

A REPORT BY
THE 2018-2019 CONTRA COSTA COUNTY GRAND JURY
725 Court Street
Martinez, California 94553

Report 1904

EBMUD Water Rates

Building Customer Understanding through Transparency

APPROVED BY THE GRAND JURY

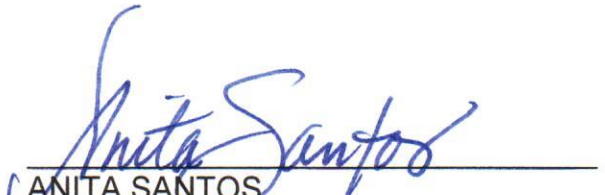
Date MAY 9, 2019



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GRAND JURY FOREPERSON

ACCEPTED FOR FILING

Date MAY 09 2019



ANITA SANTOS
JUDGE OF THE SUPERIOR COURT

Contra Costa County Grand Jury Report 1904

EBMUD Water Rates

Building Customer Understanding through Transparency

TO: East Bay Municipal Utilities District Board of Directors

SUMMARY

In 2018, the Grand Jury received a complaint alleging that water rates charged by the East Bay Municipal Utilities District (EBMUD) are unfair to residential customers in Contra Costa County.

In Contra Costa County, approximately 40% of residents get their water from EBMUD, which provides water to Alameda County customers as well. EBMUD's rates have increased approximately three to five times faster than the Consumer Price Index (CPI) over the last seven years. The impact of the increases has been felt more heavily in Contra Costa, where residents tend to use more water because the temperature is warmer, lot sizes are larger, and properties are more heavily landscaped than in Alameda County.

Historically in Northern California, water rates have increased substantially more than the CPI. Factors driving water rate increases include labor costs, the need to repair and replace aging infrastructure, and water conservation efforts that have reduced the amount of water being used but not the cost to provide it.

EBMUD recovers the costs for the water service it provides primarily through water rates, which will account for over 83% of its total projected 2019 revenue. More than 65% of its rate revenue is derived from variable rates based on usage. Fixed water service rates account for the remaining 35% of water rate revenue. Customers are also impacted by the fact that EBMUD's costs need to be covered, regardless of how much or how little water they use. As a result, the more water customers conserve, the higher the rate they have to pay for what they do use.

The Grand Jury examined how EBMUD sets its rates and found them in compliance

with applicable law (Proposition 218). In addition, the Grand Jury found that EBMUD could use alternative methods for setting rates that would also comply with Proposition 218. The feasibility of these alternatives is not clearly known, nor is their potential impact on rate payers in Contra Costa and Alameda counties. This is because EBMUD has never analyzed the potential impact on customers. Nor has EBMUD explained to its customers how it sets its rates.

The League of California Cities published a guide in 2016 entitled *Adopting Conservation-based Water Rates that Meet Proposition 218 Requirements*. The report's conclusion recommends a standard for EBMUD and other water districts to follow:

It is critical that a local agency clearly demonstrate through detailed data and computations and articulate through a comprehensive narrative explanation the methodology used and the justification for the allocation of costs among its various customer classes and to customers within each customer class.

The Grand Jury recommends that EBMUD consider improving its communication of both the data and the narrative explanation outlined above. EBMUD should also consider including information not only about EBMUD's current rate structure, but also about alternative methods, so that customers understand what they are paying for and why.

METHODOLOGY

In the course of its investigation, the Grand Jury:

- Interviewed EBMUD officials, employees, consultants, other public officials, and customers
- Reviewed reports, presentations, and documents provided by EBMUD and other documents available on the EBMUD website (www.ebmud.com) and other websites

BACKGROUND

EBMUD's water system serves approximately 1.4 million people who reside in a 332-square-mile area in Contra Costa and Alameda counties. Within Contra Costa County alone, EBMUD provides water service over a 146 square-mile service area to an estimated 470,000 residents, or approximately 40% of the county's population. The communities in Contra Costa County served by EBMUD's water delivery system include: Alamo, Danville, Crockett, El Cerrito, Kensington, Hercules, Lafayette, Moraga, Orinda, Pinole, Richmond, Rodeo, San Ramon, and Walnut Creek.

EBMUD's Mission is:

To manage the natural resources with which the District is entrusted; to provide reliable, high quality water and wastewater services at fair and reasonable rates for the people of the East Bay; and to preserve and protect the environment for future generations.

Two of the principles EBMUD uses to accomplish its mission are to:

- Ensure fair and reasonable rates and charges
- Ensure fair and open processes involving the public

EBMUD is governed by a seven-member elected Board of Directors, five of whom represent portions of Contra Costa County. EBMUD has a workforce of over 1,800 employees.

EBMUD depends on the availability of water from the Mokelumne River watershed in the Sierra Nevada mountains, which has been reduced in past years due to drought.

EBMUD's water supply infrastructure includes a network of reservoirs, aqueducts, pump stations, pipelines, treatment plants, transmission pipelines, and buildings that serve more than 380,000 customer accounts. Maintaining service requires ongoing reinvestment in this infrastructure.

During the most recent drought period, EBMUD customers met and exceeded EBMUD's call for conservation. In 2016, EBMUD sold 128 million gallons per day (MGD), down from a peak consumption level of over 200 MGD in 2007.

The cost to provide water service is recovered primarily through water rates. EBMUD relies on both fixed rates and variable (volumetric) rates to recover its costs. Fixed rates are charges assessed on all customers and do not vary with water used. Variable rates are charged based on the amount of water consumed.

Water rates account for over 83% of EBMUD's total projected 2019 revenue. Over 65% of its water rate revenue is derived from variable rates. Fixed water rates account for the remaining 35% of water rate revenue.

According to information obtained from EBMUD, over 90% of EBMUD's costs are fixed (such as salaries and benefits) yet less than 30% of its revenue is derived from fixed sources (such as property charges and power revenue). The remaining fixed costs must be recovered through water rates.

For the Single Family Residential (SFR) customer class, variable rates are tiered. EBMUD utilizes tiered rates to help recover its cost of service while encouraging conservation.

Tiered rates are explained in the 2016 League of California Cities guide, as follows:

Tiered rate structures impose progressively higher rates for water service as the relative level of consumption increases. They are designed to allocate a greater share of the cost of providing service to those whose water usage creates greater demands and burdens on a local agency's water system, sources of supply, and other water resources, and therefore generates additional costs to a local agency for providing water service.

EBMUD water rates need to comply with the California Constitution (Article X, to maximize the beneficial uses of water) and with the cost of service requirements that California voters approved as Proposition 218 in November 1996. (Article XIII D, section 6(b))

California voters passed Proposition 13 in 1978 limiting property tax levies to a fixed percentage of assessed value. That created a system in which government would have to fund its operations from a fixed amount of revenue, rather than increasing the property tax rate to raise revenues. But Proposition 13 exempted service fees, allowing agencies like water districts to increase their rates to recover their costs, with less urgency for controlling costs. This issue was addressed by the passage of Proposition 218 in 1996 and subsequent court rulings.

Under Proposition 218, water districts are allowed to raise fees, but the increases are limited to the amount needed to cover their cost of service, and the costs must be allocated proportionately to those users that incur the costs. Customers' water bills are affected by the fact that costs need to be recovered regardless of how much or how little water they use. This results in a paradox: The more water customers conserve, the higher the rate they have to pay for what they do use.

While customers may not understand what is involved in delivering water service to them, nor the methodology used to establish rates, they do know what they pay.

This report examines how EBMUD recovers its water service costs through water rates, primarily SFR rates. It also explores how rate information, including the methodology used to establish the rates, can be better communicated to EBMUD customers.

DISCUSSION

EBMUD updates its water rates every two years in conjunction with the development of its budget. The rates are designed to recover costs identified in its operating and capital budgets. Water rates are intended to provide adequate revenues while keeping costs affordable, encouraging conservation and efficient use of water, and reflecting the cost of providing service to customers.

The rate methodology used is a cost-of-service approach recommended by the American Water Works Association. Rate design also complies with Article X, section 2

of the California Constitution, which requires the beneficial use of water resources, and Article XIII D, section 6(b) (Proposition 218).

EBMUD conducts a cost-of-service study of its water service fees and rates at least every 10 years. The last cost-of-service study was completed by Raftelis Financial Consultants in April 2015. That study relied on data from 2013 and did not reflect the most recent drought or the water conservation achieved by EBMUD customers. By contrast, in 2018, Contra Costa Water District completed a post-drought cost-of-service and rate study.

EBMUD divides its customers into six classes: Single Family Residential, Multi-Family Residential, Commercial, Industrial, Institutional, and Irrigation. Single and Multi-Family residential customers make up 91% of EBMUD's customer accounts, commercial customers make up 8%, while industrial, institutional and irrigation customers combined are only 1% of the billed accounts from the utility. EBMUD relies on tiered rates for its SFR customer class to meet the cost of service requirements for these customers.

How does EBMUD Structure Water Rates?

Water rates have the following main components:

- **Water Service Charge:** A fixed charge based on the size of the water meter servicing the property and calculated to recover a portion of the District's fixed costs, such as meter reading, billing, repairs, and customer service. Water meters range in size from 5/8" up to 18".
- **Water Flow Charge:** A variable charge calculated per ccf (one hundred cubic feet which equals 748 gallons) of water delivered to a property. It is designed to recover the cost of providing water, including water supply and the infrastructure needed to treat and deliver the water.

The Water Flow Charge for SFR customers is levied in three tiers that impose higher rates per ccf of water as consumption increases:

- Tier 1 = First 172 gallons per day (gpd) (0 – 7 ccf per month)
- Tier 2 = All water used in excess of 172 gpd up to 393 gpd (8 – 16 ccf per month)
- Tier 3 = All water used in excess of 393 gpd (in excess of 16 ccf per month)

EBMUD has relied on a tiered rate structure for SFR customers for more than 20 years. In an October 6, 2016 memo, "Board Workshop on Water Budget Rate Structures," EBMUD indicated the "intent of an inclining tiered rate structure is to encourage low water use." The water rate within each tier is the same for all SFR customers.

What is the Difference between Customers East and West of the Oakland/Berkeley Hills?

Areas east of the Oakland/Berkeley Hills (Hills) are located in Contra Costa County, such as Lafayette, Walnut Creek, and the San Ramon Valley.

Tier 1 water use has generally been considered to be average indoor water usage. Indoor usage ranges from 3 to 6 ccf per month and is consistent for SFR customers both east and west of the Hills. As a result, EBMUD considers SFR customers east and west of the Hills to be homogeneous.

However, EBMUD's SFR customers east and west of the Hills are not homogeneous, in terms of their lot sizes, summer temperatures, and resulting outdoor need for water. Climate is hotter in the east, increasing evaporation rates, and lots are larger and tend to have more landscaping.

Tiers 2 and 3 rates capture the costs to deliver outdoor water use. These water demands, primarily for landscape irrigation, increase EBMUD's overall costs. EBMUD must build, operate, and maintain water supply and distribution infrastructure sufficient to deliver the maximum amount of water required during peak periods of water use.

EBMUD indicates that the costs to deliver outdoor water use during these peak periods are allocated to those customers "responsible for generating those costs and creating the peak demands." The 2015 Cost of Service Study indicates that Tier 3 has the highest peaking costs because it covers outdoor water usage for the largest SFR customers.

EBMUD acknowledges in its 2015 *Urban Water Management Plan* that "there are significant differences in geography, climate and land use" within its service area, and those differences "influence how water is used." In the area east of the Hills the climate is warmer in the summer than west of the Hills. In July, August, and September, maximum temperatures east of the Hills are 6 to 8 degrees Fahrenheit warmer than west of the Hills. Residential customers east of the Hills have higher outdoor water demands than those residing west of the Hills due in part "to differences in size of irrigated area and differences in climate."

The tier break point between Tier 2 and 3 is 16 ccf. This is determined by averaging summer usage of all SFR customers east and west of the Hills. However, because summer temperatures are hotter east of the Hills, customers in the east incur Tier 3 rates more frequently than customers in the west.

How do EBMUD Rates Affect Single Family Residential Customers?

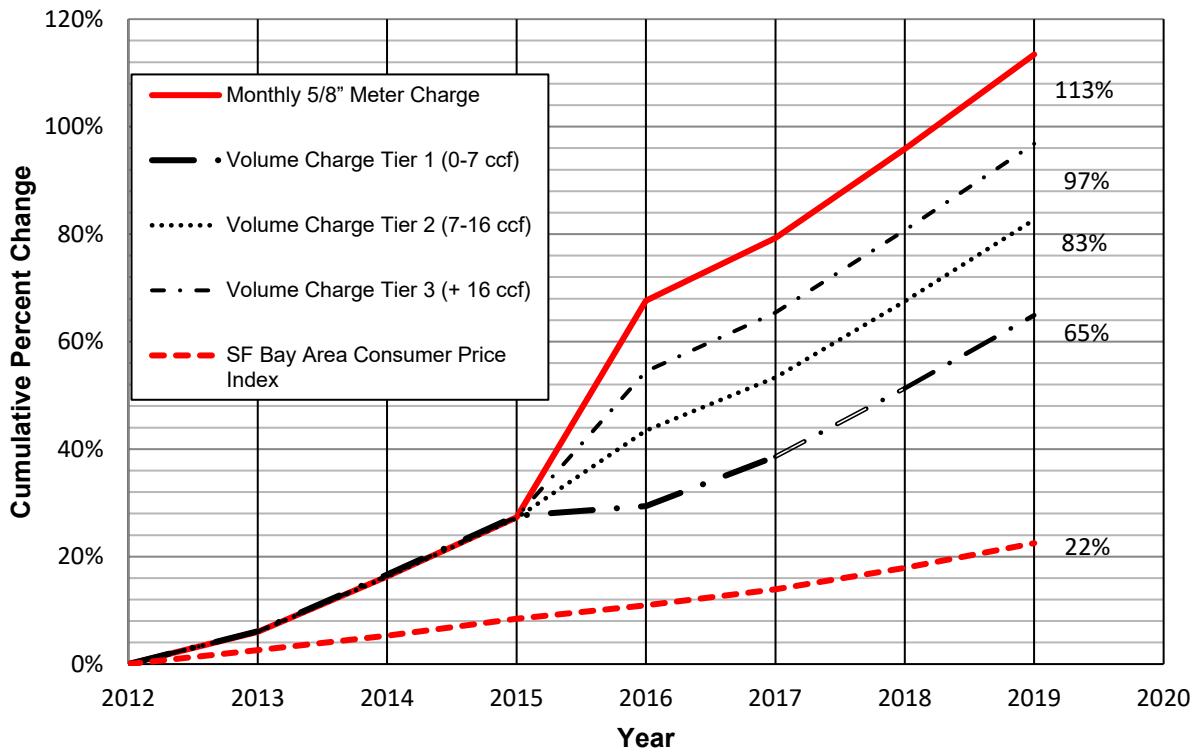
At EBMUD, the cost for providing water service, coupled with reduced water consumption due to conservation, has necessitated increasing water rates. These water

rate increases primarily enable EBMUD to:

- Recover operations and maintenance costs
- Fund capital improvements to repair and update EBMUD's aging pipelines and other infrastructure

The graph below illustrates that water rates have increased faster than the Consumer Price Index (CPI) in recent years. Monthly meter, or fixed, rates have increased by 113% and tiered, or volume, rates have increased between 65 and 97% between 2012 and 2019. During this same period, CPI increased by 22%.

**Cumulative Rate Increases
EBMUD versus Consumer Price Index**



Is There an Alternative Rate Option?

EBMUD has three alternatives to its current rate-setting methodology that it could consider:

1. Increasing the fixed rate so that variable rates comprise a smaller portion of a customer's water bill
2. Creating two separate classes of SFR customers: one in the east, one in the

west so that the two disparate regions are not averaged together to establish the tiers

3. Adopting a “Water Budget” rate structure, where properties are evaluated individually based on their water needs

The first alternative is not feasible because EBMUD is party to an agreement among California water districts to keep the fixed portion of its rates to 30% or less of its total revenue. EBMUD is currently compliant.

The second alternative has been consistently rejected by the EBMUD Board of Directors (Board) because it considers SFR customers in the east and west to be a homogeneous class, even though its 2015 *Urban Water Management Plan* identifies significant differences in climate and land use.

The Board held a workshop on Water Budget rate structures in 2016. Water Budget rates use customer-level data to establish tiers tailored to the water needs of each customer. Indoor usage is tied to the number of individuals in the household. Outdoor usage takes into consideration factors such as lot size and landscape water needs.

During the workshop the Board investigated two approaches to establishing Water Budget rates: a simplified approach and an individualized approach. In the simplified approach, an algorithm was used to assign landscape area to a parcel based on readily available parcel data. For the individualized approach, the water budget was calculated using analysis of aerial imagery to determine the landscape area along with the local weather conditions at each customer’s location.

At the 2016 workshop, EBMUD concluded:

... implementing a water budget rate structure could identify some inefficient water use by some SFR customers and at the same time lower the amount of water charged at the highest price to SFR customers who are using water efficiently to meet their large water budget needs for large lots in warm areas.

EBMUD Staff recommended that the Board continue to explore Water Budget rates.

The Grand Jury recommends that EBMUD continue to explore Water Budget rates to see if that will provide greater fairness among SFR customers east and west of the Hills.

How Can EBMUD Increase Public Outreach and Customer Understanding?

EBMUD frequently cites its commitment to open, public, and transparent processes. As mentioned previously, two of EBMUD guiding principles are to:

- Ensure fair and reasonable rates and charges, and
- Ensure fair and open processes involving the public

EBMUD says it makes “every effort to reach out to the public with full and transparent information on our proposed rates and rate increases” and seeks the public’s input “on all matters that affect them, particularly rates.”

After examining many of EBMUD’s recent public communications, the Grand Jury found very little information about the methodology it uses to set rates and nothing at all about possible alternative methods. In the 12 issues of the *Customer Pipeline* inserted into water bills during the last two years, only one featured a discussion of water rates, and that discussion focused entirely on what the water rate revenues pay for rather than how the rates are set. Nor are these reports supplemented by special communications to customers at the time EBMUD is working on rates.

The Grand Jury found EBMUD to be in compliance with the legally required public notifications and public meetings regarding rates. But these communications did not meet the League of California Cities recommendation cited previously of a “comprehensive narrative explanation of the methodology used and the justification for the allocation of costs among its various customer classes and to customers within each customer class.”

EBMUD considers the legally required “Proposition 218 Notice” of public hearings on water rates to be “the most significant notice to the public regarding proposed rates and the basis for these rates.” The 2017 notice includes a section titled “Basis Upon which the Proposed Charges Were Calculated.” However, the only discussion about how it actually computes the rates does not describe how the classes are determined, how the costs are portioned among the classes, how tiering works, or any information that might suggest alternative methods EBMUD could use to determine the classes and calculate the rates. This section of the Proposition 218 Notice reads:

Water charges have five customer classes:

Single family residential, multi-family residential, non-residential private fire service and non-potable/recycled water. Together the rates for the components of the water fees are structured to proportionately recover the costs of providing water service among the various customer classes.

The additional public outreach on rates cited by EBMUD takes the form of public meetings and the documentation the District provides to its Board and makes available on its website. In 2017, EBMUD held three “Budget Workshops” between January and April and a public hearing in July. The documentation for these workshops is technical and not supplemented by narrative explanations directed to its customers. All four meetings took place during weekday business hours at EBMUD headquarters in downtown Oakland, which may have limited customers’ ability to attend. A similar schedule is planned for 2019.

This schedule was supplemented by presentations to business and community organizations and City Council meetings throughout EBMUD’s service area. Board

members held additional meetings in their districts between May and July 2017. Slides prepared for those meetings by EBMUD staff included no information about how rates are set.

The Board meets twice a month on weekday afternoons in Oakland. Meetings are also held at other times as needed, but not at times or places that might encourage more attendance by EBMUD's customers or other members of the public.

Board meeting information is posted on the EBMUD website 72 hours prior to the meeting time, in compliance with the Ralph M. Brown Act. For previous Board meetings for the current year and the prior two years, the agenda, staff reports, presentations, and action summaries are posted on the website. The website does not state how to access information for meetings held prior to 2017.

As of 2018, audio recordings of the Board meetings are also available on the website one week after the Board meeting. There are no video recordings made of meetings, nor are the meetings streamed live on the Internet.

EBMUD's board room was not designed to incorporate live audio and visual broadcasts. The 2013-14 *Alameda County Grand Jury Final Report* entitled *East Bay Municipal Utility District Rate Increases* recommended that EBMUD provide live-streaming of Board meetings. EBMUD is currently evaluating the cost and feasibility of providing video recording and live-streaming of Board meetings.

EBMUD conducts a survey of the opinions of its customers every two years. The most recently completed survey in November 2016 included the following findings:

- Most customers are open to paying more for infrastructure improvements to maintain a safe, reliable water supply.
- Reaching customers is challenging. Only a small percentage of customers read the *Customer Pipeline* newsletter.
- While EBMUD has strong positive ratings on core job responsibilities, rate setting generates more negativity.
- Money management and rate setting are perceived as some of EBMUD's weaker areas.

Communicating with the public, particularly on complex technical issues, is a challenge in this era of competing messages and multiple communication channels. With its water rates increasing three to five times faster than the CPI, it is important for EBMUD to improve its transparency with regard to rate-setting and consider being open to other rate-setting options.

FINDINGS

- F1. EBMUD has developed and adopted a tiered water rate structure for SFR customers that complies with Article X and Article XIII D, section 6(b) of the California Constitution.
- F2. EBMUD water rates have been increasing three to five times faster than the Consumer Price Index over the last seven years.
- F3. Customers are impacted by the fact that EBMUD's costs need to be covered regardless of how much or how little water customers use.
- F4. SFR Tier 1 rates are based on average indoor water use, which is similar among customers east and west of the Oakland/Berkeley Hills.
- F5. EBMUD's SFR customers east and west of the Oakland/Berkeley Hills differ in terms of their outdoor water use.
- F6. EBMUD uses average summer SFR monthly water use from both east and west of the Oakland/Berkeley Hills to set the break point between SFR Tiers 2 and 3.
- F7. Since summer temperatures are warmer, lot sizes are larger, and properties are more heavily landscaped east of the Oakland/Berkeley Hills, customers east of the Hills incur Tier 3 rates more frequently than customers west of the Hills.
- F8. EBMUD's SFR customers east and west of the Oakland/Berkeley Hills are not homogeneous in terms of their lot sizes, summer temperatures, and resulting outdoor need for water.
- F9. EBMUD has not provided its customers with a narrative explanation for the cost of service, the allocation of costs among its various customer classes, or within each customer class.
- F10. EBMUD has alternative methods available to it for setting rates: increasing the fixed rate, creating two separate classes of SFR customers, and adopting a Water Budget rate structure.
- F11. Following a Board workshop in 2016, EBMUD staff recommended that the Board continue to explore Water Budget rates.
- F12. The Board meets twice a month on weekday afternoons in Oakland.
- F13. EBMUD continues to evaluate providing video recording and live-streaming of Board meetings.

RECOMMENDATIONS

- R1. The EBMUD Board should consider directing its General Manager to improve transparency by providing customers with a narrative explanation of the cost-of-service methodology, as recommended by the League of California Cities, by December 31, 2019.
- R2. The EBMUD Board should consider directing its General Manager to include a discussion of how rates are set and alternative methods of setting rates in the narrative explanation, by December 31, 2019.
- R3. The EBMUD Board should consider directing its General Manager to solicit customer input and participation in its examination of Water Budget rate structures by establishing a customer advisory committee by December 31, 2019.
- R4. The EBMUD Board should consider directing its General Manager to complete an analysis of Water Budget rate structures and communicate its findings to customers by June 30, 2020.
- R5. The EBMUD Board should consider directing its General Manager to develop a plan to improve transparency and better engage customers in how it sets its water rates by June 30, 2020.
- R6. The EBMUD Board should consider holding board meetings during weekday evenings, by December 31, 2019.
- R7. The EBMUD Board should consider holding board meetings at varying locations including locations east of the Oakland/Berkeley Hills, such as in Walnut Creek, by December 31, 2019.
- R8. The EBMUD Board should consider directing its General Manager to complete the evaluation of live-streaming of Board meetings by December 31, 2019.
- R9. The EBMUD Board should consider streaming online or televising its board meetings to encourage public participation and understanding of its activities by June 30, 2020.

REQUIRED RESPONSES

	Findings	Recommendations
EBMUD Board of Directors	F1, F2, F3, F4, F5, F6, F7, F8, F9, F10, F11, F12, and F13	R1, R2, R3, R4, R5, R6, R7, R8, and R9

These responses must be provided in the format and by the date set forth in the cover letter that accompanies this report. An electronic copy of these responses in the form of a Word document should be sent by e-mail to ctadmin@contracosta.courts.ca.gov and a hard (paper) copy should be sent to:

Civil Grand Jury – Foreperson
725 Court Street
P.O. Box 431
Martinez, CA 94553-0091

Appendix

ACRONYMS

ccf- One hundred cubic feet, equates to 748 gallons

CPI – Consumer Price Index

EBMUD – East Bay Municipal Utility District

gpd – Gallons per day

Hills – Oakland/Berkeley Hills

MGD – Million gallons per day

Proposition 218 - California Constitution, Article XIII D, section 6(b)

SFR – Single Family Residential