



BRAD KILGER
City Manager

July 7, 2015

Honorable E. Bradley Nelson
Presiding Judge
Superior Court of the State of California
County of Solano
675 Texas Street
Fairfield, CA 94533

Subject: Grand Jury Final Report on Water: Mitigating Water Loss

Dear Honorable Presiding Judge Nelson:

Pursuant to the provisions of Section 933.05 of the California Penal Code, the governing body of any public agency subject to the Grand Jury's review authority must respond to recommendations and findings pertaining to matters under their control. Therefore, the purpose of this letter is to comply with the aforementioned law and to advise you that after review of the 2014-2015 Solano County Grand Jury Report on Mitigating Water Loss, the City Council of the City of Benicia accepts the Report. In the report, the Solano County Grand Jury requested that the City of Benicia respond to findings and recommendations 1, 2, 3, and 4.

The 2014-15 Solano County Grand Jury investigated the water loss and accountability of the municipal water systems throughout the County of Solano. The report identified that Benicia did not conduct regularly scheduled water audits in order to discover the origins of their reported 26% unaccounted for water loss in the distribution system. The Grand Jury made 4 recommendations to Benicia:

- 1) Conduct routine scheduled water audits in order to improve control of water loss and for water supply planning;
- 2) Identify and replace aging infrastructure;
- 3) Develop a program to address inaccurate water meters; and
- 4) Expand and enforce water conservation measures for residential and business consumers.

Each of these recommendations will create a considerable financial impact on the Water Enterprise Fund. These fiscal impacts have been identified in the 2015-2025 Capital Improvement Program for the Public Works Department. Implementation of each recommendation will be methodically planned in order to be sustainable in the Water Fund financial reserves.

BACKGROUND:

On January 17, 2014, the Governor declared a drought and asked for 20% voluntary water reduction. On April 1, the Governor mandated a 25% statewide reduction from 2013 usage.

The City of Benicia has a population of approximately 28,000 people, 8,500 residential water meter service connections, and 1,000 commercial, industrial and institutional connections. The City purchases approximately 10,000 acre - feet or 3.3 billion gallons of water per year, and half of this water is used at the Valero Oil Refinery. The State Water Project (SWP) supplies 75% to 85% of the City's water from the Sacramento - San Joaquin Delta and the Solano Project (SP) supplies 15% to 25% of the City's water from Lake Berryessa. Lake Herman has historically been used as an emergency water supply and temporary storage reservoir.

The City has 3,100 acre-feet of reliable water supply and has purchased water from various agencies when needed. Allocations of water from the SWP have varied from 5% to 65%. The 2015 SWP allocation is 25%. When the allocation exceeds 35%, the City has an adequate water supply. Some of the SWP and SP water that is allocated and not used can be carried over or "banked" for use in future years. Approximately 10,000 acre-feet of Solano Project water has been "banked" in Lake Berryessa for use during a drought.

The City is managing its water supply to maximize the use of the allocated State Water Project water, conserve Solano Project water that can be stored/banked in Lake Berryessa, maximize Lake Herman water storage and delivery, and make improvements to components of the water infrastructure to ensure reliability and redundancy. All of these efforts are intended to ensure, to the extent feasible, an adequate water supply through December 2017 in case the drought continues. A forecast of Benicia's water source supply through 2018 is attached. In December 2014, Benicia customers reached the goal of

20% water conservation. In addition, long-term planning includes investigating integrated water management planning consisting of storm water capture, local flood management and recycled waste water. This is consistent with state adopted policy and is informed and guided by the strategic planning, objectives and recommendations of the California Water Plan Update of 2013.

Monthly reports about residential customer water use are submitted to the State Water Resources Control Board (SWRCB). In April, Benicia's water conservation rate was 35.7%, compared to the statewide average of only 13.5%. Benicia's per capita water use was 73 gallons per person per day (GPPD) in April, compared to the statewide average of 91 GPPD, which is the latest information available.

FINDING 1: *Not all of the cities are conducting regularly scheduled water audits.*

GRAND JURY RECOMMENDATION 1: *Each city conduct routine scheduled water audits in order to improve control of water loss and for water supply planning.*

City's Response to Finding 1 and Recommendation 1

The City agrees with the finding and will implement the recommendation. The City of Benicia will initiate a semi-annual water audit during the months of July and January. Utilizing the American Water Works Association (AWWA) free "Water Audit Software Package (version 2.0) as the standard tool of water accounting, water production and consumption data will be measured for the periods of January – June (July water audit) and from July – December (January water audit). These audits will become an internal business requirement of the Water Division and made available to internal and external customers.

The inception of the July 2015 Water Audit will be crucial in determining how much of our water losses are real versus apparent, and specifically, how much is a non-revenue water loss. Information gleaned from this audit will determine the extent and direction of a formal leak detection program, as well as a water meter reliability program.

Scott Rovanpera, Water Treatment Plant Superintendent, will serve as the Water Audit coordinator. The City has already invested in three AWWA guidance tools:

- Water Audit Software Package (V 2.0)
- Water Audits and Loss Control Program, Manual of Water Supply Practices, M36, 3rd Edition
- Water Loss Control, 2nd Edition

It is the City's intent to reduce its "unaccounted for water" from the current 26% to a value that is less than 10% by 2020. Based on other water loss control programs in the nation, the City will transition from a "percentage-based" loss indicator to a "volume-based" metric. Water loss, whether true water loss or apparent water loss, is more translatable when annual comparisons are based on unit volumes, not statistical variations.

Volume has the inherent foundation of being converted to a lost revenue value. As an example, inaccurate or low reading water meters exert a "retail water value" loss to the utility. A water main break or undiscovered leaks exert a "wholesale water value" loss, because the water represented the cost of transmission, treatment, and distribution (wholesale). Apparent water losses are due to meter performance, meter reading anomalies, and billing computations, and thus, represents water "lost" after it was delivered to customer's meter (retail).

The semi-annual water audit will also confirm the reliability of the water meters within the distribution system. If the City moves forward in a full water meter replacement program and deployment of an automated meter infrastructure (AMI), water audits will measure the component of non-revenue water due to meter data, and thus, identify true water lost due to leaks and main breaks.

FINDING 2: *All the cities face deteriorating water delivery infrastructure.*

GRAND JURY RECOMMENDATION 2: *Each city identify and replace aging infrastructure.*

City's Response to Finding 2 and Recommendation 2

The City agrees with the finding and will implement the recommendation. In 2012, the consulting company NV5 prepared a comprehensive Water Master Plan on behalf of the City of Benicia. This plan identified the need to repair and/or replace several water mains that are critical to the

delivery of water within the City. The City is currently seeking funding to complete these projects.

The City also established a water service replacement program in 2000 to replace existing polyethylene pipe service laterals with copper pipe within the Southampton Subdivision. The existing service laterals were experiencing premature leaks and failures due to high water pressures in the area. Under this program approximately 80% of the polyethylene pipes have been replaced.

Other mains, such as the cast iron pipes and asbestos concrete pipes in the older downtown area, have been replaced in order to reduce the risk of pipe failure associated with aging infrastructure.

In April 2015, the City initiated a water leak detection project. This project is expected to be completed in October with identified repairs to be completed by December 2015. The City intends to expand this project into a water main condition assessment program where the condition of the mains will be evaluated on a regular basis in order to identify deterioration trends. Projects can then be developed to minimize future water loss from leaks and main breaks.

The City is currently in the process of placing water assets into a Geographic Information System (GIS) and Computerized Maintenance Management System (CMMS) to track water infrastructure age and maintenance history. Reports from these systems will provide the City with data that will be used to prioritize the maintenance and repair of water distribution infrastructure for capital improvement projects.

FINDING 3: *All the cities have identified under-recording water meters as a cause of apparent water loss.*

GRAND JURY RECOMMENDATION 3: *Each city comply with programs to address inaccurate reading water meters.*

City's Response to Finding 3 and Recommendation 3

The City agrees with the finding and will implement the recommendation. The City of Benicia does not maintain a water meter reliability program. Nearly 60% of the residential water meters are 20 years or older and nearly all of the commercial meters are over 40 years in age. All of the City's water meters are mechanical by design, and over time, mechanical meter accuracy deteriorates. The City does not have a meter testing

program. Meters are replaced when it becomes apparent that the meter is reading low or not at all. It is theorized that at least half of the unaccounted for water percentage of 26% is due to meter inaccuracy.

The City of Benicia Public Works Department has determined that the most fiscally-responsible approach to resolving this problem is to replace the mechanical meters with solid state (non-mechanical) water meters. There are two major types of solid state water meters, ultrasonic and magnetic. Due to established data where by solid state water meters maintain their accuracy (within 2%) over their 20 year life cycle, the Department will be recommending to the City Council that approximately 9,800 water meters be replaced, switching from a mechanical to a solid state design. The Department also is recommending that an automated meter infrastructure (AMI) be constructed, allowing the Finance Department to collect water meter data on a daily basis (if not hourly), as compared to the bi-monthly frequency the City currently employs. A properly integrated AMI system will provide useful flow data to the City as well as for the customer, which will help identify leaks sooner.

It is anticipated that the Department will also institute a Water Meter Testing Program, whereby all water meters will be tested at an independent meter testing laboratory on a pre-determined schedule. The goal is to have this program instituted within five years after the deployment of the new solid state meters and will necessitate a computer maintenance management system that will track meter testing and eventual replacement.

There is strong consensus among staff in the Public Works Department, the Finance Department, and the City Manager's Office that a properly deployed water meter replacement / AMI program will reduce the amount of non-revenue water and simultaneously restore revenues from water sales within the City. If the City Council approves of the Department's recommendation, a "Request for Proposal" to hire a contractor to administer and deploy the equipment will be issued. Staff is intending on bring this to the City Council for discussion this fall. If approved the goal is to have the water meter replacement and AMI deployment completed in 2016.

FINDING 4: *All the cities have developed water loss mitigation and conservation programs that serve their communities.*

GRAND JURY RECOMMENDATION 4: *Each city enforce and continue expanding water conservation measures for residential and business consumers.*

City's Response to Finding 4 and Recommendation 4

The City agrees with the finding and will implement the recommendation. On April 1, 2015, Governor Brown issued an Executive Order mandating a 25% reduction in water use for all urban water users from 2013 usage. The cuts apply to all California urban water suppliers, who are classified into tiers based on per capita water consumption with reduction targets for each agency ranging from 8% to 36% depending on the residential daily water use per person.

On June 9, 2015 Benicia's water conservation target was reduced from 28% to 20%. Benicia's target was adjusted after the City submitted revised gallon per person calculations that more accurately reflected water production in 2014 and complied with the Water Board's reporting requirements. Benicia already is way ahead of state-mandated targets. The efforts of all Benicia water customers are acknowledged and appreciated. Not only are residents exceeding state-mandated goals, Benicia's reduction of 43% in May was among the highest in the state.

The table below shows Benicia's residential gallons per capita per day by month. These figures are calculated by multiplying the monthly treated water production by the residential percentage of treated water (54%), multiplying by a conversion factor of 325,851, dividing by Benicia's population (28,086) and then dividing by the number of days in the month.

Table 1
Residential – Gallons Per Capita Per Day (R-GPCD)

| Year | Jan | Feb | Mar | Apr | May | June | July | Aug | Sept | Oct | Nov | Dec |
|------|-----|-----|-----|-----|-----|------|------|-----|------|-----|-----|-----|
| 2013 | 72 | 84 | 100 | 114 | 147 | 135 | 138 | 134 | 126 | 112 | 92 | 85 |
| 2014 | 83 | 70 | 71 | 82 | 112 | 120 | 113 | 104 | 100 | 86 | 67 | 58 |
| 2015 | 62 | 60 | 70 | 73 | 81 | | | | | | | |

The following table shows the amount of water the City municipal meters have used since 2013 and the percentage reduction compared to 2013 usage.

Table 2
City Facilities Metered Water Use (in acre-feet)

| | Jan | Feb | Mar | Apr | May | June | July | Aug | Sept | Oct | Nov | Dec |
|--|--------|--------|--------|--------|--------|--------|-------|--------|--------|--------|--------|--------|
| 2013 | 8.8 | 2.3 | 10.0 | 18.9 | 17.9 | 57.5 | 22.9 | 63.3 | 21.7 | 50.6 | 17.8 | 16.2 |
| 2014 | 10.0 | 13.6 | 11.8 | 4.8 | 12.5 | 26.8 | 22.1 | 40.3 | 17.6 | 30.8 | 14.1 | 7.4 |
| 2015 | 4.9 | 1.6 | 8.9 | 6.6 | 9.8 | | | | | | | |
| 2014 percent difference from 2013 | 13.6% | 491.3% | 18.0% | -74.6% | -30.2% | -53.4% | -3.5% | -36.3% | -18.9% | -39.1% | -20.8% | -54.3% |
| 2015 percent difference from 2013 | -44.3% | -30.4% | -11.0% | -65.1% | -45.3% | | | | | | | |

The City of Benicia has demonstrated that a well-crafted "Emergency Outdoor Water Conservation Ordinance" and a proper public outreach to its customers will result in a significant reduction of water usage, as evident in the City's ability to meet the 20% water conservation goal by the end of 2014. Through May of 2015, the City's customers are conserving nearly 29% as compared to 2013.

The City employs many public outreach tools to remind its customers of the severity of the current drought and the need to continue to conserve water. These efforts include:

- City Council leadership
- Community Sustainability Commission grants
- A municipal recycled water pilot at the City 's Wastewater Treatment Plant (WWTP) to reduce seal water consumption by 27,000 gallons per day, which is equivalent to the water usage of 20 to 30 homes
- A "cash for grass" turf replacement program in partnership with the Solano County Water Agency, where Benicia customers will be reimbursed for removing lawns has the highest per capita participation in Solano County
- Water comparison metrics on Water Smart Home Water Reports using the customers water bills, demonstrating historic demand data and comparisons to a similar household
- Water conservation "give-aways" such as low flow shower heads, sprinkler timers, hose devices, and toilet leak indicator tablets
- Rebates for the replacement of toilets and washing machines
- Poster, banners, and table signage urging customers to reduce water usage

- Enforcement of outdoor water restrictions with door hangers and notices of violation

In concert with the City water conservation efforts, the Public Works Department has been working on long-term water procurement agreements with neighboring agencies within Solano County. In 2014, the City purchased 4,000 acre-feet of Vacaville's "banked" carry-over water in Lake Berryessa. The City is also pursuing a similar procurement of Solano Project carry-over water owned by the University of California at Davis. The Water Treatment Plant is maximizing its efforts to pump and treat the Origin of Area Settlement Water it negotiated with the Department of Water Resources (DWR) in 2009. Settlement water is Delta water pumped at the same location as the State Water Project. The City does not pay for the 10,500 acre-feet, but must pay DWR for the conveyance through the North Bay Aqueduct. Settlement water is often available in the winter months, but its water quality is so poor that treatment results in non-compliance of the Disinfection Byproduct Rule. The WTP will blend higher quality Solano Project water with the lower quality Settlement Water in 2016, thus utilizing a major source within the City's source water portfolio.

The following text is from the June 2 Monthly Water Report to the city Council:

WATER CONSERVATION

Governor's April 1 Executive Order

Other Solano County cities have required cuts ranging from 16% for Vallejo to 36% for Rio Vista.

The per capita water use only includes treated drinking water, and does not include industrial use of untreated water by the Valero Oil Refinery.

The City will need to reduce the amount of water leaving the Water Treatment Plant each month (TMP) by 20%. This could be achieved by reducing leaks or reducing use by all customers, which includes residential, commercial, industrial, institutional, and City. Even though reducing outdoor water use is the easiest way to achieve the goal and the gallons per person per day calculation was used to set the tiers, it is the TMP that is being measured for the percent reduction.

The mandatory reduction is not added to the voluntary reduction in 2014. If the average reduction by all residential water customers is less than the mandatory reduction, then the water rate payers could be subject to paying \$10,000 per day through increased water bills.

Mandatory Outdoor Water Restrictions and SWRCB Emergency Regulations

On July 1, 2014, City Council enacted mandatory restrictions on outdoor water use. Since outdoor water use accounts for about 50% of residential water demand, this was an effective conservation measure that was critical to reaching last year's 20% reduction goal. The restrictions apply to both residential and commercial customers and will remain in effect until the City Council declares an end to the water shortage emergency.

On March 17, 2015, the SWRCB adopted emergency water conservation regulations that expand the regulations adopted in July 2014. One of the major provisions continued from 2014 is that urban water providers like Benicia must implement the stage of their drought contingency plan that requires mandatory outdoor water restrictions (or limit watering to twice per week if they do not have a contingency plan). Benicia's contingency plan restricts outdoor water use to three days per week, as described below.

On April 1, watering restrictions, which restrict use of sprinklers to three days per week, changed back to the spring/summer schedule as follows:

- Residents with addresses ending in an odd number (1, 3, 5, 7 or 9) can only water on Mondays, Wednesdays and Fridays.
- Residents with addresses ending in an even number (0, 2, 4, 6 or 8) can only water Tuesdays, Thursdays and Saturdays.
- Residents are allowed to water on their designated day only, before 8:00 am or after 7:00 pm.

There are exceptions for hoses with a shut-off nozzle, drip irrigation, watering container plants and for watering turf at recreational areas.

New rules in the March 17 SWRCB regulations include the following:

- Restaurants and other food service establishments can only serve water to customers on request.

- Operators of hotels and motels must provide guests with the option of choosing not to have towels and linens laundered daily and prominently display notice of this option.
- Water agencies are required to notify customers when they are aware of leaks within the customer's control.
- Monthly reporting requirements will now include the limit on outdoor irrigation and a description of enforcement efforts.

City staff delivered table cards to local restaurants in 2014 and have been working with local restaurants and hotel/motels to ensure that these regulations are followed. This outreach was completed in May.

The following is a summary of Benicia's water conservation enforcement actions, which are reported to the State:

Table 3

| Monthly Enforcement Statistics | Jan | Feb | Mar | Apr | May |
|---------------------------------------|------------|------------|------------|------------|------------|
| Water Waste Complaints | 0 | 0 | 0 | 14 | 13 |
| Contact Follow-ups | 0 | 0 | 0 | 14 | 13 |
| Warning Actions (door hangers) | 1 | 4 | 10 | 15 | 1 |
| Warning Letters | 0 | 0 | 1 | 0 | 1 |
| Penalties (fines issued) | 0 | 0 | 0 | 0 | 0 |

Solano County Turf Replacement Program Update

The Solano County Water Agency (SCWA) has administered a turf-replacement program since 2010 using state Proposition 84 grant funding that provides rebates to residents who replace their water thirsty lawn with drought-tolerant landscaping. This program will reimburse a property owner \$1.00 per square foot, up to \$1,000 per project. With the additional funding SCWA received for this rebate program in March, SCWA is now accepting new applications for \$1.00/square foot, up to \$1,000.

Last year, the Benicia Community Sustainability Commission (CSC) provided a \$100,000 grant funding for an additional \$1.00/ sq. ft. rebate for Benicia residents for an enhanced rebate of \$2.00 per sq. ft., up to \$2,000, until the grant funds are exhausted. As of May 8, \$83,187 of the \$100,000 CSC grant has been paid to 107 Benicia residents. The balance remaining of \$16,813 will go to residents that are already in the queue, on

a first come first serve basis. As of May 8, there were 51 Benicia residents in the queue.

Public Works applied for another \$100,000 grant through the CSC on May 15 since this is a popular water conservation rebate program. If that grant is awarded, then the rebate will resume to \$2.00 per square foot, up to \$2,000.

Other Water Conservation Programs and Activities

With the onset of summer weather and the April 1 change in outdoor water restrictions, the City is implementing a multi-pronged public outreach campaign that includes the following elements:

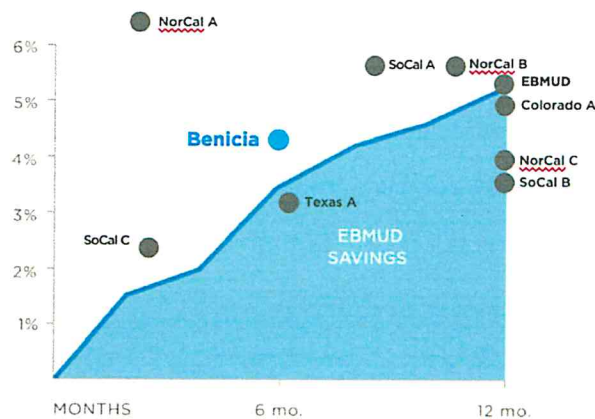
- A postcard mailed to all residents reminding them of the April 1 outdoor watering limits listed earlier in this report and a media release on the same topic.
- The Mayor's Challenge campaign encouraged Benicia residents to take an on-line water conservation pledge. Benicia ranked #11 in the National Mayor's Challenge for its population category of 5,000 – 29,999.
- City booth at the weekly Farmer's Market (April – October) with water conservation materials.
- Signs highlighting the City's Parks & Community Services Department's water conservation efforts (i.e. evapotranspiration controllers, drip irrigation and turf replacement) at various locations.
- An updated flier with water conservation tips.
- Displays at City Hall and the Library.
- Additional outreach is being considered that will be reported in a future update.

Benicia citizens also have access to two free home assessment programs, WattzOn (Benicia Home Efficiency Program) and SCWA's home audit programs that can inform water conservation decisions by providing information on how water is being used and on suggestions for ways to conserve. And the WaterSmart pilot program will continue until October, providing tailored information home water report on water use and conservation options to those residents in the program.

WaterSmart

The City began a one-year pilot program with WaterSmart in November 2014. WaterSmart statistics show that residential water use decreases by 3-7% after one year of being on the program. Based on information received at a mid-year meeting with WaterSmart managers on May 14, 2015, Benicia has already achieved 4.2% cumulative water savings at only six months into the pilot program. Benicia is on-track to reach the annual goal of 5% water savings. Below is a graph that shows Benicia at 4.2% at six months into the one-year pilot program compared to other anonymous agencies, all of which are compared to East Bay Municipal Utilities District which serves as the trend line. WaterSmart is an effective way to reduce the amount of water consumed by residential customers.

Graph 1



An article in the October 2014 American Economic Review reports that the best long term behavioral change for water conservation habits is after the program has been in place for two years. To that end, the Public Works Department applied for a Community Sustainability Commission grant on May 15 for funding for the second year of the WaterSmart Program.

Water Recycling

Use of recycled water is an increasingly important part of California's water portfolio, and currently constitutes approximately 7% of the state's water supply. In response to the drought, the State has moved to encourage wider use of recycled water, including direct and indirect potable reuse. Water reuse is a major priority for the SWRCB, which last

year revised the recycled water regulations and adopted a statewide general permit to simplify regulatory approval of water reuse projects.

In 2009, the City's consultant completed the "Water Reuse Project - Preliminary Design Report" for treating two million gallons per day of wastewater at the City's Wastewater Treatment Plant to a higher level and pump it to the Valero Refinery. This project would reduce the City's water demand by 20%, thus increasing the reliability of supply for the City and Valero. Obtaining funding in the forms of grants and loans will be critical to make this project a reality. A request for proposal was sent to 17 consulting firms and three firms were interviewed. Once negotiations are completed with the most qualified firm, an agreement for planning and design services will be presented to the City Council for approval once we have identified the source of funding.

In-Plant Recycled Water at the Wastewater Treatment Plant

The Wastewater Treatment Plant (WWTP) presently uses 25,000 to 30,000 gallons per day of potable water to run plant process equipment. In addition, potable water is used during the dry weather season for landscape irrigation. In late 2014, WWTP staff initiated an in-plant recycle water pilot study that utilized micro filtration technology. This trial resulted in saving 627,000 gallons of potable water over several months. Unfortunately, this system did not perform consistently enough to warrant further testing and/or purchasing this equipment. Staff researched other options and recently chose to test a mechanical filter system. Staff modified the WWTP's internal water supply and delivery systems, installed the mechanical filter, and placed this system online April 14, 2015. So far, this system has been successfully saving 27,000 gallons per day of treated drinking water, which would be an annual savings of 30 acre feet per year.

As part of the pilot study, the Water Quality Division is performing water quality tests on the filtered recycled water. The data collected will be used to support for a Notice of Intent (NOI) that will be filed with the Regional Water Quality Control Board (RWQCB) requesting that the RWQCB approve the use of filtered recycled water for plant irrigation at the WWTP site. If the RWQCB approves this use, an additional 2.0 acre feet of potable water can be saved per year.

The Table below shows the number of Benicia residents that took advantage of the various water conservation rebates and surveys the City offers through its partnership with Solano County Water Agency.

Table 4

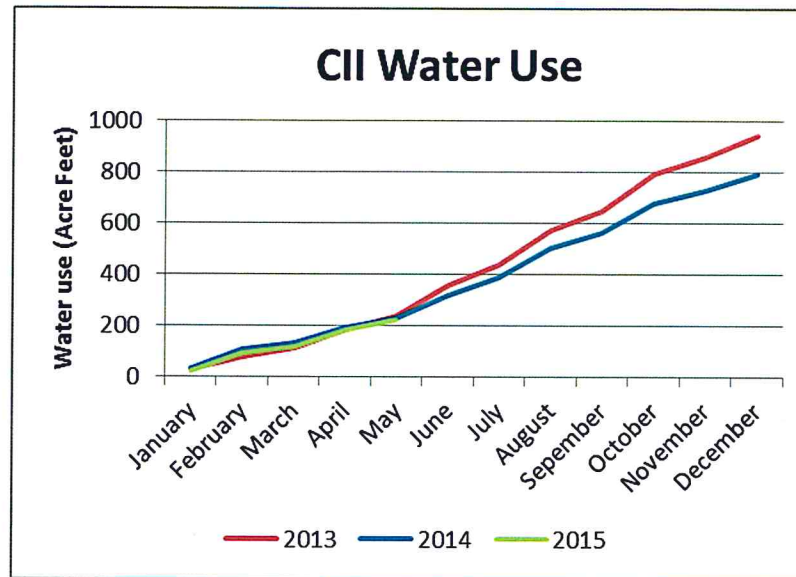
| Water Conservation Programs | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | Totals |
|---|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|---------------|
| High Efficiency Washer Rebates | 90 | 220 | 387 | 54 | 46 | 76 | 95 | 126 | 39 | 1133 |
| High Efficiency Toilet Rebates (program discontinued) | 3 | 55 | 75 | 139 | 56 | 74 | 130 | 197 | 14 | 743 |
| SCWA Residential Surveys | | | 138 | 143 | 61 | 143 | 65 | 55 | | 605 |
| Turf Replacement Rebates | | | | | 2 | 5 | 14 | 74 | 37 | 132 |
| Commercial/Industrial/Institutional High Efficiency Toilet Rebates | | 99 | | | | 300 | | | | 399 |

Table 5 and Graph 2 show the amount of water the Commercial/Industrial/Institutional customers (i.e. businesses) in the City have used during this same period. A total of 945 acre-feet were used in 2013 and 794 acre-feet were used in 2014, which is a 16% annual reduction.

Table 5
Commercial/Industrial/Institutional (CII) Metered Water Use
(in acre-feet)

| | Jan | Feb | Mar | Apr | May | June | July | Aug | Sept | Oct | Nov | Dec |
|--|------------|------------|------------|------------|------------|-------------|-------------|------------|-------------|------------|------------|------------|
| 2013 | 27.5 | 51.1 | 34.2 | 69.6 | 53.5 | 124.1 | 78.4 | 135.1 | 72.4 | 146.5 | 65.2 | 87.7 |
| 2014 | 34.1 | 72.6 | 27.4 | 57.6 | 37.3 | 88.4 | 69.2 | 117.7 | 57.0 | 116.8 | 50.0 | 66.2 |
| 2015 | 24.7 | 67.2 | 24.5 | 67.1 | 40.5 | | | | | | | |
| 2014 percent difference from 2013 | 24.0% | 42.1% | -19.9% | -17.2% | -30.3% | -28.8% | -11.7% | -12.9% | -21.3% | -20.3% | -23.3% | -24.5% |
| 2015 percent difference from 2013 | -10.2% | 31.5% | -28.4% | -3.6% | -24.3% | | | | | | | |

Graph 2
Cumulative Commercial/Industrial/Institutional (CII) Metered Water Use
(in acre-feet)



This response was drafted by City staff and approved by the City Council at their meeting on July 7, 2015. We hope that this letter adequately responds to your findings and recommendations. If you have any questions regarding these responses, please kindly contact Graham Wadsworth at your convenience at 707-746-4240.

Sincerely,

Brad Kilger
City Manager

Attachment – Grand Jury Report on Mitigating Water Loss

cc: City Council
City Attorney
Public Works Director
Grand Jury