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PURPOSE

This plan is written to provide an actionable continuous improvement plan for reducing water consumption District-wide. Furthermore, this plan establishes monitoring procedures that will allow for quantitative tracking and reporting of our reduction efforts.

HISTORY

On April 1, 2015, Governor Jerry Brown declared a State of Emergency related to continued drought conditions in the California, and he issued Executive Order B-29-15 directing the state to reduce potable water consumption by 25% through February 2016. This order further establishes 2013 as the baseline year for reporting the aforementioned reduction.

Since the passage of Measure C in 2002 the District has taken considerable steps to reduce our overall water consumption. Most notably, we have (1) developed and incorporated new construction standards to maximize the use of reclaimed water and incorporate low-water landscape design, (2) replaced several field surfaces with artificial turf, (3) installed low-flow and/or waterless plumbing fixtures, and (4) significantly upgraded our aged and inefficient irrigation systems. While the District has made significant progress toward reducing water and utility usage, much of this work preceded the baseline year of 2013. Therefore, it is not reflected as a reduction measure for the purposes of this plan.

REGULATIONS

In response to Executive Order B-29-15, the Division of State Architect (DSA) adopted two emergency building standards to address ongoing drought conditions in California. These amendments to the California Code of Regulations (DSA-SS EF-02-15 and DSA-SS EF-03-15) are currently in the public comment phase and have not been finalized.

Generally, these new regulations, will require community college districts (CCDs) to implement more restrictive standards pertaining to reduced potable water use for outdoor landscape irrigation. Additionally, CCDs would be required to improve landscaping water efficiency of a site equivalent to a 75% of the building footprint for all future construction projects.

MONITORING & VERIFICATION

ANNUAL REPORTING

In response to Executive Order B-20-15, District will monitor annual consumption relative to 2013 baseline year. This data will inform the respective campus Facilities Planning committees and advise the ongoing development and implementation of water conservation measures. In addition, this information will be available for reporting purposes to the State Chancellor's Office, as requested.

Coastline Community College Water Usage				
Calendar Year	Consumption (Gallons)	Gross Square Feet (from Space Inventory)	Gallons/GSF	Percent Reduction from Baseline Year
2013	4,896,193	220,188	22.24	Baseline Year
2014	6,337,983	220,188	28.78	29.45%
2015				
2016				

District Office Water Usage				
Calendar Year	Consumption (Gallons)	Gross Square Feet (from Space Inventory)	Gallons/GSF	Percent Reduction from Baseline Year
2013	187,748	57,030	3.29	Baseline Year
2014	227,392	57,030	3.99	21.12%
2015				
2016				

Golden West College Water Usage				
Calendar Year	Consumption (Gallons)	Gross Square Feet (from Space Inventory)	Gallons/GSF	Percent Reduction from Baseline Year
2013	43,743,788	653,945	66.89	Baseline Year
2014	44,619,696	648,740	68.78	2.82%
2015				
2016				

Orange Coast College Water Usage				
Calendar Year	Consumption (Gallons)	Gross Square Feet (from Space Inventory)	Gallons/GSF	Percent Reduction from Baseline Year
2013	23,129,058	967,308	23.91	Baseline Year
2014	25,146,212	1,042,388	24.12	0.89%
2015				
2016				

SUBMETERING

Sub-metering provides real-time, granular visibility of water usage. This localized information can be reported back to maintenance and operations and therefore provide

the ability to implement operational changes immediately, rather than waiting for a month-end report from the water provider. While installation of sub-meters alone will not reduce water usage, diligent monitoring and review of the data informs decision-making and implementation of conservation measures. Each campus may choose to install sub-meters and an associated monitoring program as part of its' routine O&M procedures.

WATER CONSERVATION MEASURES

All water conservation measures on campus are to be referred to the respective Maintenance and Operations department to evaluate the impact and feasibility of the proposed measures. After making a determination that a project is viable, such measures are placed on the Water Conservation Measures Project List and assigned a priority level (High, Normal, Low). This list is intended to serve as a continuous improvement action plan, and projects will be selected for implementation based upon the availability of resources.

PRIORITY LEVEL

<i>Water Savings</i>	Significant	High	High	High
	Moderate	High	Normal	Normal
	Low	High	Normal	Low
		Low	Moderate	Significant

Implementation Cost

Maintenance and Operations will provide a report and review the Water Conservation Measures Project List with their respective Facilities Planning Committee at least once per academic term.

WATER CONSERVATION MEASURES PROJECT LIST

CAMPUS	PROJECT DESCRIPTION	EST. COST	PRIORITY LEVEL	COMPLETION DATE
D/W	Reduce turf watering time by 20%	\$0	High	5/2015
D/W	Suspend use of all water features	\$0	High	5/2015
D/W	Post signage in restrooms to promote water conservation efforts	\$0	High	5/2015
DIST	Install low-flow sink aerators in kitchens	\$300	High	
CCC	Reduce window washing from quarterly to semi-annual	(\$5,000)	High	7/2015
CCC	Reduce pressure washing maintenance activities	\$0	High	7/2015
CCC	Install low-flow toilets/urinals at College Center	\$35,000	High	
CCC	Replace spray irrigation with drip irrigation in planters, College-wide	\$75,000	High	
CCC	Install low-flow faucets and restroom fixtures at Garden Grove Center	\$70,000	Normal	
GWC	Replace pool sand filtration system with "Defender" system, reducing filter backwashes by 98%	\$285,000	High	
GWC	Replace natural turf football practice field with artificial turf	\$1,500,000	Normal	7/2015
OCC	Suspend "water play" at the Childrens' Center	\$0	High	7/2015
OCC	Install automatic weather-controlled irrigation controls (2 zones)	\$32,000	Normal	
OCC	Install low-flow restroom fixtures, campus-wide	\$100,000	Normal	
OCC	Replace 1,200 spray irrigation heads with low-flow rotating irrigation heads	\$90,000	Normal	
OCC	Replace inefficient HVAC Cooling towers at Art Center, Technology, & Music	\$600,000	Normal	
OCC	Replace inefficient HVAC Cooling towers at Building 7, Lewis Center, and Chemistry	\$600,000	Normal	
OCC	Install master irrigation flow sensor and valve with water hammer dampening, pressure regulation, and automatic shut off at the point-of-connection.	\$150,000	Low	

OCC	Install automatic weather-controlled irrigation controls (15 zones)	\$135,000	Low	
OCC	Install automatic flow sensors and master valves to regulate pressure and quickly isolate and turn off leaking irrigation and/or broken sprinkler heads (13 zones)	\$218,000	Low	
OCC	Install reclaimed water source at LeBard Stadium for irrigation			
OCC	Install reclaimed water source at Horticulture gardens for irrigation			

DIVISION OF RESPONSIBILITIES

CAMPUS FACILITIES PLANNING COMMITTEE

- Review water consumption data, annually;
- Identify and recommend new water conservation measures for assessment by the Maintenance and Operations department;
- Review and approve list of Water Conservation Measures Project List, at least once per academic term;
- Receive and discuss periodic staff reports regarding implementation of water conservation measures.

MAINTENANCE AND OPERATIONS DEPARTMENT

- Coordinate implementation of water conservation measures, under advisement of Campus Facilities Planning Committee;
- Conduct regular inspections of irrigation/plumbing and deploy immediate corrective measures;
- Review monthly water usage records and/or develop a site specific sub-meter monitoring program;
- Assess, develop, and recommend new water conservation measures to be included on the Water Conservation Measures Project List;
- Provide staff reports to the Campus Facilities Planning Committee regarding water conservation measures.

FACILITIES DEPARTMENT

- Implement water conservation standards into new construction projects;
- Develop and maintain District-wide Water Conservation Action Plan;
- Support campuses in the development, funding, and implementation of water conservation projects;
- Monitor and support campuses in ensuring continued regulatory compliance;
- Compile and facilitate annual reporting to the State Chancellor's Office, as requested.

PROGRAM NOTES

PROGRAM HISTORY	
10/6/15	Program created.