Self-Certification of Supply Reliability for Three Additional Years of Drought

Imported Water

Coastside County Water District (District) purchases raw water from the San Francisco Public Utilities Commission (SFPUC). There are two sources of the purchased raw water. The District has a pump station at Upper Crystal Springs Reservoir and has a diversion at Stone Dam, which is supplied by Pilarcitos Lake. On June 9, 2016, SFPUC provided the District with their analysis of supply reliability for three additional years of drought. The projected SFPUC supply under the SWRCB methodology is 663.6 MG/year for water years 2017, 2018, and 2019. Imported water can meet 91 percent of our calculated demand of 724 MG for the self-certification. As discussed below, the District's combined local sources are more than adequate to supply the additional 60.4 MG required to meet the calculated demand.

Table 1. Imported Water Supply Availability (MG)

Coastside County Water District	CY 2013 Demand	CY 2014 Demand	CY 2013-2014 Average Demand	Projected Supply Under SWRCB Methodology		
				WY 2017	WY 2018	WY 2019
	682.4	644.8	663.6	663.6	663.6	663.6

Local Water Sources

Pilarcitos Creek

The District has a water license (No. 10598) for the diversion of surface water via infiltration wells on Pilarcitos Creek. The diversion is limited to November 1 of each year through March 31 of the succeeding calendar year. In addition, the maximum diversion allowed is 1.5 cfs, 117 MG/year, or 360 ac-ft/year. Even in critically dry years similar to water year 2014, the District is able to divert water from Pilarcitos Creek without allowing the creek to go dry. Pilarcitos Creek watershed is influenced by the heavy coastal fog which normally allows for consistent baseline flows year round in the Creek and its tributaries.

Table 2. Pilarcitos Creek Water Supply Availability						
WY 2013						
	Nov	**Dec**	**Jan**	**Feb**	**Mar**	**Total**
gpm	86	103	171	311	300	
MG	3.74	4.6	7.64	13.0	13.43	42.4
WY 2014						
	Nov	**Dec**	**Jan**	**Feb**	**Mar**	**Total**
gpm	42	17	0	71	39	
MG	1.82	0.76	0	2.97	1.78	7.3
WY 2015						
	Nov	**Dec**	**Jan**	**Feb**	**Mar**	**Total**
gpm	102	239	189	204	197	
MG	4.43	10.67	8.44	8.56	8.8	40.9

Denniston Creek

The District has a water permit (No. 15882) for the diversion of surface water on Denniston Creek. The permit limits the withdrawal of water to 2 cfs.

The District completed an upgrade of its Denniston Water Treatment Plant (Denniston WTP) with construction starting in the summer of 2011 and ending in the spring of 2013. Maximum production from the treatment plant was not achieved until calendar year 2015, while treatment staff optimized treatment processes. The Denniston WTP has a treatment capacity of 1,200 gpm, though current downstream hydraulic restrictions limit the plant flow to 525 gpm.

The District has hired Balance Hydrologics, Inc. to install stream gages and monitor Denniston Creek flows to quantify the amount of water available to the District from Denniston Creek. Water year 2013 and 2014 flow data for Denniston Creek was used to confirm the availability of water in Denniston Creek.

Since the Denniston WTP was either under construction or in the process of being brought up to treatment capacity, treated water production data for Denniston Creek in water years 2013 and 2014 do not reflect current supply availability or treatment capacity. The District has estimated potential production for these years based on a maximum diversion from Denniston Creek of 525 gpm during the District's typical diversion season October through May. The water years 2013 and 2014 Denniston WTP production estimates and actual water year 2015 Denniston WTP production figures shown in Table 3 indicate that the District can reasonably rely on Denniston WTP to produce at least 60 MG/year.

Table 3. Denniston Creek Supply Availability

WY 2013	Estimates from DCAD Gage Data								
	Oct	**Nov**	**Dec**	**Jan**	**Feb**	**Mar**	**Apr**	**May**	**Total**
Mean CFS[1]	0.95	1.53	4.33	3.91	2.42	1.84	1.33	0.93	
GPM[2]	426	687	1943	1755	1086	826	597	417	
MG[3]	18.42	22.68	22.68	22.68	22.68	22.68	22.68	18.03	172.5
WY 2014	Estimates from DCAD Gage Data								
	Oct	**Nov**	**Dec**	**Jan**	**Feb**	**Mar**	**Apr**	**May**	**Total**
Mean CFS[1]	0.67	0.71	0.63	0.69	1.3	0.85	1.31	0.57	
GPM[2]	301	319	283	310	583	381	588	256	
MG[3]	12.99	13.77	12.21	13.38	22.68	16.48	22.68	11.05	125.2
WY 2015	Actual Production from Denniston Creek in WY 2015								
	Oct	**Nov**	**Dec**	**Jan**	**Feb**	**Mar**	**Apr**	**May**	**Total**
MG	0	0.93	2.19	13.95	12.88	12.59	14.34	6.18	63.0

1. Mean monthly streamflow from gaging record in cubic feet per second.
2. Streamflow in gallons per minute.
3. Maximum monthly plant diversion estimated as lesser of streamflow or 525 gpm.

Denniston Groundwater

The source of the District's groundwater is the Half Moon Bay Terrace Groundwater Basin (Number 2-22), which is categorized as a very low priority basin. As the District's CASGEM monitoring well (Well No. 6) has demonstrated, the basin is able to provide water to the District, even during dry years. Well D9 is the District's most productive well and has averaged 34 gpm in June of 2016, with a maximum of 42 gpm.

The District only uses Denniston Groundwater while it is using Denniston Creek. Therefore; since Denniston WTP was under construction and treatment processes were being optimized during water years 2013 and 2014, groundwater estimates are based on groundwater levels during water years 2013 and 2014 and based on optimized treatment plant operations. The estimate also assumes that only Well D9 is producing groundwater for production.

Table 4. Denniston Groundwater (Well D9) Supply Availability Estimates (MG)									
WY 2013	**Oct**	**Nov**	**Dec**	**Jan**	**Feb**	**Mar**	**Apr**	**May**	**Total**
gpm	25	30	30	30	10	10	10	10	
MG	1.116	1.296	1.3392	1.5624	0.4032	0.432	0.432	0.4464	7.0
WY 2014	**Oct**	**Nov**	**Dec**	**Jan**	**Feb**	**Mar**	**Apr**	**May**	**Total**
gpm	10	20	10	10	30	20	10	10	
MG	0.4464	0.864	0.4464	0.4464	1.2096	0.864	0.432	0.4464	5.1
WY 2015	**Oct**	**Nov**	**Dec**	**Jan**	**Feb**	**Mar**	**Apr**	**May**	**Total**
gpm	0	0.25	4.5	14.5	12.8	18.8	30.5	13.5	
MG	0	0.01	0.2	0.64	0.51	0.81	1.31	0.6	4.0

Conclusion

The combined total availability of local and imported water supplies is adequate to meet demand for three more years of continued drought under the assumptions and requirements of the self-certification.