customer classes (Schedules A, B and/or C), divide the under or over-collection amount for each customer class by the total usage for all tiers for that class to determine the BRRTA for each applicable customer class. The BRRTA will be the same for each tier within a specific customer class. (See Section 5.4.11 for the calculation of the BRRTA.)
- The total rate is the sum of all of these rate components as shown in Figure 29 for FY 2015-16. The same process is followed for each of the five years using the revenue requirement, adjustment factor costs and usage for each year.

Figure 29: Calculation of the Total Customer Rate (FY 2015-16)

Schedule	Tier			
	Tier 1	**Tier 2**	**Tier 3**	**Tier 4**
Water Supply Factor:				
Schedule A	$ 1.41	$ 2.36	$ 2.54	$ 4.14
Schedule B	$ 1.41	$ 2.36		
Schedule C	$ 1.41	$ 2.36		
Peak Pumping and Storage:				
Schedule A	$ 0.000	$ 0.000	$ 0.727	$ 0.727
Schedule B	$ 0.000	$ 2.433		
Schedule C	$ 0.000	$ 1.461		
Base Rates and Other Adjustment Factors (WQIA, OVRA, LISA, WIRA, WESA, and BRRTA):				
Schedule A	$ 3.04	$ 3.04	$ 3.04	$ 3.04
Schedule B	$ 3.04	$ 3.04		
Schedule C	$ 3.04	$ 3.04		
Total:	**Tier 1**	**Tier 2**	**Tier 3**	**Tier 4**
Schedule A	$ 4.45	$ 5.41	$ 6.31	$ 7.91
Schedule B	$ 4.45	$ 7.82		
Schedule C	$ 4.45	$ 6.86		

[32] Starting in year five, Schedule F usage will also be included in this calculation

5.5 SINGLE-DWELLING UNIT RESIDENTIAL (SCHEDULE A)

The Department proposes changes to the overall rate structure, water budget allotments and rates for Schedule A customers. As discussed above, LADWP proposes a four-tier rate structure for Single-Dwelling Unit Residential customers. The components and associated rates for each tier will be the same, with the exception of the WSCA, which will increase for each higher tier to reflect the higher costs of water supply required to meet increasing levels of demand and the peak pumping and supply component of base rates, which is applied to only Schedule A tiers 3 and 4 and Schedule B and C tier 2.

LADWP also proposes to implement decoupling in the form of the symmetrical BRRTA factor, designed to ensure recovery of base rate revenues as defined by the financial plan, and also protect customers from over-recovery by automatically returning excess revenues to customers. LADWP's approach to decoupling is discussed in Section 5.4.14 above.

Figure 19 in Section 5.4.3 above outlines the overall Schedule A rate structure.

In this section the proposed Single-Dwelling Unit Residential rate design is discussed in more detail.

5.5.1 Single-Dwelling Unit Residential Customer Water Budgets

Changes to water budget allotments for Single-Dwelling Unit Residential customers are proposed to further incentivize conservation. The major proposed changes include the following items.

- Eliminate household size variation as an element in determining water budgets. Currently, a base allotment of six HCF per month (150 gallons per day) is provided for a household of up to six people with increased amounts for additional people. Historically, this process has been confusing to customers and administratively complex. Many customers have not even reported actual household size.
- Establish a fixed tier 1 allotment based on eight HCF per month (200 gallons per day) for typical indoor use, which is an increase for many customers.
- Maintain the number of lot sizes at five (allotment for top two groups set the same) and use lot size as a factor in setting water budgets for tiers 2 and 3. Outdoor usage is typically the largest use of water. With today's irrigation technology and the options for drought-resistant landscape, customers should have alternatives to help manage the cost of outdoor water use.
- Modify the high season to be consistent with power rates (June – September). Aligning the seasons for water and power rates will reduce the number of changes customers see on their bills and make the billing and customer service processes more efficient over time.

- Eliminate shortage year rates. The new allotments are based on the shortage year concepts in light of the continued drought.

Figure 30 outlines the proposed water budget structure compared to the current approach. The changes are designed to tighten allotments, especially for higher usage levels and also make the structure easier for customers to understand and for LADWP's customer service representatives to communicate.

Figure 30: Single-Dwelling Unit Residential Customer Water Budget Proposal

	Current Approach (Two Tiers)	Proposed Approach (Four Tiers)
Tiers	Two	Four
Tier 2/3 Allotment Determination	Tier 1 allotment based on lot size, temperature zone, season and household size	Tier 2 and 3 allotments based on lot size, temperature zone and season
Lot Size Groups	• Five lot size groups • Tier 1 allotments vary by lot size in high and low seasons	• Five lot size groups (allotments for top two groups set the same) • Tier 2 and 3 allotments vary by lot size in high and low seasons
Temperature Zones	Three temperature zones	Three temperature zones for high season
Household Size – First Tier Usage	• Minimum Household Size – 6 people • Additional 2 HCF per person – next 3 persons • Additional 1 HCF per person – next 4 persons • For 24 specified ZIP codes, minimum household size - 8	All customers receive 8 HCF / month for tier 1 usage throughout the year
Seasonal Allotments	Different tier 1 allotments set for low and high seasons	Different tier 2 and 3 allotments for low and high seasons
Seasons	High season: June 1 to October 31	High season: June 1 to September 30, to be consistent with power*
Shortage Years	Provides for a reduction in tier 1 allotments in shortage years ("shortage year rates")	• Eliminate shortage year rates • Decoupling ensures financial stability during drought periods

*Based on months when usage occurs; may be billed in later months depending on billing and meter read cycles.

The resulting allotments are shown in Figure 31. All customers will receive eight HCF for tier 1 usage. Additional water budget allotments will be applied to tiers 2 and 3 to recognize higher water use needs for larger lots, in higher temperature zones and during the summer. Usage above tier 3 allotments will be charged at tier 4 rates to all customers.

Figure 31: Single-Dwelling Unit Residential Customer Allotments (HCF)

Tier 1					
Indoor Use	8				
Tier 2 (Added to Tier 1 Water Allotment)					
Lot sizes (square feet)	7,500	11,000	17,500	43,559	43,559 +
Winter (Oct-May)	3	4	8	10	
Summer (June-Sep)					
Low temp	6	9	17	21	21
Mid temp	7	10	19	24	24
High temp	9	12	25	31	31
Tier 3 (Added to Tier 2 Water Allotment)					
Lot sizes (square feet)	7,500	11,000	17,500	43,559	43,559 +
Winter (Oct-May)	6	8	16	20	20
Summer (June-Sep)					
Low temp	12	18	34	42	42
Mid temp	14	20	38	48	48
High temp	18	24	50	62	62
Tier 4 (All Usage Above Tier 3)					

As shown in Figure 32, over 90% of customer bills will have usage in only tiers 1-3. The relatively higher tier 4 rates will incentivize reduced usage where the most opportunity for conservation exists.

Figure 32: Tier Distribution for Single-Dwelling Unit Residential Customers (FY 2012-13)

Lot Size (Square Feet)	Total Customers	Tier 1 Customers	Tier 2 Customers	Tier 3 Customers	Tier 4 Customers	% of Customers in Tier 4
Temperature Zone 1						
Up to 7,499	36,653	13,543	10,418	10,245	2,447	**6.7%**
7,500-10,999	8,375	1,232	2,041	3,725	1,377	**16.4%**
11,000-17,499	5,406	465	1,597	2,522	822	**15.2%**
Above 17,500	5,461	302	1,002	2,143	2,014	**36.9%**
Temperature Zone 2						
Up to 7,499	176,318	68,476	49,874	46,267	11,701	**6.6%**
7,500-10,999	36,567	7,635	10,134	13,779	5,019	**13.7%**
11,000-17,499	11,717	1,492	3,609	5,147	1,469	**12.5%**
Above 17,500	7,325	733	1,882	2,614	2,096	**28.6%**
Temperature Zone 3						
Up to 7,499	79,817	18,192	24,997	30,991	5,637	**7.1%**
7,500-10,999	66,667	8,411	21,037	31,693	5,526	**8.3%**
11,000-17,499	29,335	1,930	10,384	15,364	1,657	**5.6%**
Above 17,500	20,565	1,523	6,658	9,893	2,491	**12.1%**
Total	**484,206**	**123,934**	**143,633**	**174,383**	**42,256**	
% by Tier		**25.6%**	**29.7%**	**36.0%**	**8.7%**	

Combined with the proposed tier rates, which lowers initial rates for low usage customers, modifications to the Department's water budget structure are designed to help facilitate additional conservation to meet the Mayor's directive to reduce per capita usage by 20% by 2017.

5.5.2 Single-Dwelling Unit Residential Customer Tier Structure and Rates

As reflected in Figure 19, LADWP proposes a four-tier structure for Single-Dwelling Unit Residential rates. Tier thresholds will be generally set based on indoor and outdoor water use requirements and water supply costs, which should encourage water conservation; the major differentiating amount between tier rates will be water supply costs and peak pumping and storage costs.

5.5.3 Use of Evapotranspiration Factors

LADWP's tier thresholds are also guided by evapotranspiration adjustment factors (ETAFs), which are measures used to adjust the maximum calculated water use based on plants, turf, and

irrigation efficiency. This approach was developed by the California Department of Water Resources as part of a "Model Water Efficient Landscape Ordinance" in 2008.

According to a Department of Water Resource White Paper entitled "Evapotranspiration Adjustment Factor:"

> "The evapotranspiration adjustment factor (ETAF) is a coefficient that adjusts reference evapotranspiration (ETo) values based on a plant factor (PF) and irrigation efficiency (IE) and is used to calculate the maximum amount of water that can be applied to a landscape. ETo is a combination of evaporation and transpiration from standardized grass surfaces on which weather parameters are measured and ETo is then calculated. The plant factor includes effects of plant type, plant density, and microclimate on the water demand of a landscape. Irrigation efficiency is the amount of water that is beneficially used divided by the total amount of water applied.[33]"

The ETAF is calculated by dividing the plant factor by IE (PF / IE = ETAF).

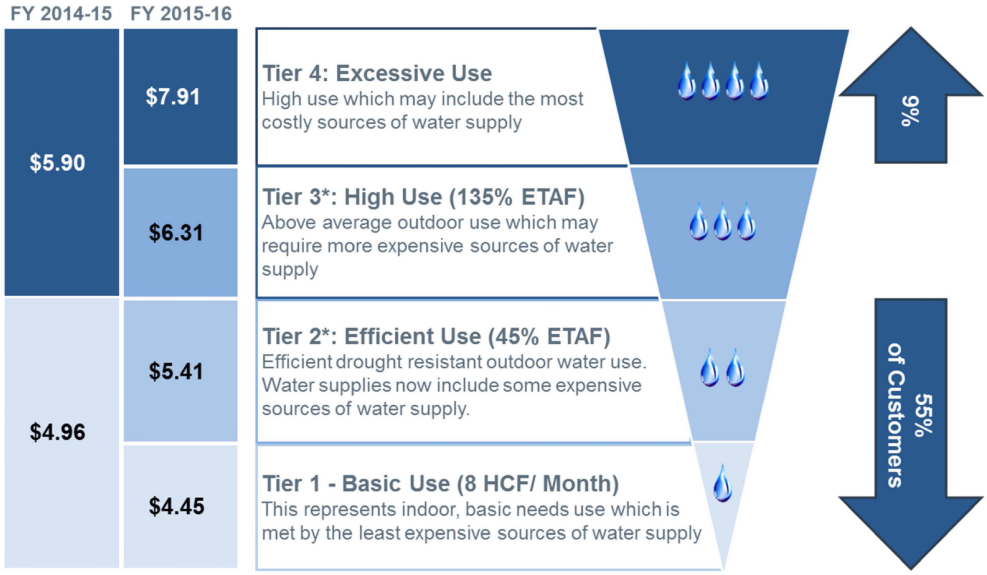
According to the Department of Water Resources study, in 2008, the Model Ordinance utilized a Statewide plant factor of 0.5, representing a mix of 1/3 high, 1/3 moderate, and 1/3 low water using plants. The irrigation efficiency was 0.625 (or 62.5%). The ETAF was obtained by dividing the average plant factor of 0.5 by the average irrigation efficiency of 62.5%, resulting in an ETAF of 0.8.

Since 2008, advances in irrigation technology and the availability of drought tolerant landscape have reduced ETAFs. The San Diego County Water Agency proposed an ETAF factor of 0.7. The Coachella Valley Water District adopted a more aggressive ETAF of 0.5.

To address the current drought, LADWP has developed its tier 2 rate using an ETAF of 45% to represent the most efficient landscape; to offset the strict ETAF and provide time for customers to adapt to the drought reduction programs, the initial tier 2 rates will be set lower than existing tier 1 rates. Tier 3 rates will be set using an ETAF of 135% to represent much less efficient irrigation and non-drought tolerant landscaping in an effort to encourage customers to transition to a more efficient combination. Figure 33 outlines the four tiers and assumptions regarding the type of landscape on which tier rates are based.

[33] White Paper: Evapotranspiration Adjustment Factor, January 25, 2008, prepared by the Department of Water Resources staff in support of the updated Model Water Efficient Landscape Ordinance (http://www.water.ca.gov/wateruseefficiency/docs/etWhitePaper.pdf)

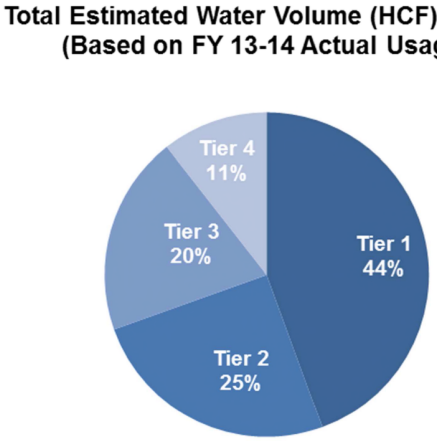
Figure 33: Single-Dwelling Unit Residential Customers Proposed Tier Water Usage Structure



* Tier 2 and 3 allotments will also vary based on temperature zone and lot size.

Based on FY 2013-14 actual usage, following this proposed approach would result in almost 70% of overall water usage being in tiers 1 and 2, as shown in Figure 34.

Figure 34: Distribution of Single-Dwelling Unit Residential Customer Water Usage Among Proposed Tiers



Ideally, the proposed rate structure and rates will incentivize customers to eliminate their tier 4 usage.

5.5.4 Single-Dwelling Unit Residential Customer Proposed Rates and Rate Impact

Single-Dwelling Unit Residential rates for the five-year rate action are developed to recover the revenue requirement associated with providing service to this customer class while recognizing the increasing cost of providing water at higher levels of usage. The proposed rates for the five-year rate action based on the current financial plan are shown in Figure 35.

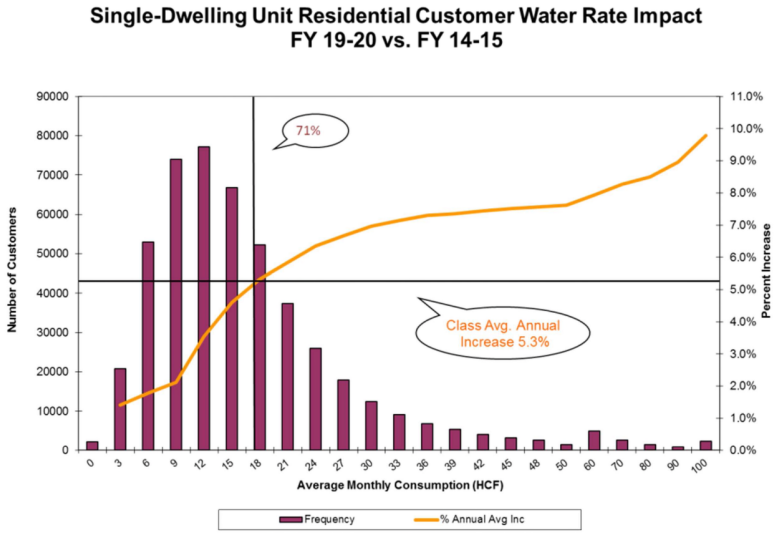
Figure 35: Proposed Single-Dwelling Unit Residential Rates

	Current	Proposed				
Fiscal Year	**FY 2014-15**	**FY 2015-16**	**FY 2016-17**	**FY 2017-18**	**FY 2018-19**	**FY 2019-20**
Tier 1	$ 4.96	$ 4.45	$ 4.61	$ 4.92	$ 5.18	$ 5.32
Tier 2	$ 5.90	$ 5.41	$ 5.78	$ 6.29	$ 6.67	$ 7.32
Tier 3		$ 6.31	$ 6.59	$ 7.47	$ 8.37	$ 8.11
Tier 4		$ 7.91	$ 8.29	$ 8.77	$ 9.01	$ 9.97

The majority (almost 70%) of customers see no increase as a result of the restructuring in FY 2015-16. Most of the rate increase is focused on the higher levels of usage (tiers 3 and 4), where the most opportunity for conservation exists.

By assigning significant portions of the revenue requirement to heavy users, 71% of customers will see an increase below the class average over the next five years, as shown in Figure 36.

Figure 36: Single-Dwelling Unit Residential Customer Water Rate Impact[34]

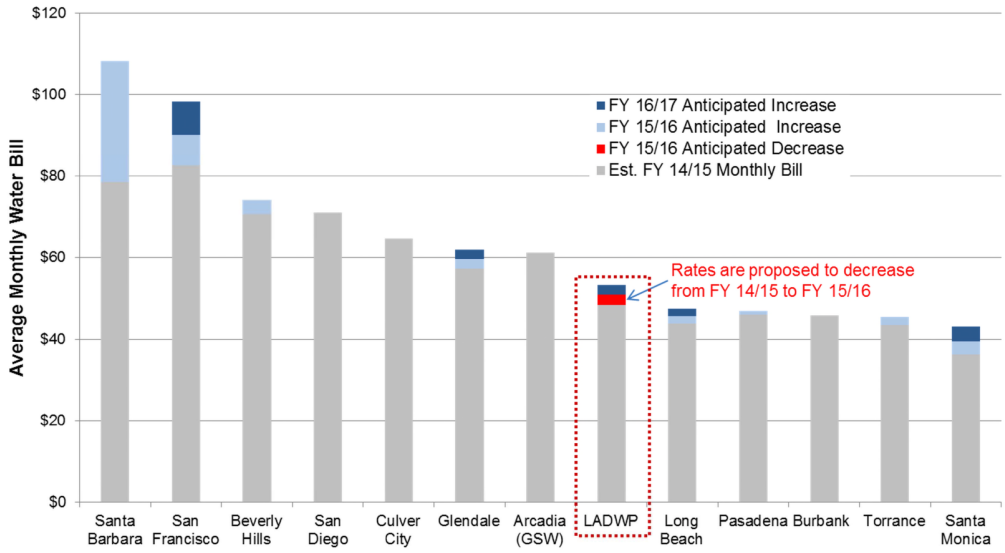


[34] "Average Monthly Consumption" on x-axis changes scale past 50 HCF.

5.5.5 Single-Dwelling Unit Residential Customer Comparative Rate Analysis

LADWP's typical Single-Dwelling Unit Residential bills (based on 12 HCF of monthly usage) will remain competitive with estimated bills of other California water utilities, as reflected in Figure 37.

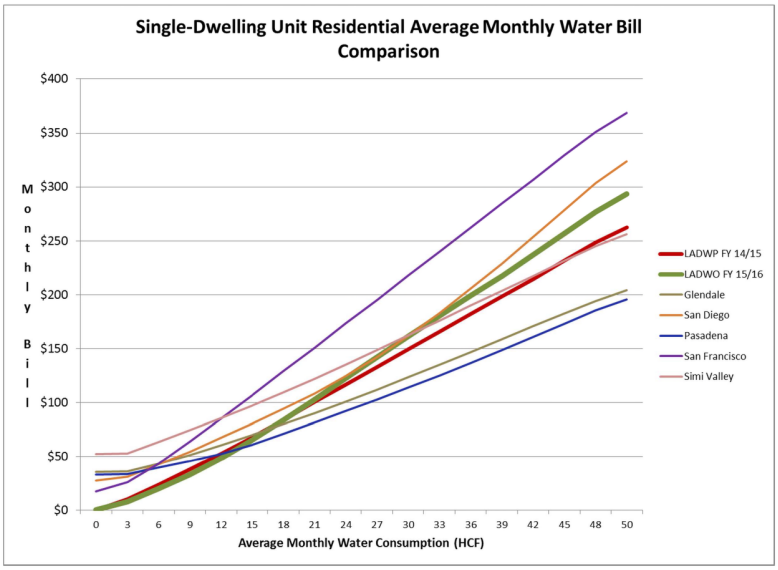
Figure 37: Single-Dwelling Unit Residential Customer Typical Bill Comparison Analysis (Estimated)[35]



LADWP's proposed rates and customer bills compare favorably to other major California utilities, especially at low usage levels that represent 50% or more of the Department's customers. Increasing rates for higher levels of usage incentivizes conservation where the most opportunity exists; however, LADWP rates will remain less than the rates of other large California cities based on rate increases announced for these cities, as shown in Figure 38.

[35] The analysis is based on LADWP's proposed rates and rate changes approved or announced for peer utilities through FY 2016-17. Bill comparisons for utilities with water budgets were based on medium temperature zone, low season, lot size < 7,500 sqft, three people per household, January month, 1,500 sqft irrigated land and lowest pumping zone charge where applicable.

Figure 38: Single-Dwelling Unit Residential Customer Bill Comparisons for Major California Cities at Different Usage Levels[36]



In summary, the Department's proposed Single-Dwelling Unit Residential rates for the next five years are designed to achieve the following objectives:

- Maintain competitiveness with other major California water utilities for low usage customers;
- Reduce consumption, especially from high usage customers, consistent with LADWP's conservation goals;
- Reduce the number of water budget determining factors;
- Provide a reasonable transition from two to four tiers;
- Align tier rates with water supply costs;
- Recover costs using adjustment factors tied to actual costs incurred; and
- Ensure full recovery of revenue requirement while protecting customers from over or under-recovery through decoupling.

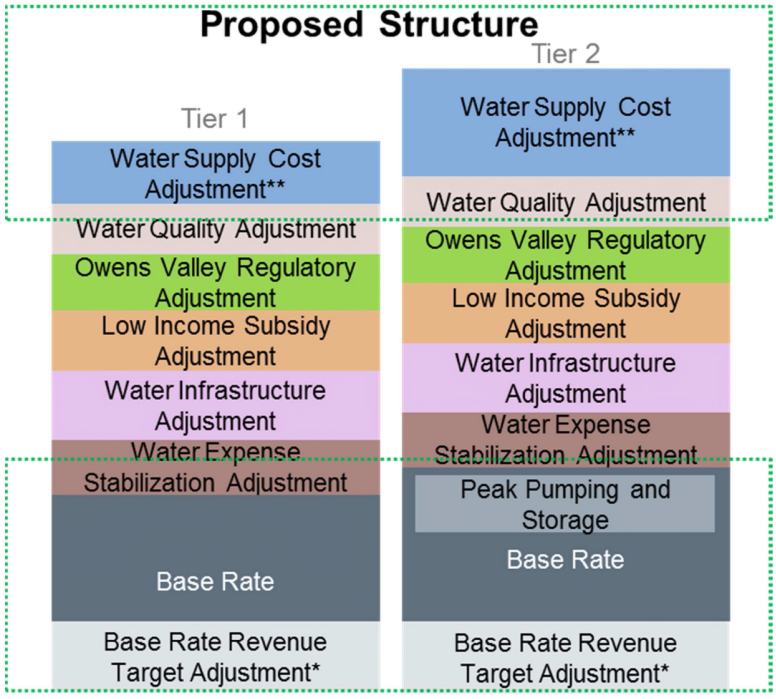
[36] "Average Monthly Water Consumption" on x-axis changes scale past 50 HCF.

5.6 MULTI-DWELLING UNIT RESIDENTIAL (SCHEDULE B)

To meet the Mayor's 20% conservation objective, Multi-Dwelling Unit Residential customers must also reduce consumption. Therefore, rates for this class must be developed to provide incentives for customers, especially higher users, to significantly reduce consumption.

LADWP proposes to structure rates for this customer class similar to Single-Dwelling Unit Residential. However, the current two-tier structure will be maintained. The proposed overall rate structure for the Multi-Dwelling Unit Residential customer class is shown in Figure 39.

Figure 39: Multi-Dwelling Unit Residential Proposed Rate Structure



*BRRTA could be positive (under-collection) or negative (over-collection).

**Includes costs for all major supply sources including conservation and recycled water.

Note: For simplification, the Water Security Adjustment is consolidated with the Water Quality Improvement Adjustment (or base rates depending on the cost component).

The Multi-Dwelling Unit Residential customer class rate structure will include the same BRRTA decoupling mechanism as Single-Dwelling Unit Residential customers to ensure recovery of base rate revenues as defined by the financial plan but also protect customers from over-recovery by returning excess revenues to customers.

5.6.1 Multi-Dwelling Unit Residential Water Budgets

Water budgets will also apply to Multi-Dwelling Unit Residential customers but will be designed with consideration of the characteristics of a multifamily environment, while still providing incentives for additional conservation. The major proposed changes include the following items.

- Initially adjust the high season water budget to relieve the pressure imposed on customers by the shortage year allotments. Currently year-round tier 1 allotments are based on 97.75% of the highest average winter water use (December-March) for the three years prior to the shortage year (2007-09). Basing allotments on a time period up to eight years old does not reflect current usage patterns, technologies or the actual number of people who reside in many of the multi-family buildings.
  - Set the base period (FY 2014-15) allotment for the high season (summer) usage at the highest of 100% of actual prior winter (December – March) usage or 100% of the current recorded tier 1 allotment upon the effective date of the new ordinance.
  - For FY 2015-16, reduce usage to the highest of 93% of the base period (FY 2014-15) usage or 93% of the current recorded tier 1 allotment upon the effective date of the new ordinance.
  - For FY 2016-17, reduce usage to the highest of 88% of the base period (FY 2014-15) usage or 88% of the current recorded tier 1 allotment upon the effective date of the new ordinance.
  - Establish a 24 HCF per month minimum allotment in line with the current shortage year minimum allotment level.
- Eliminate shortage year rates. As aforementioned, the new allotments are based on the shortage year concepts in light of the continued drought.
- Modify the high season to be consistent with power rates (June – September). Aligning the seasons for water and power rates will reduce the number of changes customers see on their bills and make the billing and customer service processes more efficient over time.

Figure 40 outlines the proposed water budget structure compared to the current approach. The changes are designed to tighten allotments, especially for higher usage levels.

Figure 40: Multi-Dwelling Unit Residential Water Budget Proposal

	Current Approach	Proposed Approach
Tier 1 Allotment	• 97.75% of the highest average winter water use (Dec-Mar) for the three years prior to the shortage year (2007-09) • Applies year-round • 28 HCF per month minimum allotment	• Highest of 100% of the current recorded allotment established upon the effective date of the new ordinance or 100% of the average winter (December 2014-March 2015) usage • FY 2015-16: Reduced to highest of 93% of the recorded allotment established upon the effective date of the new ordinance or 93% of the December 2014-March 2015 average usage • FY 2016-17 (and beyond): Reduced to highest of 88% of the recorded allotment established upon the effective date of the new ordinance or 88% of the December 2014 – March 2015 average usage • 24 HCF per month minimum allotment • Applies year-round (no high/low season)
Shortage Years	Provides for a reduction in tier 1 allotments in shortage years ("shortage year rates")	• Eliminate shortage year rates • Decoupling ensures financial stability during drought periods
Seasons	High season: June 1 to October 31	High season: June 1 to September 30 (same as power)[37]

LADWP recognizes that some Schedule B customers have been successful in conserving water usage and therefore have fewer opportunities to further reduce usage compared to other Schedule B customers. If a Schedule B customer can demonstrate with verification by the Department that all possible water conservation measures have been implemented[38], the customer's first tier allotment shall remain fixed at the allocation level established upon the date of verification.

5.6.2 Multi-Dwelling Unit Residential Tier Structure and Rates

Proposed tier thresholds are set based on water supply costs and the assignment of the peak pumping and storage component of base rates to tier 2.

5.6.3 Multi-Dwelling Unit Residential Proposed Rates and Rate Impact

Multi-Dwelling Unit Residential rates for the five-year rate action are developed to recover the revenue requirement associated with providing service to this customer class while recognizing the increasing cost of water supply at higher levels of usage. The proposed rates for the five-year rate action based on the current financial plan are shown in Figure 41.

[37] Based on months when usage occurs; may be billed in later months depending on billing and meter read cycles.

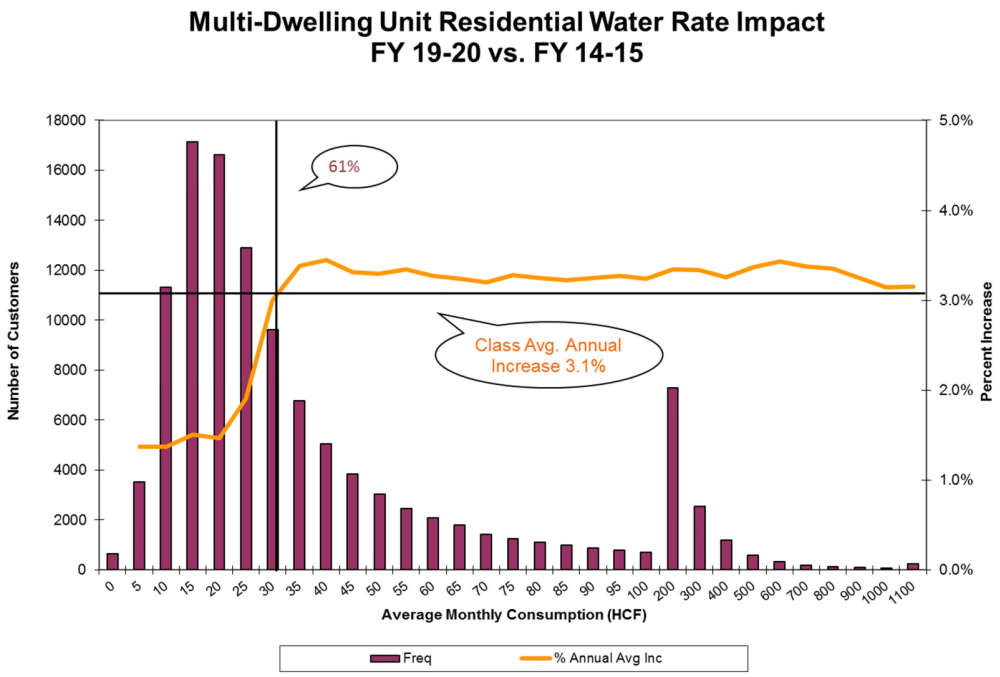
[38] Specific requirements for verification will be developed by LADWP and approved by the Board.

Figure 41: Proposed Multi-Dwelling Unit Residential Rates

	Current	Proposed				
Fiscal Year	**FY 2014-15**	**FY 2015-16**	**FY 2016-17**	**FY 2017-18**	**FY 2018-19**	**FY 2019-20**
Tier 1	$4.97	$4.45	$4.61	$4.92	$5.18	$5.32
Tier 2	$5.90	$7.82	$7.48	$7.65	$8.03	$8.68

By assigning significant portions of the higher revenue requirement to heavy users, over 61% of customers will see an increase below the class average over the next five years, as shown in Figure 42.

Figure 42: Multi-Dwelling Unit Residential Customer Water Rate Impact[39]



Similar to Schedule A rates, Schedule B rates are designed to encourage conservation by assigning significant portions of the higher revenue requirement to heavy users commensurate with the above-average burden they place on the system.

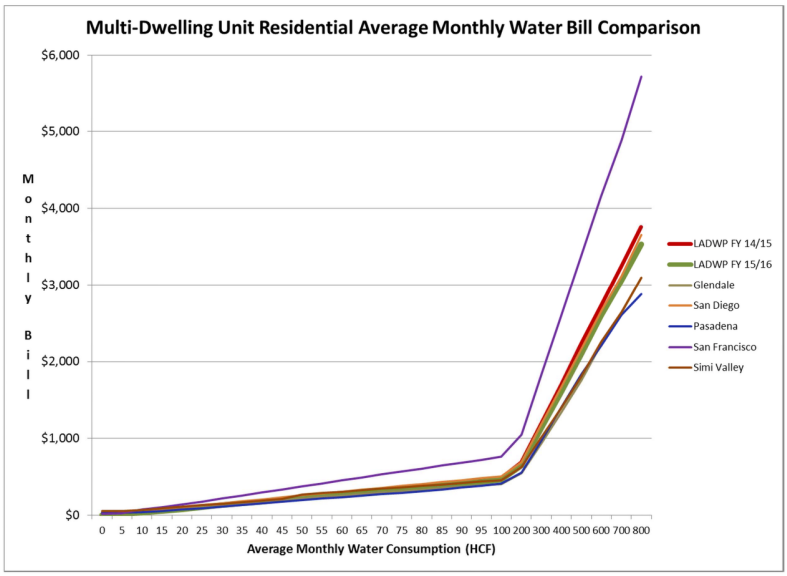
Given the nature of Multi-Dwelling Unit Residential customers, rate impacts are much flatter than Single-Dwelling Unit Residential customers. The highest average annual percentage increase over the next five years for any customer in this class is less than 3.4%.

[39] "Average Monthly Consumption" on x-axis changes scale past 100 HCF.

5.6.4 Multi-Dwelling Unit Residential Comparative Rate Analysis

LADWP's proposed rates for FY 2015-16 compare favorably with other utilities' rates, especially at usage levels up to 100 HCF (representing almost 90% of customers). Increasing rates for higher levels of usage incentivizes conservation where the most opportunity exists. However, LADWP's proposed rates are still comparable to other large California cities based on rate increases announced for these cities, as shown in Figure 43.

Figure 43: Multi-Dwelling Unit Residential Bill Comparisons for Major California Cities at Different Usage Levels[40]



The Department's proposed Multi-Dwelling Unit Residential rates for the next five years are designed to achieve the following objectives:

- Maintain competitiveness with other major California water utilities for low usage customers;
- Reduce consumption, especially from high usage customers consistent with LADWP's conservation goals;
- Align tier rates with water supply costs;
- Recover costs using adjustment factors tied to actual costs incurred; and
- Ensure full recovery of revenue requirement while protecting customers from over or under-recovery through decoupling.

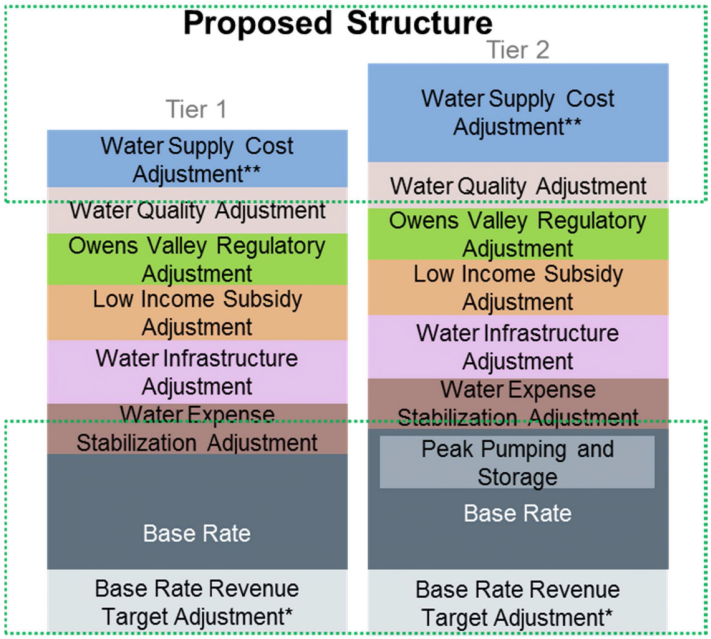
[40] "Average Monthly Water Consumption" on x-axis changes scale past 100 HCF.

5.7 COMMERICAL, INDUSTRIAL, GOVERNMENTAL AND TEMPORARY CONSTRUCTION CUSTOMERS (SCHEDULE C)

LADWP's proposed rates for Schedule C customers are based on the premise that Commercial, Industrial, Governmental and Temporary Construction customers have less discretionary water uses than residential customers and are, therefore, inherently more efficient water users and have fewer opportunities to conserve. Moreover, Schedule C customers are an important economic development engine for the Los Angeles region. Therefore, rates for this class must not be designed in a manner that discourages expansion by using price signals that are more appropriate for other customer classes.

LADWP proposes to structure rates for Schedule C similar to Schedule B rates with the same adjustment factors. In addition, a two-tier structure will be maintained. The proposed overall rate structure for the Commercial, Industrial, Governmental and Temporary Construction customer class is shown in Figure 44. The rate structure will be changed to be consistent for both tiers, with the main difference between tier prices being the increased cost of supply reflected in the WSCA and the peak pumping and storage component of the tier 2 base rate.

Figure 44: Commercial, Industrial Governmental and Temporary Construction Customer Proposed Rate Structure



*BRRTA could be positive (under-collection) or negative (over-collection).

**Includes costs for all major supply sources including conservation and recycled water.

Note: For simplification, the Water Security Adjustment is consolidated with the Water Quality Improvement Adjustment (or base rates depending on the cost component).

The Commercial, Industrial, Governmental and Temporary Construction customer class rate structure will include the same decoupling mechanism as the Multi-Dwelling Unit Residential rate structure, the BRRTA. The BRRTA ensures recovery of base rate revenues as defined by the financial plan and also protects customers from over-recovery by returning excess revenues to customers.

5.7.1 Commercial, Industrial, Governmental and Temporary Construction Customer Water Budgets

Initially, proposed tier 1 allotments for the low season will increase to offset the impact of recent shortage year rates and recognize the characteristics of this customer class, including its limited ability to contribute to conservation. Allotments will regularly be higher in the summer. These steps are designed to avoid penalizing seasonal fluctuations in business activity, which are not discretionary forms of less efficient water use.

The major proposed changes include the following items.

- Initially adjust the low and high season water budgets to relieve the pressure imposed on customers by the shortage year allotments. Currently, year-round tier 1 allotments are based on 97.75% of the highest average winter water use (December-March) for the three years prior to the shortage year (2007-09).
  - The low season allotment in the first year (FY 2015-16) is set at the highest of either 100% of actual preceding winter (December – March) usage or 100% of the current recorded tier 1 allotment upon the effective date of the ordinance.
  - The high season allotment is set at the highest of either 105% of actual preceding winter (December – March) usage or 105% of current recorded tier 1 allotment upon the effective date of the ordinance.

  The allotment benchmark is based on each customer's actual usage, so the customer has more control.
- Eliminate shortage year rates. As discussed above, the new allotments are based on the shortage year concepts in light of the continued drought.
- Modify the high season to be consistent with power rates (June – September). Aligning the seasons for water and power rates will reduce the number of changes customers see on their bills and make the billing and customer service processes more efficient over time.

Figure 45 outlines the proposed water budget structure compared to the current approach. The changes should relieve customers from the burden imposed by the shortage year allotments and facilitate expansion of jobs and facilities to help the local economy.

Figure 45: Commercial, Industrial, Governmental and Temporary Construction Customer Water Budget Proposal

	Current Approach	Proposed Approach
Tier 1 Allotment	• 97.75% of the highest average winter water use (Dec-Mar) for the three years prior to the shortage year (2007-09) • Applies year-round	• Low season: Highest of 100% of the current recorded tier 1 allotment established upon the effective date of the ordinance or 100% of the actual preceding winter (December 2014–March 2015) usage • High season: Highest of 105% of the current recorded tier 1 allotment established upon the effective date of the ordinance or 105% of actual preceding winter (December 2014–March 2015) usage
Shortage Years	Provides for a reduction in tier 1 allotments in shortage years ("shortage year rates")	• Eliminate shortage year rates • Decoupling ensures financial stability during drought periods
Seasons	High season: June 1 to October 31	High season: June 1 to September 30 (same as power)[41]

5.7.2 Commercial, Industrial, Governmental and Temporary Construction Customer Tier Structure and Rates

Similar to other customer classes, proposed tier thresholds are set based on water use requirements (peak pumping and storage in tier 2 base rates) and water supply costs (WSCA) to encourage water conservation.

5.7.3 Commercial, Industrial, Governmental and Temporary Construction Customer Proposed Rates and Rate Impact

Commercial, Industrial, Governmental and Temporary Construction customer rates for the five-year rate action are developed to recover the revenue requirement associated with providing service to this customer class while recognizing the increasing cost of water supply at higher levels of usage. The proposed rates for the next five years based on the current financial plan are shown in Figure 46.

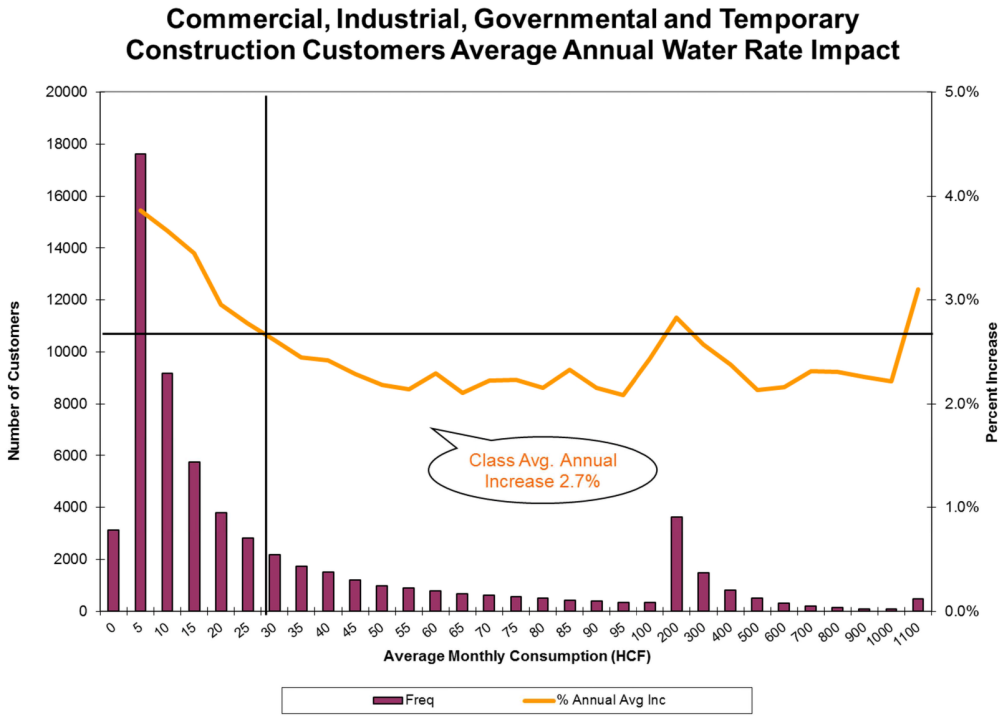
Figure 46: Proposed Commercial, Industrial Governmental and Temporary Construction Customer Rates

	Current	Proposed				
Fiscal Year	**FY 2014-15**	**FY 2015-16**	**FY 2016-17**	**FY 2017-18**	**FY 2018-19**	**FY 2019-20**
Tier 1	$5.06	$4.45	$4.61	$4.92	$5.18	$5.32
Tier 2	$5.90	$6.86	$7.23	$7.74	$8.11	$8.77

[41] Based on months when usage occurs; may be billed in later months depending on billing and meter read cycles.

Rates are still higher for tier 2, but the difference between the highest and lowest tier is less than for residential customers. The increase for approximately 67% of customers is less than the class average, as shown in Figure 47.

Figure 47: Commercial, Industrial, Governmental and Temporary Construction Customer Water Rate Impact[42]

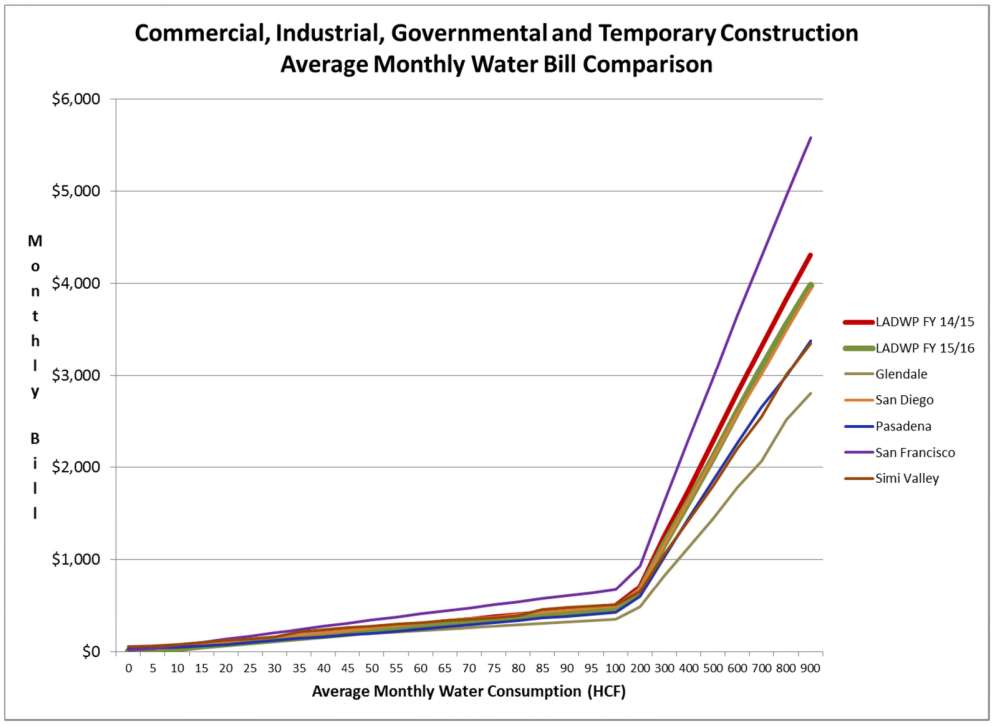


5.7.4 Commercial, Industrial, Governmental and Temporary Construction Customer Comparative Rate Analysis

LADWP's proposed rates and customer bills for FY 2015-16 compare favorably, especially at usage levels up to around 200 HCF that represent over 94% of customers. However, even at the highest levels of usage, LADWP rates are still comparable to other large California cities based on rate increases currently announced for these cities, as shown in Figure 48.

[42] "Average Monthly Consumption" on x-axis changes scale past 100 HCF.

Figure 48: Commercial, Industrial, Governmental and Temporary Construction Customer Bill Comparisons for Major California Cities at Different Usage Levels[43]



In summary, the Department's proposed Commercial, Industrial, Governmental and Temporary Construction customer rates for the next five years are designed to achieve the following objectives:

- Maintain competitiveness with other major California water utilities for most Schedule C customers;
- Balance conservation and business development;
- Align tier rates with water supply costs;
- Recover costs from adjustment factors tied to actual costs; and
- Ensure full recovery of revenue requirement while protecting customers from over or under-recovery through decoupling.

[43] "Average Monthly Water Consumption" on x-axis changes scale past 100 HCF.

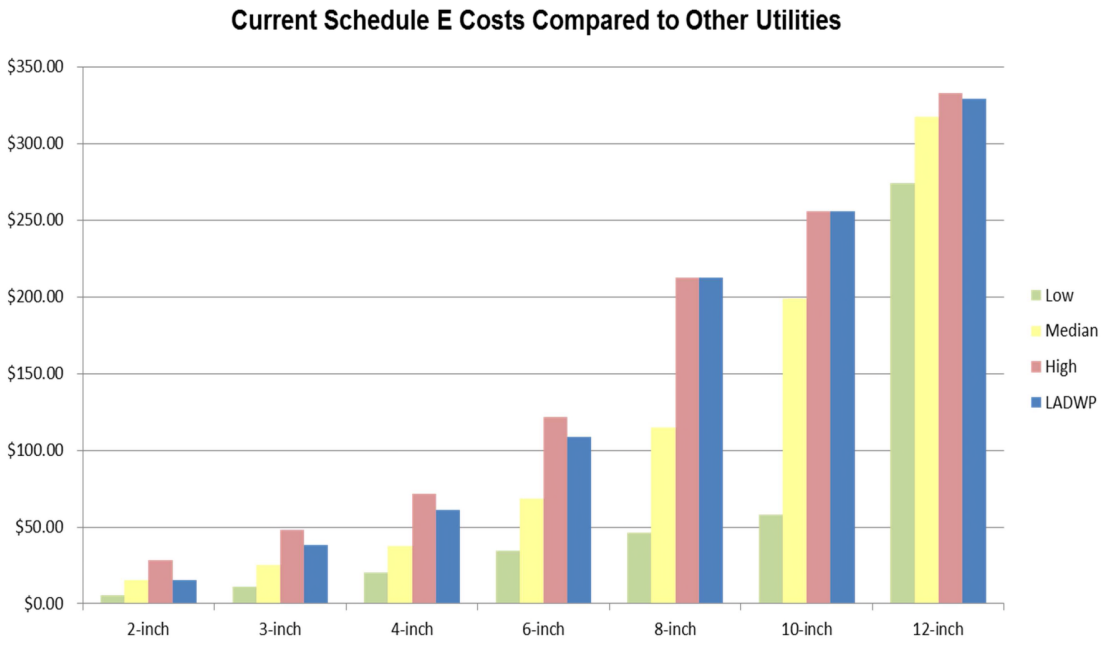
5.8 RECYCLED WATER SERVICE (SCHEDULE D)

Over time, as facilities to deliver Recycled Water Service (Schedule D) become more widely available, several levels of standard service and rates may be established; however, for now, LADWP proposes to continue its current contract approach.

5.9 PRIVATE FIRE (SCHEDULE E)

Current LADWP Private Fire costs are comparable to other utilities, as shown in Figure 49.

Figure 49: Current LADWP Private Fire (Schedule E) Costs Compared to Other Utilities in California[44]



Proposed service availability charge components of the rates will be set based on expected inflation (as measured by the GDP Price Index[45]) to maintain comparable rates to other utilities in California, address capacity design requirements and meet public policy considerations. The proposed service availability charges by connection sizes for Schedule E rates are shown in Figure 50.

[44] Comparison consisted of nine other utilities in California.

[45] https://www.cbo.gov/sites/default/files/cbofiles/attachments/49892-Outlook2015.pdf

Figure 50: Proposed LADWP Private Fire (Schedule E) Service Availability Charges

Size	Current	FY 2015-16 (Proposed)	FY 2016-17 (Proposed)	FY 2017-18 (Proposed)	FY 2018-19 (Proposed)	FY 2019-20 (Proposed)
≤1-in	$ 3.10	$ 3.15	$ 3.20	$ 3.26	$ 3.33	$ 3.39
1.5-in	$ 11.00	$ 11.18	$ 11.35	$ 11.57	$ 11.80	$ 12.04
2-in	$ 15.63	$ 15.88	$ 16.13	$ 16.44	$ 16.77	$ 17.10
3-in	$ 38.49	$ 39.11	$ 39.73	$ 40.49	$ 41.30	$ 42.12
4-in	$ 61.35	$ 62.33	$ 63.33	$ 64.53	$ 65.82	$ 67.14
6-in	$ 108.48	$ 110.22	$ 111.98	$ 114.11	$ 116.39	$ 118.72
8-in	$ 212.39	$ 215.79	$ 219.24	$ 223.41	$ 227.87	$ 232.43
10-in	$ 255.79	$ 259.88	$ 264.04	$ 269.06	$ 274.44	$ 279.93
12-in	$ 328.87	$ 334.13	$ 339.48	$ 345.93	$ 352.85	$ 359.90
14-in	$ 511.58	$ 519.77	$ 528.08	$ 538.12	$ 548.88	$ 559.85
16-in	$ 612.07	$ 621.86	$ 631.81	$ 643.82	$ 656.69	$ 669.83
20-in	$ 821.03	$ 834.17	$ 847.51	$ 863.62	$ 880.89	$ 898.51

Schedule E commodity charges will be the same as Schedule C rates. In general, LADWP rates will remain close to the range of comparable California utilities. Please note that planned rate increases for other utilities have not been considered in this analysis as other utilities have not disclosed information about their future private fire service rate increases.

5.10 PUBLICLY-SPONSORED IRRIGATION; RECREATIONAL; AGRICULTURAL, HORTICULTURAL, AND FLORICULTURAL USES; COMMUNITY GARDENS AND YOUTH SPORTS (SCHEDULE F)

As noted in Section 5.2.2 above, the cost of service study results indicate that Publicly-Sponsored Irrigation; Recreational; Agricultural, Horticultural, and Floricultural uses; Community Gardens and Youth Sports (Schedule F) revenue is significantly under cost, and this situation will be gradually addressed over time.

- Current revenue-$11.4M
- Required revenue in FY2019-20 (based on cost of service)-$44.38M

Schedule F applies to a specifically defined and unique class of customers that mainly include public outdoor parks, gardens, recreational/youth athletic facilities and non-profit educational facilities. Parcels of land used exclusively for commercial production of agricultural, horticultural

or floricultural products in conformance with recognized practices of husbandry are also included.

5.10.1 Schedule F Proposed Rates and Revenue

Immediately aligning rates with costs will result in a significant rate increase for customers. Common rate making principles include the avoidance of rate shock; therefore, due to the magnitude of the rate change, aligning revenue to the results of the cost of service study requires a gradual transition process. In the past, Schedule F customers may have paid less than the cost of service as a result of policy that reflects certain offsetting factors:

- LADWP receives free use of public irrigated land for well sites and storage space;
- LADWP receives free use of public irrigated land for stormwater detention and retention basins that aid stormwater capture for water supply;
- Residents that use public irrigated land are not charged directly for the cost of irrigation water and instead pay a negligible amount in their water rates to subsidize a portion of the cost of such irrigation water; and
- Schedule F customers' supply of water for irrigation is not as reliable because irrigation use is a lower beneficial use under State law and may therefore be subject to greater reductions during droughts.

These factors will continue to exist in the future and therefore warrant consideration in the rates Schedule F customers pay.

A phased rate change will move the Schedule F rates toward the cost of service. An immediate rate change to achieve full cost of service would be an increase of approximately 289%, which is a large rate shock that would result in severe budgetary problems for the City's Recreation and Parks Department and other Schedule F customers. Without a budget increase for irrigation water, the City could be forced to irrigate only one-sixth of its parks, which would be extremely disruptive to the public, as well as damaging to the City's investment in irrigated parks and fields.

LADWP proposes to take the following steps for Schedule F:

- Increase rates until revenues are aligned with cost of service by year five, a reasonable period of time.
- Explore the use of recycled water with Schedule F customers where facilities exist – recycled water rates are higher than current Schedule F rates, but less than expected future rates.
- Work with Schedule F customers to identify savings; examples include:
  - Efficient irrigation equipment

- Drought tolerant landscaping
- Energy efficient pool pumps

The proposed rates to align revenue with the cost of service within a reasonable period of five years are shown in Figure 51.

Figure 51: Proposed Schedule F Rates

	Current	Proposed				
Fiscal Year	**FY 2014-15**	**FY 2015-16**	**FY 2016-17**	**FY 2017-18**	**FY 2018-19**	**FY 2019-20**[46]
Tier 1	$1.37	$1.97	$2.65	$3.48	$4.40	$5.32
Tier 2	$5.90	$6.81	$7.18	$7.71	$8.11	$8.77

As the cost of water increases, the economic return on investing in more efficient irrigation processes becomes more attractive. Improved efficiency reduces the amount of irrigation, potentially reducing the allocation of costs to Schedule F customers as their demand decreases compared to other customer classes. Therefore, the ultimate total rate increase to align with costs could be less than 289% as irrigation efficiency improves.

Currently, Schedule F revenue is less than the cost of water supply, a major component of the overall cost of water service. The increase in Schedule F rates would result in revenue covering the approximate cost of service noted above by the end of the five-year rate period as shown in Figure 52.

Figure 52: Proposed Schedule F Revenue Transition

$ M	**Current**	**Proposed**				
Fiscal Year	**FY 2014-15**	**FY 2015-16**	**FY 2016-17**	**FY 2017-18**	**FY 2018-19**	**FY 2019-20**
Estimate Revenue	$ 11.4	$ 16.4	$ 22.1	$ 29.0	$ 36.7	$ 44.3

5.11 MISCELLANEOUS OTHER PROPOSED CHANGES

Several other minor changes to the Department's rate structure are proposed to provide continued incentives for conservation for all customer classes and usage levels. These changes are summarized in Figure 53.

[46] In year five, Schedule F rates will be the same as Schedule C rates

Figure 53: Miscellaneous Changes

	Miscellaneous Other Proposed Changes
Household Size (General Provision Q)	General Provision Q will be removed from the ordinance. The proposed Single-Dwelling Unit Residential customer water budgets will not change based on household size; tier 1 allotments will be assumed to include eight HCF regardless of household size. This approach will significantly reduce the permutations in the water budget allotment structure, reduce confusion for customers and improve efficiency for the customer service and billing processes.
Removal of Seasonal Pricing	Remove seasonal pricing from tier 2 rates for Single-Dwelling Unit Residential, Multi-Dwelling Residential and Commercial, Industrial, Governmental and Temporary Construction customers. Instead, seasonal allotments will be used to capture seasonality. Unlike power, water can be stored; therefore, it is important to promote conservation across all seasons. The Department's proposal to remove seasonal pricing will send clear price signals encouraging conservation year-round. As an added benefit, this change will simplify the billing process. Currently, there are a number of variables that impact normal year water rates (seasonal changes to tier 2 base rates, quarterly changes to pass through factors, and changes to tier 1 allotments), which make the proration of monthly billing factors extremely difficult to compute. The elimination of seasonal changes to base rates will significantly simplify this calculation.
Removal of the 5% adder	The current Water Rate Ordinance includes an adder of 5% for financial stability of the Department. The Department will modify the ordinance to remove reference to the 5% provision.
Minimum Charge (General Provision D)	General Provision D will be removed from the ordinance. There will be no minimum charge.