

Culver CITY
PUBLIC WORKS DEPARTMENT



**WATER CONSERVATION PLAN
FOR FISCAL YEAR 2015/16**

Prepared by the Public Works Department
In cooperation with the
Parks, Recreation and Community Services Department

September, 2015



CULVER CITY WATER CONSERVATION PLAN FOR FY 2015/16

PURPOSE:

In recognition of four years of continuous drought and resulting potable water shortage in California, Culver City has developed this Water Conservation Plan (Plan) to achieve targeted water reductions in City facilities and to provide information and encouragement to residents seeking to reduce water consumption and to enable them to adhere to mandatory water use restrictions. The City's Fiscal Year 2015/16 budget has allocated \$200,000 toward this effort.

INTRODUCTION:

On April 1, 2015 the Governor issued Executive Order B-29-15 proclaiming a continued state of emergency throughout the State of California due to the ongoing drought. Subsequent enabling actions by the State Water Resources Control Board require the City as a whole to reduce its 2013 baseline use of potable water by 16% (Mandate). As the City's primary local water agency, Golden State Water has taken the lead to notify and inform the public about the Mandate and to implement its own Drought Plan designed to achieve compliance.

On November 9, 2009, the City Council amended Chapter 5.03 of the City Municipal Code establishing a Water Conservation and Water Supply Shortage Program and Regulations. Pursuant to Chapter 5.03, on July 13, 2015 the City Council amended the regulations and declared Level 2 water use restrictions citywide (Restrictions). The purpose of the Restrictions are to reduce potable water consumption through conservation, enable effective water supply planning, assure reasonable and beneficial use of water, prevent waste and maximize the efficient use of water.

MANDATORY WATER USE RESTRICTIONS FOR BUSINESSES AND RESIDENTS:

In addition to the following water use restrictions currently in effect, more information is available from the website links contained in Exhibit A of this Plan. The following restrictions are Culver City's however, they expand upon and are consistent with those adopted by Golden State Water and the Los Angeles Department of Water and Power (LADWP).

1) Permanent and Level 2 Potable Water Use Restrictions:

Golden State Water Customers:

- a) No landscape watering between the hours of 8:00 a.m. and 7:00 p.m.



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- b) Watering periods are limited to two days per week from April to October and one day per week from November through March. Even number addresses may water on Sundays and Wednesdays and odd number addresses may water on Tuesdays and Saturday's. (This restriction does not apply to landscape irrigation zones that exclusively use very low flow drip type irrigation systems when no emitter produces more than two gallons of water per hour. This provision also does not apply to watering or irrigation by use of a hand-held bucket or similar container, hand-held hose equipped with a positive self-closing water shut-off nozzle or device or for very short periods of time for the express purpose of adjusting or repairing an irrigation system.)

LADWP Customers:

- a) No landscape watering between the hours of 9:00 a.m. and 4:00 p.m.
b) Watering time is limited to 8 minutes per day per station for traditional sprinkler systems and 15 minutes per day for water conserving nozzle systems.
c) Watering periods are limited to three days per week. Even number addresses may water on Tuesdays, Thursdays and Sundays odd number addresses may water on Mondays, Wednesdays and Fridays.

Other Water Use Restrictions:

- a) Irrigating outdoors during and within 48 hours following measurable fall is prohibited.
b) Excessive water runoff is prohibited.
c) Washing down hard or paved surfaces with potable water is prohibited (except using low-water use methods for safety and sanitary purposes).
d) Water line leaks must be fixed within 48 hours of their discovery.
e) Water used for car washing must be from a hand-held bucket or similar container or a hand-held hose equipped with a self-closing water shut-off nozzle or device.
f) Decorative fountains must use re-circulating water systems.
g) Filling or refilling ornamental lakes or ponds unless required to repair or maintain their safe operation or to sustain aquatic life is prohibited.
h) Restaurants must use water conserving nozzles and only offer water to patrons upon request.
i) Hotels must allow patrons the ability to reject daily linen and towel laundering.
j) Installation of single pass cooling systems or non-re-circulating commercial laundry systems is prohibited.
k) To reduce water evaporation, spas and swimming pools are required to have plastic, hard, fabric or liquid pool covers in place when not in use.



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Enforcement: The City will enforce the above restrictions and LADWP/Golden State Water will enforce the Mandate initially by monitoring the City's overall water use when compared to the same period in 2013. If the City (including all residents and businesses) does not meet the 16% reduction target, additional measures may be implemented. These additional measures will entail measuring an individual customer's water use and comparing it to their 2013 baseline year. Those who do not reduce their use by 16% will be charged a higher tier rate per hundred cubic foot of water use in excess of the Mandate. The rate charged for excess water use will be gradually ratcheted up from \$2.50 to \$10.00 per hundred cubic feet of water until overall compliance is achieved. Gross violators are subject to installation of a water flow restrictor by Golden State Water at a cost of \$150 to \$300 that will remain in place for a minimum of seven days. Violators are also subject to citation and fines up to \$500 per day pursuant to Chapter 1.02 of the Culver City Municipal Code.

To report potable water waste activities in violation of the Restrictions for investigation by the City, visit <http://user.govoutreach.com/culvercity/>.

WATER SAVING MEASURES FOR RESIDENTS:

Following are some options that residents may want to consider when deciding how best to achieve compliance with the water use restrictions:

- a) **Graywater:** Graywater is untreated household wastewater generated from hand washing, laundry and bathing. The wastewater can be diverted from the sewer to irrigate outdoor plants and landscaping. Graywater cannot include any wastewater from toilets, kitchen sinks, dishwashers or clothes washing machines that launder soiled diapers or garments contaminated with chemicals. Residents selecting this option must use detergents and soaps whose formulation will not harm plants. Graywater is different than potable tap water and requires specific measures for its safe reuse in your garden.

Only a general contractor, landscape architect or certified plumber are authorized to design and install a graywater system and a City building permit is required prior to installation. Specific information related to what graywater is and isn't, ensuring its healthy use, types of systems available and their maintenance may be found from the City's Water Conservation webpage at: www.culvercity.org/waterconservation

- b) **Rain Barrel Storm Water Capture Systems:** Rainwater catchment saves normally wasted water and reuses it for irrigation or other nonpotable (non-drinkable) uses. By collecting and using rainwater you are:



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- Slowing downspout water runoff and reducing peak storm water flows that reduce the amount of urban runoff into the storm drain system; and
- Reducing the volume of drinking water used for non-potable uses such as landscape irrigation; and
- Saving money by reducing the amount of water you have to buy from the water company.

While supplies last, each Culver City household may receive up to two free rain barrels from The West Basin Municipal Water District. To learn more about rain capture barrels or to place an order, visit:

<http://www.westbasin.org/water-reliability-2020/conservation/residential-programs>.

- c) Cistern Stormwater Capture Systems: A City permit is required to install a cistern system, which are high capacity systems (in excess of 100 gallons) that capture rainwater into a large container that can hold much more water than a rain barrel and may include pumps to move the rainwater to the garden. More complex systems can involve plumbing and electrical work, soil excavation or other structural work. For rain water collection projects of this scale, consult a professional to determine design, construction and safety considerations at your home.
- d) Landscaping: Adding compost and mulch to landscaped areas reduces water evaporation and deters the growth of weeds. The City of Los Angeles provides Culver City residents free mulch available everyday from 7:00 a.m. to 5:00 p.m. from their Culver City adjacent facility located at 6001 Bowcroft St. in Los Angeles. Mulch is delivered to the facility on Tuesdays and Thursdays. For more information visit: http://www.lacitysan.org/srpcd/mulch_giveaway.htm.

Compost is distributed by the City during special events held throughout the year. To sign up to receive notices of upcoming compost distribution events, visit the City's website at www.culvercity.org and select "Subscribe" at the top of the page. Enter your e-mail address and select "Sustainability and Environmental Issues" under "Ongoing Topics."

- e) Turf Removal Rebate Program:

The City is offering the first 50 residents who elect to remove their turf and replace it with drought tolerant landscaping a \$167.23 bin pull fee rebate to dispose of the turf. To receive the fee waiver, residents are required to read the program's terms and conditions, Frequently Asked Questions and to complete and submit an application to the City. The program materials are available to view and download from the City's website at www.culvercity.org/waterconservation. To inquire about the availability of the rebate, contact the City's Environmental Programs and Operations Division by calling 310-253-6400 or send an e-mail to: turfremoval@culvercity.org.



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f) Bathrooms:

- Install dual-stage toilets (separate liquid and solid flushing options).
- Install high efficiency, low-flow shower heads.
- Install water restricting aerators on faucets.
- Place a bucket beneath the shower to capture the cold water as it begins to heat up and use it to water your plants or to fill toilet tanks.
- Take military-style showers, where an individual initially wets themselves down and then turns the water off to apply soap and shampoo and then turns the water back on to rinse off.
- Only flush the toilet when solids are present.
- Turn the faucet off while brushing your teeth.

g) Kitchens:

- Use a dishwasher or plug and fill the sink with water to clean and rinse dishes instead of allowing the faucet to run continuously.
- In lieu of running the kitchen faucet to grind up and dispose of food scraps down the drain, place the scraps in your garden's composter. Their inclusion adds essential nutrients to compost and enhances its fertilizing properties.

h) Website: The City has created the www.culvercity.org/waterconservation webpage to educate and inform the public. The webpage provides up to date information on the City's water conservation efforts, current drought information, and documentation for the installation and use of graywater and cistern systems.

i) Education: The City has partnered with LA County, the West Basin Municipal Water District and Golden State Water to hold water saving workshops through their California Friendly Landscaping (drought tolerant) courses and Smart Gardening classes (edibles and composting). To sign up to receive notices of future classes held in Culver City, visit the City's website at www.culvercity.org and select "Subscribe" at the top of the page. Enter your e-mail address and select "Sustainability and Environmental Issues" under "Ongoing Topics."

j) Water Saving Kits: Free water saving kits are available from Golden State Water by visiting their website at <http://www.gswater.com/conservation-kit-form/>.

WATER SAVING MEASURES AT CITY FACILITIES:



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In 2014 the City engaged Golden State Water to perform an Indoor and Outdoor Water Use Survey of its larger facilities to identify and quantify potential water saving measures (Survey). In addition, to supplement this effort City staff from the Public Works Department and the Parks, Recreation & Community Services Department have recently reviewed and updated the Survey findings and developed a list of recommended water saving measures. A summary of the cost to implement the following Phase I and II water saving measures at various City facilities are included in Exhibit C of this Plan. Staff anticipates implementation of the following measures will result in a reduction in water use at City facilities by approximately 20%.

Phase I (Completed):

The City has implemented measures that adhere to the requirements outlined in the restrictions and the Mandate. Below is a summary of water saving measures completed thus far:

- 1) Where an irrigation system zone is separated from trees and other plants, the City has discontinued watering ornamental turf in median islands and City facilities.
- 2) Over the past several years, some City facilities have been equipped with low-flow shower heads and waterless urinals.
- 3) The City has begun the process of hiring a landscape architect to prepare new Residential Parkway Guidelines that will include drought-tolerant plant options and prohibit the planting of turf.
- 4) The City will drain and refill the Municipal Plunge every two years instead of annually, provided the chemical balance of the water can be maintained at a level that protects the public's health and safety.

Phase II (Scheduled):

- 1) The City will be hiring a landscape architect to develop landscaping plans to replace City Hall's ornamental turf with drought-tolerant plants. The plant palette developed will become a template for use at other City facilities.
- 2) Purchase and install water saving fixtures the Survey recommends at various City facilities including waterless urinals, low-flow shower heads, low-flow aerators on faucets and dual-stage flushing toilets. The Survey revealed that the City's toilets primarily range from 1.6 to 3.5 gallons per flush (gpf) and the new dual-stage toilets will flush at a rate of 1.1 gpf (liquid) and 1.6 gpf (solid). The City's water using urinals range from 1.1 to 1.5 gpf and will be replaced with waterless urinals. A list of water savings fixture replacements that have been or will be completed at various City facilities are included as Exhibit B of this Plan.
- 3) The Survey revealed a number of irrigation system leaks that were subsequently repaired by the Parks, Recreation and Community Services Department (PRCS).



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- 4) The Survey recommended a number of outdoor irrigation system component improvements at various facilities and parks that includes drip lines, tree bubblers, and altering the space between sprinkler heads to equate to their range of spray along with retrofitting turf and planter areas with drought tolerant plants. A more detailed survey and specific scope of work are now being developed by PRCS that will include various irrigation upgrades to address the inefficiency of some of the City's outdated park and median irrigation systems.

Phase III (To be completed in future years):

If the drought continues or worsens, following are additional water saving measures the City may implement:

1. Using the City Hall drought-tolerant plant palette and irrigation system plans, replace existing landscaping at the at the City's Senior Center, Veterans Memorial Complex and Transportation.
2. Study replacing baseball field turf in City parks with drought-tolerant ground cover.
3. Install rain barrels and/or cisterns at City parks to capture and use storm water.
4. In lieu of draining the Municipal Plunge every other year into the storm drain, it will be pumped into a water truck and the water will be used to fill cisterns at various City facilities.
5. Install graywater systems at the City's larger facilities and fire stations to irrigate nearby landscaping.

MEASURING AND REPORTING:

Water use at various City facilities is being monitored and quarterly progress reports of water savings will be generated. The water usage report will group the water savings by parks, medians and buildings.



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Exhibit A Water Saving Website Resources

Culver City Water Conservation Webpage:

www.culvercity.org/waterconservation

Golden State Water – Water Use Efficiency Rebate Program:

http://www.gswater.com/culver-city/download/conservation_rebates/Culver%20City%20Conservation%20Rebates.pdf

Golden State Water -- Emergency Drought Regulations:

<http://www.gswater.com/download/Web%20Article%20-%20SWRCB%20Regulations%205-1-15%20-%20FINAL.pdf>

Golden State Water – Drought Information:

<http://www.gswater.com/drought/>

Monterey County Graywater Re-Use and Rainwater Catchment Brochure:

http://rainwater.waterawareness.org/docs/WaterBrochurefinal_5web.pdf

Metropolitan Water District -- Drought Information:

<http://bewaterwise.com/drought.html>

Culver City Connect: You Can Report Water Waste Online:

<http://user.govoutreach.com/culvercity/>

League of California Cities – Drought Related Developments:

<http://www.cacities.org/Policy-Advocacy/Hot-Issues/Water>

Metropolitan Water District Turf and Water Fixture Rebate Program:

www.socalwatersmart.com

Los Angeles Department of Water and Power:

[LADWP](http://www.ladwp.com)



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Exhibit B

Water Fixtures Replacements at City Facilities

Status of water fixture replacements at various City facilities:

Legend: C=Completed: S=Scheduled N/A=Not Applicable

	Dual Stage Toilet (\$590)	Dual Stage Valve Only (\$105)	Low-Flow Shower Heads (\$0)*	Waterless Urinals (\$505)	Total Amount	Total Cost
	City Hall	0 N/A	32 S	4 S	7 S	43
Vets	18 S	N/A	N/A	4 S	22	\$12,640.00
Teen		6 S	N/A	4 S	10	\$2,650.00
<i>[4 timed faucets]</i>					4	\$1,500
Municipal Plunge		10 N/A	18 S	2 S	30	\$2,060.00
Senior Center <i>(valve+bowl \$586)</i>				6 S	6	\$3,030.00
		N/A	N/A		20	\$11,720
Public Works Yard		9 N/A	2 S		11	\$945.00
Transfer Station		3 N/A			3	\$315.00
Fire Station 1 and Radio Shop		11 S			11	\$1,155.00
Fire Station 2		7 N/A	8 S		15	\$735.00
Fire Station 3		9 N/A		1 S	10	\$1,450.00
Fire Drill Yard		3 N/A			3	\$315.00
Transportation		12 N/A			12	\$1,260.00
Police Department		30 N/A	15 S	2 S	47	\$4,160.00



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Cardiff Parking Structure	1				1	\$590.00
(with Tank)	S	N/A	N/A	N/A		
Watseka Parking Structure	1				1	\$590.00
(with Tank)	S	N/A	N/A	N/A		
Ince Parking Structure	1	0			1	\$590.00
(with Tank)	S	N/A	N/A	N/A		
Blanco Park		1			1	\$105.00
	N/A	S	N/A	N/A		
Dr. Paul Carlson Park		5			5	\$525.00
	N/A	S	N/A	C		
CC Park -Bott's Field		10			14	\$3,070.00
	N/A	S	N/A	C		
Culver West Park		8			8	\$840.00
	N/A	S	N/A	C		
El Marino Park		4			4	\$420.00
	N/A	S	N/A	C		
Fox Hills Park					6	\$630.00
	N/A	S	N/A	C		
Lindberg Park		6			6	\$630.00
	N/A	S	N/A	C		
Syd Kronenthal Park		6			6	\$630.00
	N/A	S	N/A	C		
Tellefson Park		4			4	\$420.00
	N/A	S	N/A	C		
Veterans Park		3			3	\$315.00
	N/A	S	N/A	C		
Blair Hills Park		3		1	4	\$820.00
	N/A	S	N/A	S		
Totals	21	188	47	31	311	\$61,005.00

Rebates: \$8,825.00
Net Total: \$52,180.00



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Exhibit C

CIP-PO002 Citywide Water Conservation Programs Breakdown of Water Saving Measure Costs

Item	Cost
Hire Landscape Architect to prepare drought-tolerant landscaping plan with new irrigation system for City Hall	\$35,000
Implement City Hall landscaping and irrigation plan	\$46,200
Postcard mailing announcement to all businesses and residents	\$6,630
Turf Removal Incentive Program	\$8,800
Water Fixture Replacements	\$53,370
Park and Other Facility Irrigation Systems	\$50,000
Total	\$200,000