

Customer Class	2013 Consumption (kgal)	% of Total	2015 Reduction Target (kgal)	% Reduction	Notes
Commercial	101,065	2.70%	10,107	10%	Not much to cut. Mostly indoor use.
Constr. Water	5,888	0.20%	3,000	51%	Use Recycled Water
Industrial	15,518	0.40%	1,552	90%	Not much to cut.
Institutional	62,066	1.70%	52,756	85%	Reduce irrigation. Mostly outdoor use. Convert to recycled.
Irrigation (City Parks)	199,824	5.40%	99,912	50%	Reduce irrigation by 50%. Switch to recycled if possible.
Multi-Family	385,439	10.50%	38,544	90%	Not much to cut. Mostly indoor use.
Residential	2,526,317	68.50%	909,474	36%	Biggest consumer class. 50% irrigation cutback plus others.
Recycled Water	390,000	10.60%	-70,000	117.9%	Conversion of irrigation to recycled to increase.
Drinking Water Demands	3,296,117	89.40%	1,185,345	36%	
Recycled Water Demands	390,080	10.60%	460,080	-18%	
Total Water Demands	3,686,197	100%			
36% Reduction Required:	1,186,602				

Note: This table is taken from a table provided by YVWD (attached). This is an updated table from the one provided in the original agenda report. The Board will be reviewing it on May 12, 2015.

Staff has been working with YVWD to have contractors working on City capital improvement projects utilize recycled water wherever it is reasonable and does not add significant transport costs to the project as determined by the distance to the nearest recycled water hydrant.

An interesting fact that the current State emergency water conservation strategy does not address is that the beach cities like San Francisco discharge secondarily treated wastewater directly into the ocean. If all this wastewater were tertiary-treated, it would represent the 25% reduction currently being sought by the emergency regulations. Treating wastewater is much easier and less costly than desalination.

The one element not included in the YVWD plan, but available in other districts is turf removal. A study of four different turf removal conservation programs, published by Dr. Sylvan Addink ([HTTP://AGOPS.UCR.EDU/TURF/TOPICS/CASH-FOR-GRASS.PDF](http://agops.ucr.edu/turf/topics/cash-for-grass.pdf)) showed the estimated cost of turf removed and replaced per acre-foot of water saved ranges from \$512 to \$1,884. On August 2, 2014, the Press Enterprise published an article titled "Drought: Utilities offer green to residents willing to get rid of grass," that stated that since 2008, Metropolitan Water District of Southern California issue rebates in the amount of \$13.8 million for 21 million square feet of turf removal and 28,350 acre-feet of water conserved which is a unit cost of \$418/acre-foot. YVWD is promoting other conservation measures instead of turf removal at this time as being more cost-effective. Staff will continue to discuss this option with YVWD, SMWC and WHWC.

### **DISCUSSION:**

The YVWD Board recently approved an expenditure of \$250,000 from their Water Depreciation Fund which will be matched by San Bernardino Valley Municipal Water District (Valley District) with 25% for a total amount of \$312,500 to switch irrigation controllers to internet based ones manufactured by Skydrop. The controller checks local weather conditions on an hourly basis and adjust irrigation settings accordingly. They have shown significant water savings while preserving landscaping. Once the controller is set, it does not need to be adjusted manually. Staff submitted a request to be part of the pilot program for the Vision Quest/Historic Fire Station facility and the Scherer Center facility. The \$312,500 will pay for the purchase of 1,500 controllers. There are 12,000 YVWD connections.

In addition, the Valley District has three programs that they are implementing for conservation: 1) 25% match of all conservation measures made by agencies, such as cities, school districts and HOA's; 2) 50% match of irrigation controller replacement with weather based irrigation controllers for customers who utilize 1,500 ccf (hundreds of cubic feet) or more water per year per water controller; and 3) Turf removal incentive by giving \$1/sf turf removed along with \$1/sf turf removed from a Prop 84 grant, if the local water agency will match \$1/sf turf removed for a total incentive of \$3/sf for agencies such as cities and school districts that have turf in highly visible locations as an effort to encourage the general public to do similar conservation efforts. Valley District is considering the turf removal program at their May 19, 2015 Board Workshop. The Valley District staff recommendation is to approve the program. Staff recommends working with Valley District to implement as many of these incentive programs as possible. Staff has recently had discussions with Valley District and YVWD about implementing their programs, including perhaps participating with both agencies in a turf removal program. In 2010, City Council had already authorized utilizing the weather based irrigation controller program by contributing to the high quality weather station located at the YVWD water treatment plant. Several of the City's irrigation controllers already utilize the weather station and staff recommends working with Valley District to upgrade several more controllers to weather based controllers.

As discussed at the April 13, 2015 Council meeting, the City has several parks and facilities that are currently being irrigated using recycled water which is not restricted by the current water shortage regulations. However, the City is irrigating with recycled water responsibly, as many facilities are utilizing weather-based irrigation control clocks as well. Our water features utilize recirculating pumps. Some water features utilize recycled water and staff is working to convert others from potable water to recycled water where this is feasible, such as John Tooker Civic Park. The

**Analysis of 2013 Water Demands  
Baseline for State Water Resources Control Board Emergency Drought Regulations**

May 6, 2015



Customer Class	2013 Consumption (kgal)	2013 Percentage of Use	Proposed Reduction Targets (kgal)	Notes
Commercial	101,065	2.7%	10,107	Commercial water consumption generally represents indoor use only. Commercial accounts generally have two water meters for sewer consumption calculations. Commercial customers without two water meters should curtail outdoor water use by 50%.
Construction Water	5,888	0.2%	3,000	Convert construction water usage to Recycled Water for construction activities as much as possible.
Industrial	15,518	0.4%	1,552	Industrial water consumption generally represents indoor use only. Industrial accounts generally have two water meters for sewer consumption calculations. Industrial customers without two water meters should curtail outdoor water use by 50%.
Institutional	62,066	1.7%	52,756	Institutional customers include schools and churches that use 80%-90% of drinking water outdoors. Reduce outdoor irrigation at these locations and/or convert to recycled water.
Irrigation	199,824	5.4%	99,912	Outdoor irrigation represents the use of drinking water for parks, schools, commercial, industrial and institutional customers with a second water meter. This outdoor irrigation should be curtailed by at least 50% or converted to recycled water. This does not include irrigation uses in the territory of mutual water companies.
Multi-Family	385,439	10.5%	38,544	Multi-Family customers are generally mobile home parks or other multi-family developments. Outdoor use should be curtailed by 50% if applicable resulting in a 10% overall reduction.
Residential	2,526,317	68.5%	909,474	Residential customers use 60%-70% of water demands as outdoor irrigation. Residential customers should reduce outdoor irrigation by 50% which is expected to result in a 36% drinking water reduction overall with specific focus on the largest residential users.
Recycled Water	390,080	10.6%	70,000	Recycled water demands continue to grow from the 2013 baseline period. The District will accelerate the construction of recycled water pipelines to reduce the amount of drinking water used for irrigation throughout Yuccipa and Calimesa by approximately 70 million gallons per year.

2013 Drinking Water Demands 3,296,117 89.4%  
 2013 Recycled Water Demands 390,080 10.6%

**Total Water Demands 3,686,197 100.0%**

**Total potential Reduction Targets for 2015-2016 will result in a reduction of 36% from the baseline 2013 period. This level of water reduction will negatively impact revenues and debt coverage ratios. A financial mitigation plan will be prepared to address the District's credit rating.**

36% Reduction Required 1,186,602