



CITY OF BEVERLY HILLS
PUBLIC WORKS DEPARTMENT
MEMORANDUM

TO: PUBLIC WORKS COMMISSION

FROM: Debby Figoni, Water Conservation Administrator
Erick Lee, Deputy Director of Public Works
Michelle Tse, Planning & Research Analyst *msl*

DATE: August 11, 2016

SUBJECT: WATER CONSERVATION EFFORTS, PENALTY SURCHARGE APPEALS PROCESS AND LONG-TERM WATER USE EFFICIENCY PROGRAMS

ATTACHMENTS:

1. State Water Resources Control Board Monthly Report – July 2016
2. Monthly Consumption Report to Date
3. Metropolitan Water District – Water Device Rebate Program
4. Metropolitan Water District – Turf Removal Rebate Program

This report provides an update on staff activities related to the City's water conservation policy, programs and outreach efforts.

City Water Conservation Outreach and Enforcement Efforts

The Water Conservation Team continues to focus on customers with continuous flow issues, calling residents and sending letters. The team is also targeting homeowners associations and apartment buildings. These continuous flow issues are more complex and challenging to pinpoint, but the payoff is often greater. Staff is ambitiously working their way down the living list to notify as many customers as possible. Staff has a process of calls and letters to notify customers of leaks and excessive irrigation. Outreach flyers continue to be great tools for those with continuous flow issues. The response from residents and businesses for the City's assistance is incredibly positive.

This past month, staff worked with several businesses and one of the City's large hotels to help them use water efficiently in their daily practices. Staff is tackling excessive watering by gardeners with calls and letters. Many residents are unaware that their gardener is not following the City's code of two day per week watering. Calls continue to trickle in asking if the City's two-day watering schedule will be increasing as LADWP and other water providers have done.

The Water Tracker program continues to be promoted and advertised. It has helped countless residents find their continuous flow issues within a matter of days. Presently, most customers are not aware that there are no longer surcharge fees. To help encourage water conservation efforts, other tools such as enhanced outreach will be used.

During the month of July, the Water Conservation Administrator and her staff conducted 14 site visits with residential high water users, customers with potential leaks and residents requesting

landscape and irrigation assistance. The team also reached out to 118 potentially large leak customers and 34 customers with appeals, conservation or surcharge questions.

In July, a total of two outdoor water conservation cases were reported by the public. Furthermore, 76 residents irrigating on the wrong irrigation day were notified via a letter, including those staying within their 30% reduction target zone. No Notices of Violation (NOV) were issued this past month. Please note that a NOV is a pre-requisite to the issuance of a criminal misdemeanor citation (used for continued violations). Staff continues to enforce all outdoor watering regulations as prescribed in State D.

Public Education Programs and Outreach

In July, the Water Conservation Administrator taught two more Water Wise Landscaping Workshops focusing on drought tolerant plants. While the workshops were not packed with residents, the feedback on the classes was excellent. Two more workshops will take place in August. Ads promoting the workshops were placed in the Beverly Hills Weekly and The Beverly Hills Courier. To increase participation in the future, a partnership with Community Services is being considered.

The Water Conservation Team continues to educate everyone they communicate with. Our goal is to make our customers aware of water efficiency practices through entertaining and engaging education!

City Water Usage Reductions for July 2016

The following table shows water consumption for the City during the last several months. For the month of July, the City used 932.3 Acre Feet (“AF”) compared to 1,185.5 AF in 2013. For comparison purposes, the table below shows the average AF of water used daily each month.

Table 1: Summary of Beverly Hills Water Use Reductions Submitted to the State Water Resources Control Board

The Table below shows the City’s water usage by volume (acre feet) from May 2015 to present compared to water usage in 2013. For 2016, the City has maintained a 22-percent average.

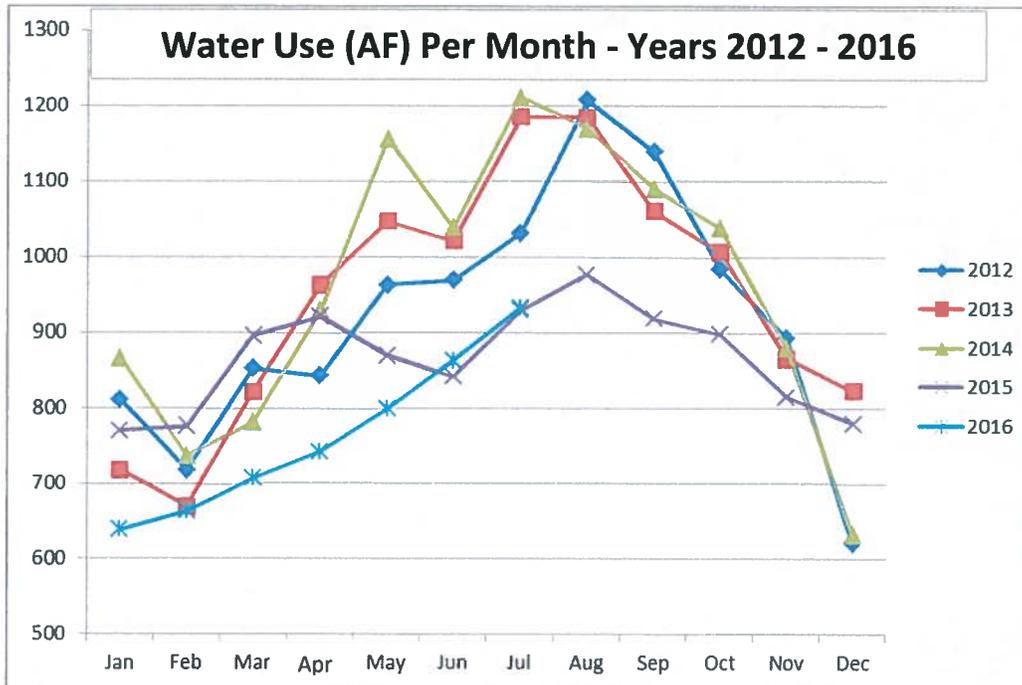
Month	2013 Usage (AF)	2015/16 Usage (AF)	2013 Average Usage Per Day (AF)	2015/16 Average Usage Per Day (AF)	Percentage Reduction Compared to 2013
May-15	1047.3	869.6	33.78	28.1	17.0%
Jun-15	1077.4	841.7	35.91	28.1	21.9%
Jul-15	1185.5	929.0	38.24	30.0	21.6%
Aug-15	1184.4	976.6	38.21	31.5	17.5%
Sep-15	1156.0	918.8	38.53	30.6	20.5%
Oct-15	1105.5	897.4	35.7	28.9	22.2%
Nov-15	939.2	814.7	31.3	27.2	13.3%
Dec-15	888.6	779.3	28.7	25.1	12.3%
Jan-16	862.2	638.8	27.8	20.6	25.9%
Feb-16	762.9	663.6	27.3	22.9	13.0%
Mar-16	932.4	707.0	30.1	22.8	24.2%

Month	2013 Usage (AF)	2015/16 Usage (AF)	2013 Average Usage Per Day (AF)	2015/16 Average Usage Per Day (AF)	Percentage Reduction Compared to 2013
Apr-16	969.0	742.5	32.3	24.8	23.4%
May-16	1047.3	798.7	33.8	25.7	23.8%
June-16	1077.0	862.6	34.7	28.8	20.0%
July-16	1185.5	932.3	38.24	30.1	21.4%

The Table below shows the City's water usage in acre feet every month from 2012 to present.

	2012	2013	2014	2015	2016
Jan	810.5	717.6	865.5	769.7	638.8
Feb	717.7	669.2	736.8	775.8	663.6
Mar	852.5	821.7	781.4	895.9	706.9
Apr	842.7	962.9	929.0	920.8	742.0
May	962.8	1047.3	1155.9	869.6	798.7
Jun	969.2	1020.8	1038.6	841.7	862.6
Jul	1031.3	1185.5	1210.6	929.0	932.3
Aug	1207.5	1184.4	1169.6	976.6	-
Sep	1138.6	1060.6	1089.9	918.5	-
Oct	984.3	1006.1	1037.5	897.4	-
Nov	892.0	865.7	878.7	814.7	-
Dec	621.0	822.5	632.2	779.3	-
TOTAL AF/YR	13042.1	13377.3	13539.7	12404.0	7360.9

The Chart below compares the City's monthly water usage every month from 2012 to present.



Penalty Surcharges and Appeals Process Update

With suspension of the penalty surcharges that went into effect on June 21, 2016, the City is no longer receiving Level 1 appeal applications. Staff has received approximately 1,817 Level 1 appeals, of which approximately 42 are in pending status.

There are approximately 712 Level 2 appeals that have been received, of which there are approximately 321 applications pending review. Staff has been working with the Hearing Officer to address this backlog. This backlog is attributed to pending modifications being made on Water Tracker's functionality to view current usage versus historical water usage information on the "Penalty Surcharge" tab; this modification was completed and is currently being reviewed by Staff. It is anticipated that the Hearing Officer will be able to resume reviewing the Level 2 appeals later this month.

Long-Term Water Use Efficiency Policy

The Conservation Subcommittee has been working with staff to develop a policy, which includes a framework for identifying "excessive water users" based on a set of variables. This approach is intended to promote water efficiency and conservation in lieu of penalty surcharge assessments for excess water users.

As part of the policy development process, various water agencies were contacted, including Moulton Niguel Water District, Los Angeles Department of Water and Power, Las Virgenes Municipal Water District, and the City of Santa Monica to provide insight on their programs for identifying and assisting high water use customers. Some of these water agencies use a "budget-based" approach in which each customer is allocated a certain amount of water use based on various factors such as the number of people per household, the agency's set gallons of water used per person per day, Geographic Information System (GIS) estimated landscaped area to be irrigated, and evapotranspiration rates. Customers with circumstances beyond the base assumptions submit exemption forms to adjust their water use budget. While this may be the most personalized and appropriate way for developing a customized base budget for each customer, it took approximately 1.5 to 3 years and hundreds of thousands of dollars for these agencies to implement a "budget based" program. The water rates for budget-based are based on tiers, with tier one being indoor use, tier 2 for efficient outdoor use, and the upper tiers for inefficient or excessive water use. Please note that the two agencies that implemented a budget-based approach also have a billing system that is able to handle this type of a personalized billing structure.

Other water agencies, like the Los Angeles Department of Water and Power (LADWP), use more general assumptions to initially target excessive water users. They take into consideration the lot size and landscaped area to evaluate customers' water usage. Customers considered "excessive water users" using this framework are subject to LADWP staff review, which could include site visits, landscape audits, and/or customized action plans detailing the items to implement to become more water efficient. Fine issuance would be the last resort to get customers to comply with water efficiency efforts.

The Conservation Subcommittee evaluated each of these programs. Given the complexities of a budget-based approach and extended implementation timeframe, the Conservation Subcommittee felt that the approach used by LADWP is both effective and feasible to implement within a reasonable timeframe in order to maintain the City's conservation progress.

To determine an appropriate water allowance for indoor use, agencies typically use the State of California average of 55 to 60 gallons per person per day. The average number of people per household seems to vary from 3 to 5 people depending on the location of the water agency.

To determine an appropriate water allowance for outdoor use, agencies seem to use the industry-accepted formula called the "Maximum Applied Water Allowance" (MAWA) which includes the following items:

Calculation Item	Description
LA	Landscaped area measured in square feet
ET _o	Evapotranspiration rate factor is based on water loss from evaporation in the soil and plant transpiration; based on inches per year (Los Angeles' is 50.1")
0.7	ET Adjustment Factor = Based on the water needed for native plants and some turf
0.62	Conversion factor converting square feet to gallons

Staff has been running various models to come up with appropriate factors for each of these elements to better represent average indoor and outdoor water usage for Beverly Hills water customers.

The general framework currently being discussed related to the "excessive water user" policy is that water customers who exceed the MAWA formula by a certain factor (e.g. 50% more than MAWA) could be considered excessive water users. After verification of property characteristics, these customers would be strategically contacted by City staff for an onsite-visit to help educate and modify their in and outdoor water use practices. In the event of a declared drought, the factor used to determine excessive water user could be adjusted accordingly. For example, an "excessive water user" under non-drought conditions may be defined as a customer who exceeds their MAWA by 50%, while a customer's water use may be considered excessive if they exceed their MAWA by 25% during drought conditions. This general framework is currently under review by the City Attorney's office. Given the ongoing analysis, staff will provide an update regarding the City Attorney's findings and any other relevant information during the Public Work Commission's August 11, 2016 meeting.

The Conservation Subcommittee is committed to developing a solid, long-term water efficiency policy by first developing a framework to identify "excessive water users" and subsequently, updating the City's municipal code to promote water efficiency as the norm by limiting water uses during non-drought conditions. It is anticipated that changes to the City's municipal code will be discussed with the Public Works Commission at its September meeting.

ATTACHMENT 1

Thank you for your Monitoring Report. Below is the information you have submitted for the month of 0716. If this information is incorrect, please re-submit your report for the month with the corrected information. We use your most recently submitted monthly report in our calculations.

Reporter	Debby Figoni
Urban Water Supplier/Number	Beverly Hills City of (640)
Reporting Month	0716
Stage/Mandatory	S Yes
Days Outside Irrigation	2
Total Potable Water Production	932.3 AF
2013 Same Month Production	1185.5 AF
CII Water	221.7 AF
Commercial Agricultural Water	0 AF
Commercial Agricultural Water 2013	0 AF
Recycled Water	0 AF
Non-revenue Water	65.3 AF
Residential Use Percentage	69 %
Population	51403
Estimated R-GPCD	160.9
Number Complaints	2
Number Follow-ups	134
Number Warnings	77
Rate Penalties	0
Other Penalties	0

Enforcement Actions

During the month of June, there were 2 public complaints. There were 77 cases of watering on the wrong days. Additionally, the Water Conservation Administrator and her team conducted 14 site visits with residential high water users, customers with potential leaks and residents requesting landscape and irrigation assistance. They also communicated with 118 customers with potential water leaks. Consistently, about ninety-percent of these leaks are immediately repaired and the additional 10% are in progress for repair. There were no notices of violation issues in July 2016, but the City had 77 written warnings (mailed letters and/or door hangers). Due to the City's self-certified 0%, the City no longer has surcharges associated with our customer's water use. A new fines program is in the process of being developed as are new, aggressive outreach effort.

Actions Taken

Raised rates, Instituted surcharges, Reduced allowed outdoor irrigation days, Restricted allowed outdoor irrigation times, Instituted new prohibitions on specific water uses, Instituted stricter prohibitions on specific water uses, Instituted use of behavioral modification programs, Instituted use of SmartMeters for data tracking and enforcement, Increased penalties for water waste, Increased leak detection and repair actions, Increased conservation personnel, Increased conservation program budget, Increased conservation program scope

Implementation Comments

We continue to disseminate and create more informative outreach flyers educating customers on how to find leaks, water trees, and efficiency irrigation lawn. These flyers are available all around the City and on our website. In July held 2 water wise landscaping workshops. Two more workshops planned for August for a total of 6 workshops. Continue to offer irrigation and landscape audits. Provide personal assistance to detect continuous water flow issues. Continue to place articles in the local newspaper on water wise landscapes and articles in the City's quarterly newsletter on finding and repairing leaks. Working hard with newly hired staff on conservation programs, education and outreach.

Qualification

Monthly production is calculated from local production and Metropolitan Water District (MWD) purchases. The percentage of residential use is calculated using the volume of water consumed by residential accounts compared to monthly production. Because the City of Beverly Hills uses a 60-day billing cycle, percentage of residential use reflects consumption based on the July 2015 ratio. Commercial, industrial, and institutional use is calculated as a percentage of monthly production, using the formula $100 - [\text{Percent Residential Use in July 2015}] - [\text{Percent Non-Revenue Water}]$. Non-revenue water is estimated to be 7% of total monthly production. This percent residential use estimate will be updated once July 2016 data becomes available.



ATTACHMENT 2

All Accounts, Volume Consumed

Table 1, below, details total volume of consumption per month for the past calendar year for every account in the entire Beverly Hills and West Hollywood service area, comparing the prior calendar year to a 2013 baseline. The percent change is calculated to show increases or decreases in consumption per account type. A negative percentage indicates a reduction in consumption whereas a positive percentage indicates an increase. Volume is represented in acre feet units.

Table 1, All Accounts

		Water Consumption by Account Type					Units: AF	Prepared: 8/2/2016					
Accounts	Year	Jan-16	Feb-16	Mar-16	Apr-16	May-16	Jun-15	Jul-15	Aug-15	Sep-15	Oct-15	Nov-15	Dec-15
Single-Family Residential Accounts	2013	345.6	362.4	446.6	496.1	556.7	579.2	620.3	637.2	603.2	556.3	483.3	456.5
	2015/16	301.7	278.3	317.0	356.7	379.7	435.1	456.9	476.5	449.9	432.6	394.0	328.0
	% Change	-13%	-23%	-29%	-28%	-32%	-25%	-26%	-25%	-25%	-22%	-18%	-28%
Multi-Family Residential Accounts	2013	202.9	185.8	209.0	205.7	215.2	210.7	222.5	223.9	216.7	221.8	207.3	208.9
	2015/16	169.5	157.0	166.3	158.3	148.4	177.4	186.2	189.5	184.0	188.5	174.2	175.8
	% Change	-16%	-15%	-20%	-23%	-31%	-16%	-16%	-15%	-15%	-15%	-16%	-16%
Commercial Accounts	2013	171.2	160.3	181.0	178.6	195.7	197.6	212.9	212.8	199.9	199.3	178.4	178.6
	2015/16	164.0	155.3	168.2	160.7	152.8	182.6	201.9	209.9	199.7	198.7	168.4	162.4
	% Change	-4%	-3%	-7%	-10%	-22%	-8%	-5%	-1%	0%	0%	-6%	-9%
Municipal Accounts	2013	25.0	26.9	36.5	40.4	42.9	44.6	49.2	51.2	47.6	42.6	34.2	31.8
	2015	19.3	17.1	19.6	20.7	20.6	25.3	28.0	29.9	28.9	29.3	24.8	21.9
	% Change	-22%	-36%	-46%	-49%	-52%	-43%	-43%	-42%	-39%	-31%	-27%	-31%
Fire Service Accounts	2013	-	-	0.2	0.6	0.7	0.7	0.8	1.1	1.3	1.4	1.4	1.3
	2015/16	0.9	0.9	0.9	0.9	0.8	1.8	1.8	1.0	0.9	0.9	1.0	1.0
	% Change	N/A	N/A	468%	47%	9%	142%	129%	-10%	-31%	-34%	-32%	-25%
Estimated Non-Revenue Water	2013	117.6	27.6	59.2	47.8	36.1	44.4	79.9	58.1	87.1	80.1	34.6	11.4
	2015	**16.7	55.0	34.9	44.7	4.6	19.5	54.3	69.8	55.1	47.3	52.3	90.1
	*2013 Total	862.2	762.9	932.4	969.3	1,047.3	1,077.4	1,185.5	1,184.4	1,156.0	1,101.5	939.2	888.6
	*2015/16 Total	638.8	663.6	706.9	742.0	706.9	841.7	929.0	976.6	918.5	897.4	814.7	779.3
	% Change	-26%	-13%	-24%	-23%	-33%	-22%	-22%	-18%	-21%	-19%	-13%	-12%

*Data for final three rows do not come from City of Beverly Hills billing data, but rather Metropolitan Water District invoices. Aggregate data for State reporting and parsed data for internal system analysis rely on different sources and methodologies. As such, monthly totals by year in the bottom rows do not equal the sum of consumption in the rows above, that difference is determined to be non-revenue water.

**This estimate indicates that more consumption took place in December and/or November. Due to the methodology used to parse 60-day rolling billing cycles into monthly estimates, there may be some months where estimated use is greater than the amount actually purchased or produced.

All Accounts, Consumption by Customer Type as a Percentage of Total Consumption

Table 2, below, indicates consumption as a percentage of total per month for all accounts in the entire Beverly Hills and West Hollywood service area.

Table 2, All Accounts

		Water Consumption by Account Type					Units: AF	Prepared: 8/2/2016						
Accounts	Year	Jan-16	Feb-16	Mar-16	Apr-16	May-16	Jun-15	Jul-15	Aug-15	Sep-15	Oct-15	Nov-15	Dec-15	
Single-Family Residential Accounts	2013	40%	47%	48%	51%	53%	54%	52%	54%	52%	51%	51%	51%	
	2015/16	47%	42%	45%	48%	54%	52%	49%	49%	49%	48%	48%	42%	
Multi-Family Residential Accounts	2013	24%	24%	22%	21%	21%	20%	19%	19%	19%	20%	22%	24%	
	2015/16	27%	24%	24%	21%	21%	21%	20%	19%	20%	21%	21%	23%	
Commercial Accounts	2013	20%	21%	19%	18%	19%	18%	18%	18%	17%	18%	19%	20%	
	2015/16	26%	23%	24%	22%	22%	22%	22%	21%	22%	22%	21%	21%	
Municipal Accounts	2013	3%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	
	2015/16	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	
Fire Service Accounts	2013	0.0%	0.0%	0.0%	0.1%	0%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.2%	
	2015/16	0.1%	0.1%	0.1%	0.1%	0%	0.2%	0.2%	0.1%	0.1%	0.1%	0.1%	0.1%	
Estimated Non-Revenue Water	2013	14%	4%	6%	5%	3%	4%	7%	5%	8%	7%	4%	1%	
	2015/16	*-3%	8%	5%	6%	1%	2%	6%	7%	6%	5%	6%	12%	
	2013 Total	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	
	2015/16 Total	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	

*This estimate indicates that more consumption took place in December and/or November. Due to the methodology used to parse 60-day rolling billing cycles into monthly estimates, there may be some months where estimated use is greater than the amount actually purchased or produced.

City of Beverly Hills Water Accounts, Volume Consumed and Percent Reduced

Table 3, below, details the total volume of consumption per month for all accounts where the City of Beverly Hills is a customer, comparing the current year to a 2013 baseline. The percent change is calculated to show increases or decreases in consumption per account type. A negative percentage indicates a reduction in consumption whereas a positive percentage would indicate an increase. Volume is represented in acre feet units.

Table 3, Accounts Where City of Beverly Hills is a Customer

		Water Consumption by Account Type					Units: AF	Prepared: 8/2/2016						
Accounts	Year	Jan-16	Feb-16	Mar-16	Apr-16	May-16	Jun-15	Jul-15	Aug-15	Sep-15	Oct-15	Nov-15	Dec-15	
City of Beverly Hills Accounts	2013	17.0	19.0	27.6	31.2	32.3	33.7	37.3	38.9	35.9	32.2	24.7	21.9	
	2015/16	11.5	9.5	11.6	12.8	13.9	17.9	19.9	20.7	19.4	19.7	16.4	14.1	
	% Change	-32%	-50%	-58%	-59%	-57%	-47%	-47%	-47%	-46%	-39%	-34%	-36%	

Total Water Consumption, Purchased and Produced

Table 4, below, summarizes total consumption since January of 2013. Column 3, Percent Change Compared to Same Month 2013, compares 2015 and 2016 consumption data to a 2013 baseline. 2014 consumption data has been omitted in this report, but is available in the February 2016 Water Consumption Update. Negative percentages represent a reduction in consumption whereas positive percentages represent an increase. Volume is represented in acre feet units.

Table 4, Water Consumption Summary

Date	Consumption (Acre Feet)	Percent Change Compared to Same Month 2013	Residential Gallons Per Day Per Capita
Jan 2013	862.2		161.2
Feb	762.9		158
Mar	932.4		174.4
Apr	969.3		187.3
May	1047.3		185.4
Jun	1077.4		208.2
Jul	1185.5		221.7
Aug	1184.4		221.5
Sep	1156		223.4
Oct	1101.5		206
Nov	939.2		181.5
Dec	888.6		166.2
Jan 2015	806	-6.52%	142.7
Feb	782	2.50%	153.3
Mar	895.9	-3.91%	158.6
Apr	920.8	-5.00%	154.2
May	869.6	-16.97%	140.9
Jun	841.7	-21.88%	147.5
Jul	929	-21.64%	157.5
Aug	976.6	-17.54%	163.1
Sep	918.5	-20.54%	160.9
Oct	897.4	-18.53%	152.2
Nov	814.7	-13.26%	146.9
Dec	779.3	-12.30%	155.4
Jan 2016	633.8	-25.91%	106.7
Feb	663.6	-13.02%	122.0
Mar	706.9	-24.18%	124.1
Apr	742.0	-23.45%	132.1
May	798.7	-23.74%	146.8
June	862.6	-19.94%	161.7
*July	932.0	-21.38%	160.9

* Data for July 2016 is preliminary until final invoices are received from Metropolitan Water District.

ATTACHMENT 3

ATTACHMENT 4

METROPOLITAN WATER DISTRICT - Beverly Hills

Turf Removal Rebate Program - July 2016

RESIDENTIAL	Jun-15	Jul-15	Aug-15	Sep-15	Oct-15	Nov-15	Dec-15	Jan-16	Feb-16	Mar-16	Apr-16	May-16	Jun-16	Jul-16				Total
Pending Applications	25	29	18	10	5	5	3	2	1	3	2	0	5	1				109
Total SF of Projects	41,750	45,548	24,716	11,816	4,378	5,399	5,635	2035	1786	3531	1341	0	6287	440				154,662
Building Type																		
Single Family Detached	23	27	16	10	5	5	3	2	0	3	2	0	5	1				102
Multi-tenant	2	2	2	0	0	0	0	0	1	0	0	0	0	0				7