

# Water Demand Offset (WDO) Program

## New Applicant Offset-Generating Project Proposal Application

### Introduction

New Water Service Applicants that have paid their **application fee**, completed their **New Water Service Applicant Agreement** and **Memorandum to the Agreement**, are eligible to propose their own offset-generating project as an alternative or supplemental way to fulfill all or a portion of their Water Demand Offset (WDO) requirement as part of the New Water Service Process.

### Instructions

Your total WDO requirement is calculated by District Staff and can be found on the New Applicant Water Demand Offset form. This requirement is roughly equivalent to two times the water demand that your new development is expected to use. It is shown in acre-feet per year (1 acre-foot = 325,851 gallons).

All applicant-performed offset-generating projects must be approved by the Board of Directors. The steps to apply for Board approval are shown below.

1. Fill out sections A through D with all applicable details of your proposed project.
2. Submit project to District Staff. Proposals can be dropped off at the main office or mailed to:  
**Soquel Creek Water District, Attn: Alyssa Abbey**  
**P.O. Box 1550**  
**Capitola CA, 95010.**  
Proposals can also be emailed to [shelleyf@soquelcreekwater.org](mailto:shelleyf@soquelcreekwater.org).
3. Staff will review proposal for completeness and accuracy. If proposal is:
  - **Approved by Staff:** Applicant will be notified of next available Board meeting to present proposal to the Board of Directors.
  - **Denied by Staff:** Proposal may be denied due to errors in calculations, incomplete or invalid sources, etc. If denied, it will be returned to the applicant with notes on what should be corrected for resubmittal.
4. Board of Directors reviews proposal. Board votes to approve or deny proposal.
5. If approved, applicant performs project.
6. Upon successful completion of the project, offset credits are recognized and remaining WDO requirement, if applicable, is calculated by Staff.
  - If the total offset amount has been met, the applicant may proceed to get a Will Serve Letter from the Board.



### C. Board Criteria for Project Selection

All proposed offset-generating projects will be assessed against criteria set forth by the Board of Directors.

The Board will consider the following 3 criteria when reviewing the project proposal: Permanence, Additionality, and Measurability. As described below, compliance with the Permanence criteria is required (i.e. Pass/Fail), whereas the Additionality and Measurability criteria are scored (from 1 to 5, with 5 being the highest/best) and weighted equally (i.e. 50%/50%). The higher the score, out of 10, the more favorable a project.

**Permanence:** The water savings or increase in water supply for all projects must be considered over a 20 year lifespan. For example, if a proposed project is estimated to save 10 acre-feet per year, but is only expected to last or produce this water savings for 10 years, the water saving should be prorated or cut in half (i.e.  $10 \text{ acre-feet} / (20 \text{ years} / 10 \text{ years}) = 5 \text{ acre-feet}$ ).

Are the water savings or supply calculations for the proposed project considered over 20 years, thus meeting the requirement for permanence?

- Yes
- No (Project will be denied)

**Additionality:** A project must create new water savings or supply that would not/is not expected to have happened anyway, either through District conservation programs, building code changes, expected customer behavior, etc. This criterion will be assessed by the Board on a scale of 1 to 5. Explain how your project meets the criterion of additionality:

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**Measurability:** The water savings or supply from a project should be able to be quantified. The most effective way of quantifying water savings is by metering. However, water savings/supply estimates that rely on previously vetted source information and references (see Attachment) will also be considered. This criterion will be assessed by the Board on a scale of 1 to 5. Explain how your project meets the criterion of measurability:

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**D. Water Savings**

Where available, please use the attached previously vetted source information & references for project proposal water-saving or supply calculations, and denote sources and references for all figures used in the calculations. If assumptions were made, please explain.

Who prepared the water savings/supply calculations for the proposed project?\*

- Applicant
- Other : \_\_\_\_\_

\*Please note that the District’s Conservation Manager may require calculations for unique or complex project proposals to be verified and signed by a professional engineer (or a Certified Landscape Architect for landscape irrigation projects) at the applicant’s expense.

**Water Savings Calculations:**

Please show the method for calculating the water savings or the amount of new supply for the proposed project below. Please note clearly next to each calculations where the information was sourced. Attach any additional calculations with source information to this application.

**Total Estimated Water Savings/Supply:** \_\_\_\_\_ **Acre-feet per year**

\*1 acre-foot = 325,851 gallons



**Previously Vetted Source Information and References for Project Proposal Calculations**

<b>Rainfall Total</b>			
January	6.14 inches	July	0.06 inches
February	5.42 inches	August	0.07 inches
March	4.33 inches	September	0.42 inches
April	1.92 inches	October	1.39 inches
May	0.8 inches	November	3.31 inches
June	0.22 inches	December	5.24 inches
		<b>Total</b>	29.32 inches
<i>Source: NOAA Western Regional Climate Center</i>			
<b>Rain Catchment</b>			
[(Catchment area (ft <sup>2</sup> ))(rainfall depth (in))](0.623 gallons/ft <sup>2</sup> ) = harvested water (gallons)			
<b>Irrigation/Landscaping</b>			
Reference Evapotranspiration (Eto)	= 36.6 inches/year		
Conversion Factor	= 0.623 gallons/ft <sup>2</sup>		
Irrigation Efficiency (drip)	= 0.81		
Irrigation Efficiency (spray)	= 0.75		
<i>Source: SqCWD Water Conservation in Landscaping Ordinance 16-03</i>			
<b>Expected Total Water Use (ETWU) for Landscape</b>			
ETWU = (Eto) (Conversion Factor)[(Plant Factor x Hydrozone Area)/Irrigation Efficiency]			
<b>Plant Type Water Use</b>			
	<i>Definition</i>	<i>Water Use (yearly)</i>	
<i>High water use plants</i>	70-90% of Eto	>25.6 gallons/ft <sup>2</sup>	
<i>Medium water use plant</i>	40-60% of Eto	14.6 – 25.6 gallons/ft <sup>2</sup>	
<i>Low water use plants</i>	10-30% of Eto	3.7 – 14.6 gallons/ft <sup>2</sup>	
<i>Source: Water Use Classification of Landscape Species (WUCOLS) IV</i>			
<b>Demographics</b>			
# persons/home	= 2.7		
<i>Source: Soquel Creek Water District's 2015 Urban Water Management Plan</i>			
<b>Residential Indoor Fixture Usage</b>			
Toilet flushes/day/home	= 12.44		
Shower uses/day/home	= 1.8		
Average showerhead volume	= 2.0 gallons/minute		
Average minutes per shower use	= 7.73 min		
Faucet uses/day/home	= 51.35		
Faucets water/day/home	= 26.35 gallons per household per day		
Clothes washer uses/day	= 0.777		
Clothes washer water/day/home	= 22.76 gallons per household per day		
<i>Source: Water Resource Foundation, Residential End Uses of Water, Version 2 (2016)</i>			

<b>Commercial Restaurant Fixtures</b>		
	<b>Gallons/Year Standard Model</b>	<b>Efficient Model</b>
Commercial Ice Machines	156 gal/100 lbs ice	20 gal/100 lbs ice
Commercial Dishwashers	1.3 gal/rack	0.74 gal/rack
Commercial Steamers	40 gal/hr	15 gal/hr
Commercial Boiler Based Combination Ovens	40 gal/hr	3.5 gal/pan/hr or 20 gal/hr
Pre-Rinse Spray Valves	<a href="http://www.fishnick.com/savewater/tools/watercalculator/">http://www.fishnick.com/savewater/tools/watercalculator/</a>	
<i>Source: Food Service Technology Center</i>		

**Other General Sources of Information\***

1. California Water Efficiency Partnership (formally California Urban Water Conservation Council)
  2. Alliance for Water Efficiency (AWE)
  3. American Water Works Association (AWWA)
  4. East Bay Municipal Utility District (EBMUD)
- [\(http://www.ebmud.com/water-and-drought/conservation-and-rebates/water-conservation-publications/watersmart-guidebook/\)](http://www.ebmud.com/water-and-drought/conservation-and-rebates/water-conservation-publications/watersmart-guidebook/)

\*This is just a small subset of sources that may be appropriate for use in water savings calculations.