

H2OC RainSmart Large Landscape Turf Upgrade Incentive Program

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U.S. Department of the Interior, Bureau of Reclamation
WaterSMART Grants: Water and Energy Efficiency Grants for Fiscal
Year 2025
Funding Group I

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1.0 Mandatory Federal Forms

The following forms were submitted electronically via grants.gov:

SF-424 Application for Federal Assistance

SF-424A Budget Information – Non-Construction Programs

SF-424D Assurances – Construction Programs

2.0 Technical Proposal and Evaluation Criteria

2.1 Executive Summary

Date: November 13, 2024

Applicant Name: County of Orange, Category A applicant

Applicant City, County, State: Orange, Orange County, California

Project Name: H2OC RainSmart Large Landscape Turf Upgrade Incentive Program

Funding Group: This Proposal seeks funding under Funding Group I

Project Location: All 34 incorporated cities and unincorporated areas of Orange County, California.

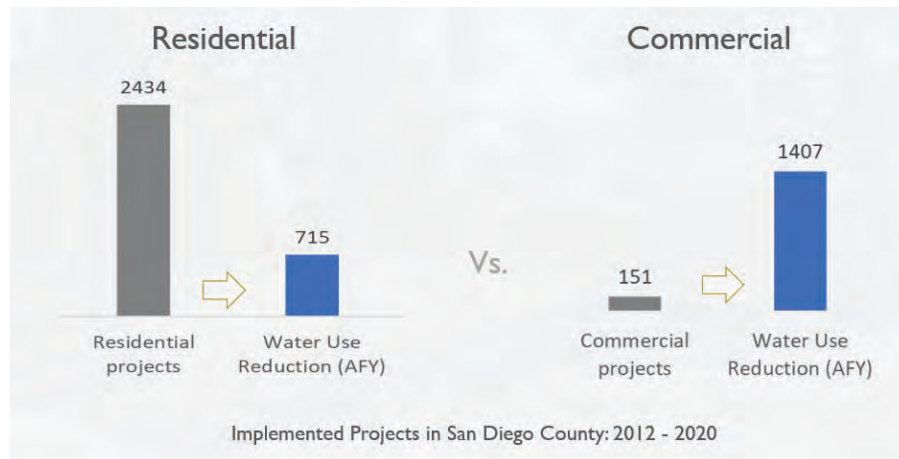
Project Summary:

Through the H2OC RainSmart Large Landscape Turf Upgrade Incentive Program (Project), the County of Orange (County) will provide additional incentive funding to homeowner's associations (HOAs) in Orange County, California, to complete 15 – 25 large landscape turf upgrade projects, replacing 500,000 square feet (SF) of turfgrass with very low to low water use climate appropriate plants, and conserving 67.5 acre-feet per year of water. 82% of Orange County residents live within one of the 4,972 HOAs in Orange County.¹ HOAs manage several large landscapes of turf. The 26 water providers in Orange County have offered incentives to private property owners for turf conversion and irrigation improvements for numerous years. These programs have been widely shown to shift behavior to help conserve water. However, despite the existence of these incentive programs, HOAs have often not implemented turf removal projects due to a variety of barriers including limited time, challenges navigating programs, and complex decision-making processes. Additionally, a newer southern California rebate requirement for turf removal projects to also include a stormwater feature adds another barrier to the implementation for HOAs in Orange County. The additional technical expertise needed to design and construct a stormwater feature on a large landscape also compounds the other barriers of time, stress, and decision-making complexities. Recognizing the substantially greater water savings and water quality benefits that can be achieved through large landscape turf conversions (> 10,000 SF), versus residential turf conversions (see Figure 1 below), the County of Orange now seeks to provide HOAs with the additional incentives and assistance needed to make implementing large landscape turf upgrade projects feasible. From the County's

¹ California Association of Community Managers, Orange County HOAs at a Glance, 2016,

experience, HOAs are willing to complete turf upgrade projects, they just need some additional assistance to make those projects a reality. Numerous HOAs have already expressed interest in the County's large landscape turf upgrade program and the County expects it could convert over 12 million SF of grass in the coming years.

Figure 1: Water Savings from Residential vs Commercial Turf Replacement Projects



An analysis of rebate program participation over 8 years in unincorporated San Diego County showed that although commercial projects were just 6% of total applications, they provided 66% of the water savings achieved.

State the length of time and estimated completion date for the proposed project (mm/yr).

The County estimates a two-year (24-month) project length with a proposed completion date of 10/27. This is based on the NOFO's stated anticipated award date of spring 2025 and requirement not to propose a construction start prior to 10/31/25.

State whether or not the proposed project is located on a Federal facility or will involve Federal lands, and what work will occur on the Federal facility or Federal lands.

The Program is not located on a Federal facility, nor will it involve Federal lands.

2.2 Project Location

The Program will be implemented within the boundaries of Orange County, California. Figure 2, below, depicts the geographical boundaries of the County, which spans 948 square miles and includes a population of 3.2 million. Figure 3, below, shows the water providers located within the County.

Figure 2: Project Location – Orange County, California

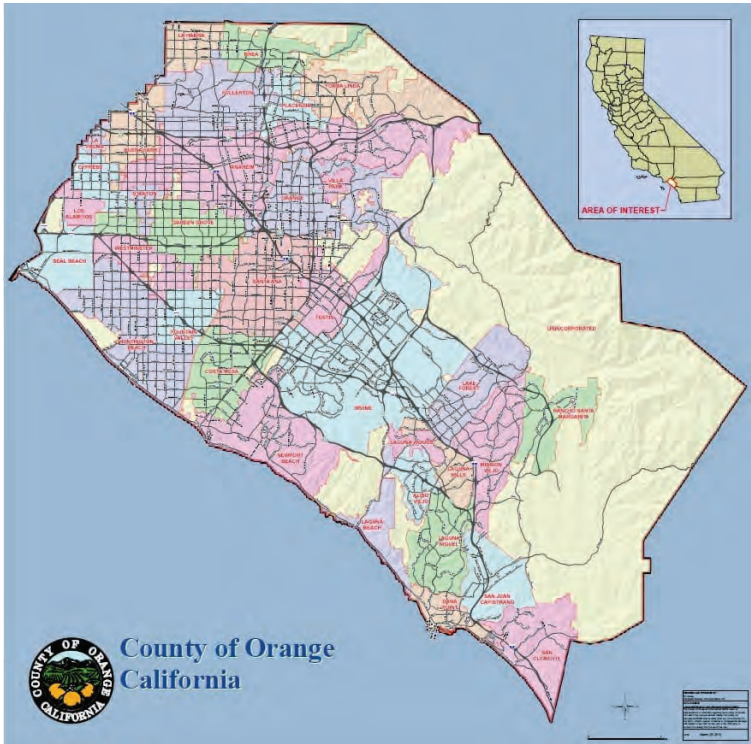
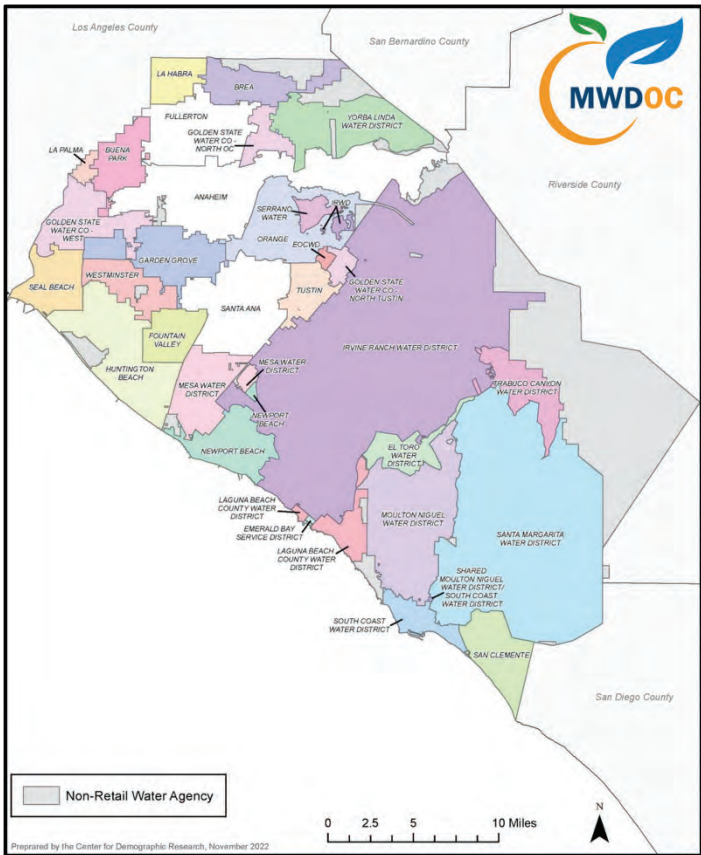


Figure 3 – Municipal Water District of Orange County Member Agencies



2.3 Project Description

The intent of the H2OC RainSmart Large Landscape Turf Upgrade Incentive Program is to provide HOAs with the additional incentives and assistance required to implement large landscape turf removal projects. The County's prototype follows the implementation of a similar program in San Diego County (San Diego), its adjacent neighbor to the south. Data collected by the Metropolitan Water District of Southern California (Metropolitan) in its service area indicates that there may be increased commercial turf removal activity in regions where additional assistance is offered to these customers, such as in San Diego (south of Orange County), where the County of San Diego Waterscape Rebate Program provides technical and financial support to HOAs to implement turf replacement projects. Looking for ways to achieve similar outcomes, in 2023, the County initiated a project prototype to demonstrate the viability of stacking additional incentives with existing water efficiency rebates in order to achieve HOA implementation of large landscape turf conversion projects in Orange County.

A consultant team already under contract with the County (Environmental Incentives, Geosyntec, and Monarch Environmental) led the prototype project phase and initiated two projects with HOA partners in south Orange County. The County intends to expand the work of the prototype project across the entire county to complete 20 large landscape turf upgrade projects following a proven six-step process illustrated in Figure 4 below. The County in concert with its consultant team will provide start-to-finish technical assistance to help participants complete projects.

Figure 4: Six-Step Landscape Upgrade Program Process



Evaluation Criteria

Evaluation Criterion A – Quantifiable Water Savings (25 points)

Estimated Water Savings For projects that conserve water, please state the estimated amount of water expected to be conserved (in acre-feet per year) as a direct result of this project.

Total estimated water savings = 67.5 acre-feet per year (AFY)

This estimated water savings is based on an average annual water savings estimate of 44 gallons per square foot (SF) of turf removed. This is the regional standard water savings number utilized by the Metropolitan. Both Metropolitan and the Municipal Water District of Orange County (MWDOC) calculated the actual water savings from turf removal projects completed in their jurisdictions to be 44 gallons per SF. The County also estimates a 30-year project life for each landscape upgrade based on the projection that the upgraded landscapes will remain drought tolerant in perpetuity.

Current Losses Please explain where the water that will be conserved is currently going and how it is being used. Consider the following:

- Explain where current losses are going (e.g., back to the stream, spilled at the end of the ditch, seeping into the ground)?

Currently, the estimated water to be conserved through the proposed project is either consumed by turfgrass, lost to evapotranspiration, or, in cases of overirrigation or inefficient irrigation, is running off into local storm drains and into local streams, rivers, bays or the Pacific Ocean.

- If known, please explain how current losses are being used. For example, are current losses returning to the system for use by others? Are current losses entering an impaired groundwater table becoming unsuitable for future use?

In cases where overwatering is leading to water running off into storm drains, that water is completely lost to the system and also has the potential to collect pollutants on its way to the storm drain, carrying those pollutants with it into local streams, rivers, bays or the Pacific Ocean.

Not only will completing large landscape turf upgrade projects conserve water in Orange County and reduce demand for imported water supplies but also, improve water quality. Currently, there are numerous listings of water quality impairments for a variety of pollutants, including bacteria, trash, pesticides, metals, and nutrients, within watersheds across the County.

The proposed project will reduce irrigation runoff and dry weather flows into local waterways by removing turf grass and overhead spray irrigation and replacing them with low water use materials and efficient drip irrigation or high-efficiency nozzles. A recent report from the Southern California Coastal Water Research Project (SCCWRP), an aquatic sciences research institute that works to improve management of aquatic systems in Southern California and beyond through data-informed guidance and recommendations, highlights that removing turf grass effectively eliminates runoff in dry weather. The proposed project will keep at least 135

AFY of dry weather flows and associated pollutants out of the Orange County storm drain system over the next 30 years and help improve water quality.

- Are there any known benefits associated with where the current losses are going? For example, is seepage water providing additional habitat for fish or animal species?

There are no known benefits associated with where the losses are currently going.

Documentation of Estimated Water Savings Please provide sufficient detail supporting how the estimate was determined, including all supporting calculations.

Please address the following questions according to the type of infrastructure improvement you are proposing for funding. Turf Removal: Applicants proposing turf removal projects should address:

How have average annual water savings estimates been determined? Please provide all relevant calculations, assumptions, and supporting data.

The County estimated its average annual water savings as follows:

Key Equation for Water Savings Calculation:

Annual Water Savings per Project (in gallons):

$$\text{Annual Water Savings} = 44 \text{ gallons/SF} \times 25,000 \text{ SF} = 1,100,000 \text{ gallons/year per project}$$

Conversion to Acre-Feet per Year (AFY):

$$1 \text{ Acre-Foot} = 325,851 \text{ gallons}$$

$$\text{Water Savings per Project (AFY)} = (1,100,000 \text{ gallons/year} / 325,851 \text{ gallons/AF}) =$$

$$3.38 \text{ AFY per project}$$

Results:

Water savings per project:

$$3.38 \text{ AFY}$$

Total water savings for 20 projects:

$$3.38 \text{ AFY} \times 20 = \underline{67.5 \text{ AFY}}$$

Cumulative water savings over 30-year project life:

$$67.5 \text{ AFY} \times 30 = \underline{2,025 \text{ AF}} \text{ over 30 years}$$

Program Assumptions and Rationale:

Since 1990, Metropolitan has provided conservation rebates and programs to its customers. From Metropolitan's analysis of water savings from actual turf removal projects in its service area, which includes Orange County, Metropolitan found the average annual water savings to be 44 gallons per SF. Metropolitan's findings are based on their regional turf removal program and reflect the benefits of using low-flow, high-efficiency irrigation systems, which further optimize irrigation efficiency and contribute to water savings that exceed initial estimates.

On a recent USBR proposal, the Municipal Water District of Orange County (MWDOC), used Metropolitan's annual water savings number of 44 gallons per SF to estimate water savings

expected for turf removal. In its application, MWDOC first went through a theoretical calculation which estimated savings at 42 gallons per SF. However, the theoretical calculation did not account for the low-flow/high efficiency irrigation requirement for turf conversion projects to be rebate eligible in southern California. MWDOC assumed that the results of Metropolitan's study of actual water use captured the increased irrigation efficiencies, resulting in a slightly higher savings volume than the theoretical calculation. So, MWDOC ultimately used Metropolitan's savings of 44 gallons per SF when estimating its expected turf removal water savings.

Based on other actual water use reduction studies for projects in Orange County, 44 gallons per SF may be a conservative estimate. In 2016, a UC Riverside School of Public Policy study completed for Moulton Niguel Water District, a water district that supplies water to south Orange County, showed actual water savings for turf removal projects in its service area at 45.7 gallons per SF. However, MWDOC serves as the wholesale water provider for all of Orange County, the same geographic area as the project. MWDOC used Metropolitan's water savings number for turf removal projects that incorporate the irrigation optimization practices of low-flow, high-efficiency, which the County will also require. Therefore, the County finds it appropriate to also estimate its average annual water savings as 44 gallons per SF.

Through the proposed project, the County expects to complete 20 turf replacement projects averaging 25,000 SF of turf replaced per project. These assumptions are made based on the average square footage of the first 7 projects recruited for large landscape turf upgrades and based on 14 projects completed in a similar program in San Diego County, Orange County's adjacent neighbor to the south.

b. What is the total surface area of turf to be removed and what is the estimated average annual turf consumptive use rate per unit area?

Overall, the County expects the project to remove **500,000 SF** of turf. Based on existing recruited and interested HOA participants, the County expects to complete 20 large landscape turf upgrades. Each upgrade will remove an average of 25,000 SF of turf.

The estimated annual consumptive turf use rate of 54.3 gallons per SF per year was calculated based on the Estimated Total Water Use for turfgrass:

$$\begin{aligned} \text{ETWU} &= (\text{ETo} * \text{Conversion Factor} * \text{Plant Factor} * \text{Project Area}) / \text{Irrigation Efficiency} \\ &= (43.8 * 0.62 * 0.8 * 1) / 0.4 \\ &= 54.3 \text{ gallons per SF per year} \end{aligned}$$

Assuming:

- ETo = 43.8 inches/year
- Conversion Factor = 0.62 acre inches / gallons per square foot
- Plant Factor (PF) = 0.8
- Project Area (PA) = 1 square foot
- Irrigation Efficiency= 0.4

The turf consumptive use rate per square foot was calculated based on these assumptions:

- Assumed ETo for Orange County Program Area = 43.8 inches per year
 - Orange County has three active CIMIS stations with Total Annual ETo ranging from 41.1 to 45.6 inches in 2024.
 - An average of these three stations yields an ETo of 43.8 inches annually.
- Plant Factor for cool season turf (pre-conversion) = 0.8
- Irrigation Efficiency is defined as “the measurement of the amount of water beneficially used divided by the amount of water applied.” The County’s following Metropolitan’s irrigation efficiency value for pre-conversion turf of 0.4. Metropolitan assumed 0.5 for inefficient system design plus greater inefficiency of 0.1 due to improper controller settings leading to overwatering.
- Conversion Factor = 0.62
 - Converts Acre-Inches to Gallons per Square Foot

c. Was historical water consumption data evaluated to estimate average annual turf consumptive use per unit area? If so, did the evaluation include a weather adjustment component?

No, historical water consumption data was not evaluated to estimate average annual turf consumptive use per unit area.

d. Will site audits be performed before applicants are accepted into the program?

Yes, prior to project approvals and moving any applicants into construction or the removal of any turf, site audits will be performed. After an applicant submits an inquiry for a new project and the County qualifies that applicant, the project then enters the design, selection and application step. This step includes a few onsite reviews to ensure the project meets all necessary requirements prior to implementation.

e. How will actual water savings be verified upon completion of the project?

Actual water savings will be verified upon completion of a project through comparisons of pre-project and post-project water use data. The County intends to use 5 years of pre-project water use data and compare that to post-project water use data assessed at regular intervals, ideally 1-year post-project, 3-years post-project, and 5-years post-project. The water use data comparisons will be based on monthly average use data from customer water bills. Additionally, during post-installation inspection, the area of turf removed will also be verified.

Evaluation Criterion B – Renewable Energy (20 points)

Subcriterion B.2 – Increasing Energy Efficiency in Water Management

Describe any energy efficiencies that are expected to result from implementation of the water conservation or water efficiency project (e.g., reduced pumping).

The water conserved through the project will reduce the amount of water imported to Orange County. Reducing imported water demand will reduce the amount of water treated and conveyed to end users also. The importation, treatment, and delivery of water to South Orange County is extremely energy intensive.

Implementation of this project could eliminate the need to purchase and import 67.5 AFY of potable water, which would result in an estimated total energy savings of 130,140 kWh used per year to convey and treat water from the State Water Project (SWP) and the Colorado River Aqueduct (CRA).

According to a 2010 completed for the California Public Utilities Commission, the average energy intensity for imported water supplies from Metropolitan is 2,473 kWh per Acre-Foot (kWh/AF).²

For the 20 turf conversion projects that save 67.5 AFY of water annually, we can calculate the combined annual energy savings to be **166,927.5 kWh/year**.

- If quantifiable energy savings is expected to result from the project, please provide sufficient details and supporting calculations. If quantifying energy savings, please state the estimated amount in kilowatt hours per year.

Key Equation for Energy Savings:

Energy Savings per Year:

- Energy Savings (kWh) = Water Savings (AFY) × Energy Intensity (kWh/AF)
- Energy Savings = 67.5 AFY × 2,473 kWh/AF = 166,927.5 kWh/year

- How will the energy efficiency improvement combat/offset the impacts of climate change, including an expected reduction in greenhouse gas emissions.

<https://www.epa.gov/energy/greenhouse-gas-equivalencies-calculator>

Using the EPA's 2019 standard emission factor of 7.09×10^{-4} metric tons of CO₂ per kWh, we can estimate the reduction in CO₂ emissions from the energy savings associated with the turf replacement projects. This is shown in the equation below.

Key Equation for CO₂ Reduction:

CO₂ Reduction per Year:

- CO₂ Reduction (metric tons) = Energy Savings (kWh) × Emission Factor (metric tons CO₂/kWh)
- CO₂ Reduction = 166,927.5 kWh × 7.09×10^{-4} metric tons CO₂/kWh = **118.35 metric tons CO₂/year**

- If the project will result in reduced pumping, please describe the current pumping requirements and the types of pumps (e.g., size) currently being used. How would the proposed project impact the current pumping requirements and energy usage?

The project will reduce demand for imported water that comes to Orange County through Metropolitan. Metropolitan's imported water supplies are pumped from the Colorado River

² GEI Consultants/Navigant Consulting, Inc. *Embedded Energy in Water Studies Study 1: Statewide and Regional Water-Energy Relationship*, 2010

through the Colorado River Aqueduct and from the Bay-Delta through the State Water Project. The proposed project would reduce current pumping requirements and energy usage.

- Please indicate whether your energy savings estimate originates from the point of diversion, or whether the estimate is based upon an alternate site of origin.

The energy savings estimate is based on the average energy intensity for imported water supplies from Metropolitan, which supplies imported water to Orange County water districts through the regional wholesaler, MWDOC.

- Does the calculation include any energy required to treat the water, if applicable?

Yes, the calculation also includes energy required to treat the water.

- Will the project result in reduced vehicle miles driven, in turn reducing greenhouse gas emissions? Please provide supporting details and calculations.

No, the project will not result in reduced vehicle miles driven.

- Describe any renewable energy components that will result in minimal energy savings/production (e.g., installing small-scale solar as part of a SCADA system).

N/A

Evaluation Criterion C – Other Project Benefits (15 points)

Up to 15 points may be awarded under this criterion. This criterion prioritizes projects that address a specific water and/or energy concern(s), including enhancing drought resilience and sustainability, addressing the current and future impacts of climate change, and providing ecological benefits.

Resilience and Sustainability Benefits. Will the project address a specific water and/or energy sustainability concern? Please address the following:

- Explain and provide detail of the specific issue(s) in the area that is impacting water resilience and sustainability. Consider the following:

- o Describe recent, existing, or potential drought or water scarcity conditions in the project area.

From 2019 through 2022, California experienced the driest three years on record. In 2022, California experienced its driest January and February on record. These historically dry conditions led California water regulators to cut deliveries from the State Water Project to just 5% of requested supplies, down from 15%. Southern California's wholesale water purveyor, Metropolitan then declared a water shortage emergency and called for a 35% reduction in water use and placed southern California residents under new drought rules.³ The restrictions focused on limits to outdoor watering, either through day and time restrictions or volume restrictions. Metropolitan did not place Orange County under these restrictions in 2022 due to their

³ <https://www.latimes.com/california/story/2022-06-01/southern-california-new-drought-rules-june-2022>

additional receipt of water from the Colorado River Aqueduct (CRA). However, supplies from the CRA cannot be considered guaranteed as the CRA remains an overallocated and stressed system. Over the past two decades, the Colorado River Basin has experienced the worst drought in the last 1,200 years. These conditions reduced storage levels in the basin's two largest reservoirs, Lake Powell and Lake Mead, to unprecedented critically low levels. Levels in those reservoirs remain low, sitting at only 39% and 33 % of total capacity as of October 28, 2024.⁴

During California's latest drought, Governor Newsom called for significant levels of increased local water conservation. At that time, it was noted that expanded rebate programs would be one of the inputs necessary to achieve those levels of increased conservation.⁵ The proposed project will expand existing rebate programs which will reduce barriers to entry for HOAs and achieve implementation of large landscape turf conversion projects throughout Orange County. The water conserved by the implemented projects will then remain in reserves for use during future drought periods.

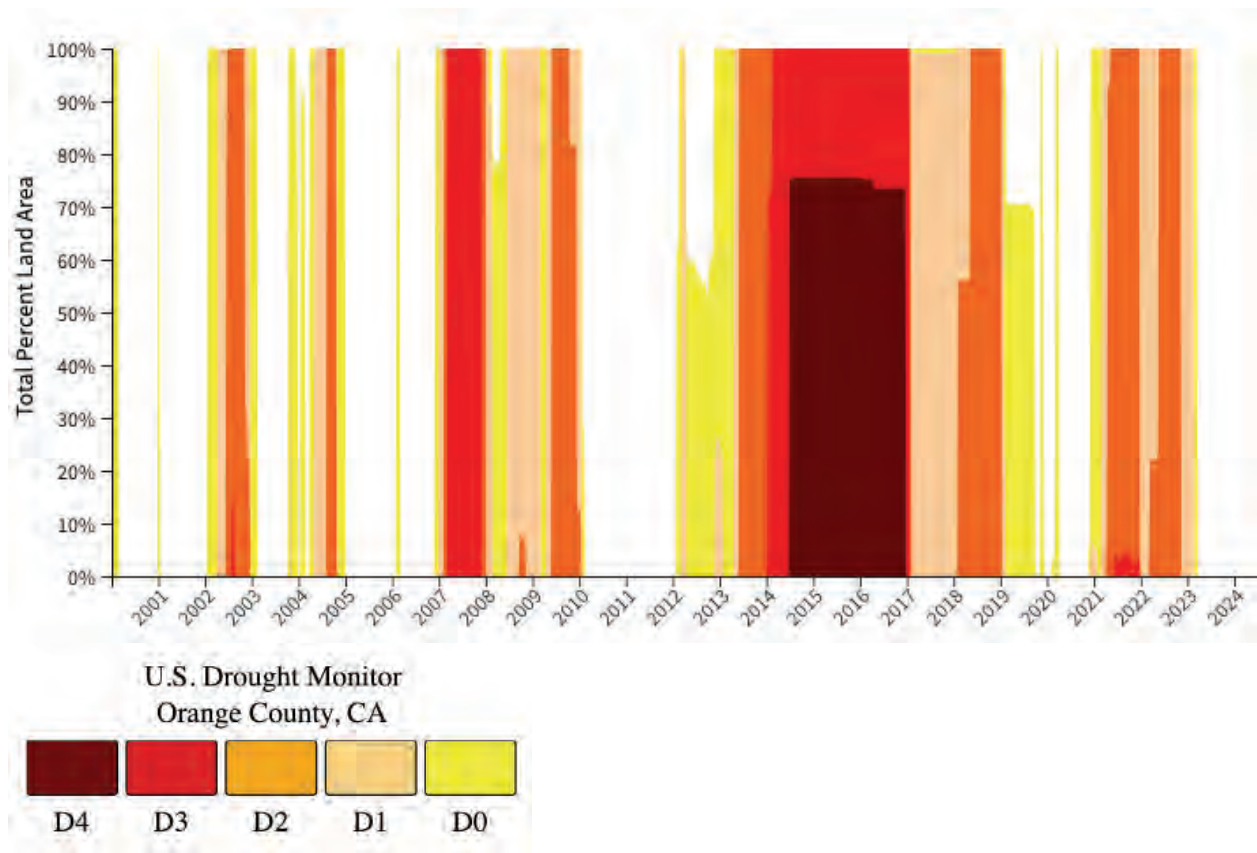
o Is the project in an area that is experiencing, or recently experienced, drought or water scarcity?

Yes. Though recent weather conditions have alleviated drought conditions in the project area, rapid weather fluctuations make it likely that dry conditions could also return quickly. Over the past ten years, from 2014 - 2024, Orange County has been under drought conditions at least seven of those years (70%). And, for nearly three of those years, Orange County was under Exceptional Drought, D4, conditions, the most intense drought category under the U.S. Drought Monitor (USDM). USDM historical conditions for Orange County show frequent drought occurrence throughout Orange County's history. However, drought frequency, duration, and severity have increased since 1895, and most notably over the past 25 years.

⁴ USBR, *Lower Colorado Water Supply Report for October 28, 2024*, <https://www.usbr.gov/lc/region/g4000/weekly.pdf>

⁵ <https://calmatters.org/environment/2022/03/newsom-imposes-new-california-water-restrictions-leaves-details-to-locals/>

Figure 5 – Drought in Orange County 2000 - 2024



o Describe any projected increases to the severity or duration of drought or water scarcity in the project area. Provide support for your response (e.g., reference a recent climate informed analysis, if available).

According to the Bureau’s 2021 SECURE Water Act Report regarding climate change impacts in the western U.S., “the duration, severity, and frequency of droughts are projected to increase in the future compared to droughts of the distant past.” The report notes significant concern over the long-term reliability of water supplies from the overstressed Colorado River Basin, a major source of water supplies for Orange County, especially south Orange County.

Additionally, the 2021 Climate Change Assessment of OCCAMP Plan Area by ICF (specific to Orange County), climate models predict warmer average annual temperatures with more variable precipitation. The OCCAMP assessment also notes changes are expected to generate the secondary effect of more frequent, intense, and longer lasting droughts. Climate models predict an increase in dry days due to more dry days in spring, summer, and fall. Additionally, the climate change assessment also projects less groundwater recharge in the future with direct runoff exceeding soil infiltration capacity. This will put a greater strain on Orange County’s local water supplies.

- Explain and provide detail of the specific issue(s) in the area that is impacting energy sustainability, such as reliance on fossil fuels, pollution, or interruptions in service.

During periods of extreme heat, electricity demand increases throughout California because of increased electricity use both for cooling purposes and for water pumping from the State Water Project and Colorado River Aqueduct. When the grid reaches critically high levels of usage, California's publicly owned utilities enact rotating electricity outages to ease demand on the overall electric supply. Reducing demand for imported water also reduces energy consumption, which will help improve the reliability of California's energy grid and prevent future service interruptions.

- Please describe how the project will directly address the concern(s) stated above.

The water-energy relationship is especially important in California, where roughly 20% of statewide electricity and 30% of non-power plant natural gas is consumed to move, treat, and heat water across the full water life cycle (Klein et al 2005).⁶ Removing large swaths of turf will reduce the County's demand for imported water supplies by converting to climate appropriate landscaping that requires substantially less water. Water conserved by the proposed project will reduce energy consumption by 166,927.5kWh/year. This will help keep California's energy grid running without interruptions during heatwaves.

- Will the project directly result in more efficient management of the water supply? For example, will the project provide greater flexibility to water managers, resulting in a more efficient use of water supplies?

Reducing demand for imported water and keeping that water in storage results in more efficient management of the water supply and provides greater flexibility to water managers, which results in a more efficient use of water supplies.

The proposed project will directly address drought concerns stated by reducing demand for imported water and storing that water for use during the next drought. This provides water managers with greater flexibility in how they manage local water supplies. Water conservation plays such a significant role in increasing the drought resiliency of southern California that Metropolitan has referred to it as its "fourth aqueduct" and notes on its website, "without conservation, the effects of drought would be more swift and more severe. Every drop saved is another drop we can store for dry periods."⁷

- Please address where any conserved water as a result of the project will go and how it will be used, including whether the conserved water will be used to offset groundwater pumping, used to reduce diversions, used to address shortages that impact diversions or reduce deliveries, made available for transfer, left in the river system, or used to meet another intended use.
- It will reduce demand for imported water supplies and be stored for use during future dry periods. As noted by Metropolitan, "Conservation programs play an important role in the

⁶ Edward S Spang et al 2020 Environ. Res. Lett. 15 114031, "The cost-effectiveness of energy savings through water conservation: a utility-scale assessment,"

⁷ <https://www.mwdh2o.com/how-we-plan/weather-extremes/>

region's water supply reliability. Today, about 2.5 million acre-feet of the record 3.4 million acre-feet Metropolitan holds in regional storage is water that has been conserved and stored instead of being consumed. That conserved water has been instrumental in staving off additional and more widespread calls for mandatory water cutbacks had the stored reserves reached critically low levels during droughts over the past 20 years. (An acre-foot is nearly 326,000 gallons, equivalent to the amount of water used by three typical household in a year.)" Annually, the project will keep 67.5 AF (supply for 202.5 households) of water in storage. Over the 30-year project life that equates to 2,025 AF of supply conserved or the amount of water necessary to supply 6,075 households.

o Indicate the quantity of conserved water that will be used for the intended purpose(s).

The entire amount of conserved water, 67.5 AFY, will be used to reduce demand for imported water.

o Provide a description of the mechanism that will be used, if necessary, to put the conserved water to the intended use.

The project does not require an additional mechanism to put the conserved water to the intended use. The large landscape upgrades will achieve conservation through passive means by removing turf and optimizing irrigation efficiency.

• Will the project assist States and water users in complying with interstate compacts?

The project will reduce the Orange County's dependence on imported water supplied by Metropolitan and sourced from the State Water Project (California Bay-Delta system) and the Colorado River. The Colorado River Compact of 1922 serves as the cornerstone of the "Law of the River" that regulates the use and management of the Colorado River among the seven Colorado River Basin states and Mexico. Reducing the demand for imported water from the Colorado River will reduce Metropolitan's demand for Colorado River water and ultimately help it and the State of California comply with the Colorado River Compact and the "Law of the River."

Also, in November 2022, in response to the critical drought experienced by the Colorado River basin, 30 water providers that supply customers with Colorado River water signed a Memorandum of Understanding (MOU) agreeing to create a program to remove 30% of "non-functional" grass and replace it with "drought- and climate-resilient landscaping, while maintaining vital urban landscapes and tree canopy. The signatories represent water providers from various states and the proposed project will help them achieve the desired outcome of the MOU.⁸

• Will the project help to prevent a water-related crisis or conflict? Is there frequently tension or litigation over water in the basin?

The project will help secure local water supplies which is important for ensuring continuity of

⁸ Memorandum of Understanding by and among Colorado River Basin Municipal and Public Water Providers, November 15, 2022: <https://www.snwa.com/assets/pdf/mou-2022.pdf>

service for Orange County residents in the event of a catastrophic disruption preventing the import of supplies from Metropolitan. Significant drought in recent years has created more uncertainty and tension over water supplies from the State Water Project and Colorado River Basin, the two sources of imported water for Orange County. As mentioned earlier, during California's historically dry conditions of 2022, California water regulators cut deliveries from the State Water Project to Metropolitan to just 5% of requested supplies. For the Colorado River, in recent years demand has risen while 20 plus years of drought conditions have shrunk supply.

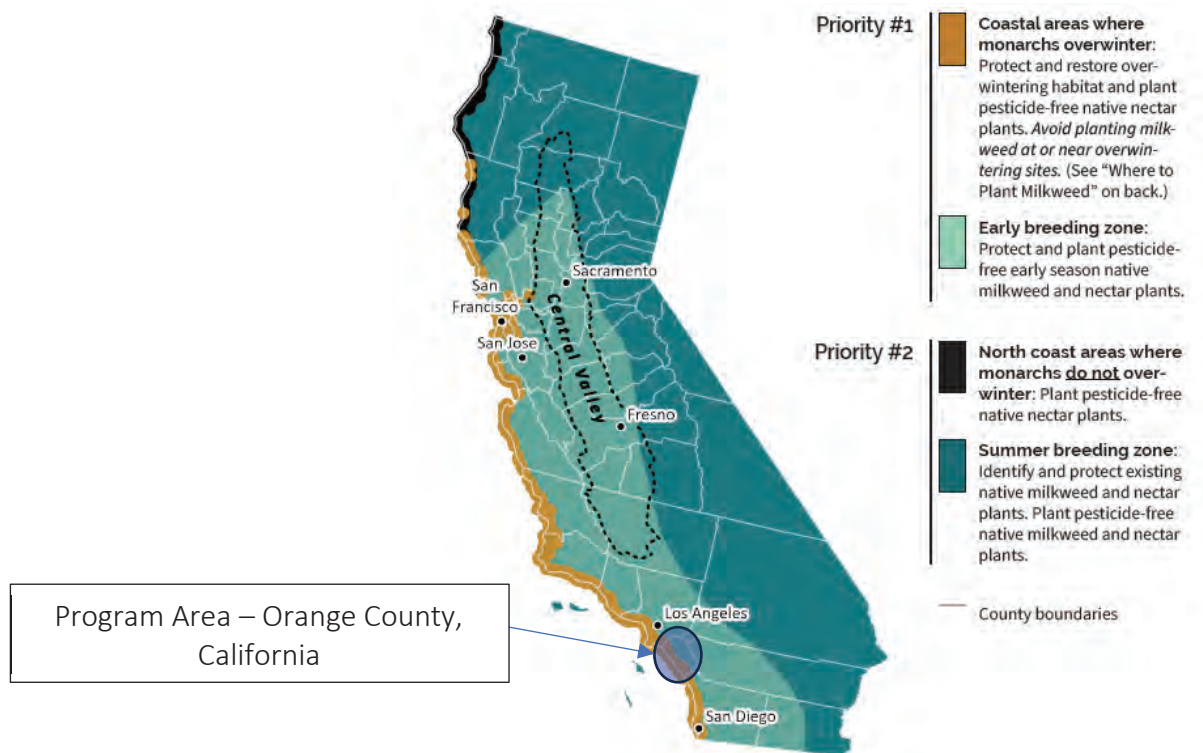
Also, in 2023, the states belonging to the above-mentioned Colorado River Compact of 1922, did not come up with an agreement to make water use meet the river's declining capacity by the federal deadline. This left the decision to USBR which has now developed modified operating guidelines for Glen Canyon and Hoover Dams in order to address the potential for continued low-runoff conditions in the Colorado River Basin. Without significant improvements, Lake Powell and Lake Mead could decline further to critically low levels.

Ecological Benefits. In addition to the separate WaterSMART Environmental Water Resources Projects NOFO, this NOFO places a priority on projects that result in ecological benefits, through this section and other sections above, consistent with the SECURE Water Act. Please provide information regarding how the project will provide ecosystem benefits, including the following:

- Will the project benefit species (e.g., federally threatened or endangered, a federally recognized candidate species, a state listed species, or a species of particular recreational, or economic importance)? Please describe the relationship of the species to the water supply, and whether the species is adversely affected by a Reclamation project or is subject to a recovery plan or conservation plan under the Endangered Species Act (ESA).

Yes, the large landscape turf upgrades completed through this project will benefit species. The turf removal upgrades completed by the project will convert turfgrass to more diverse, low water use, climate appropriate plants, which often include California natives. Turfgrass does not provide the food or nectar sources for endemic insects and pollinators that the conversion replacement plants provide. Two special status insects that will benefit from the landscape upgrades proposed by the project include the Crotch's Bumble Bee, *Bombus crotchii*, and the monarch butterfly, *Danaus plexippus*. Both species have seen population declines over the past 20 years. Crotch's Bumble Bee was listed as a candidate species under the California Endangered Species Act in 2019. The State of California includes monarchs as a Species of Greatest Conservation Need in California's State Wildlife Action Plan and on the California Department of Fish and Wildlife's Terrestrial and Vernal Pool Invertebrates of Conservation Priority List. The U.S. Fish and Wildlife Service expects to issue a review decision in December 2024 for the listing of monarchs under the federal Endangered Species Act. As shown in Figure 6 below, Orange County is a Priority #1 Action Zone for recovery of western monarch butterflies.

Figure 6 – Priority Action Zones in California for Recovering Western Monarchs



- Will water remain in the system for longer periods of time? If so, provide details on current/future durations and any expected resulting benefits (e.g., maintaining water temperatures or water levels, recreational benefits, etc.).

The proposed project will reduce demand for imported water by completing large landscape turf upgrades. Replacing turf with low water use landscaping will contribute to improved recreation quality and ecosystem integrity by addressing the unnatural water balance that is created from excessive dry weather flows. Monitoring efforts indicate that most outfalls in the County discharge some amount of dry weather flow, at least some portion of which originates from inland impervious surfaces. This creates an unnatural water balance in the watershed management area, which supports invasive species and creates nuisance conditions in creeks. Based on best available science, reducing dry weather flow across the County will result in improved ability to use inland streams and creeks for hiking and other non-contact water related recreation, and better enable stream ecosystems to support a diverse community of native organisms.

- Will the proposed project reduce the likelihood of a species listing or otherwise improve the species status?

Yes, removing turf and installing climate appropriate and watershed appropriate plants increases biodiversity and helps protect appropriate habitat for special status species. An evaluation of how yards changed after turf conversion through Metropolitan rebate programs in Los Angeles County from 2014 – 2016 demonstrated the presence of 6 or more species of plants on the majority of post-conversion landscapes. Plant diversity included shrubs, succulents, perennial herbs, and grasses. Also, California native plants were identifiable on approximately 15% of properties.⁹

- Please describe any other ecosystem benefits as a direct result of the project.

Note: Projects that are intended to improve streamflows or aquatic habit, and that are requesting \$500,000 or more in Federal funding, must include information about plans to monitor the benefits of the project. Please describe the plan to monitor improved streamflows or aquatic habit benefits over a five-year period once the project has been completed. Provide detail on the steps to be taken to carry out the plan.

Climate Change: E.O. 14008 emphasizes the need to prioritize and take robust actions to reduce climate pollution; increase resilience to the impacts of climate change; protect public health; and conserve our lands, waters, oceans, and biodiversity.

- Describe how the project addresses climate change and increases resiliency. For example, does the project help communities adapt to bolster drought resilience?

The project addresses climate change and increases resiliency in a few ways. It will conserve 67.5 AFY of water that can then be saved for future drought years. It will convert 500,000 SF of turfgrass to climate appropriate, more biodiverse landscaping, which will require less ongoing irrigation, further improving the area's drought resilience. The landscape upgrades which improve soil health and the water-holding capacity of the soil, combined with the implementation of an onsite stormwater feature will lead to the onsite capture of both dry and wet weather flows. This will improve water quality in the County's rivers, streams, bays, and the Pacific Ocean and protect public health.

- Does the project seek to improve ecological resiliency to climate change?

Yes, removing turfgrass and installing low water use plants improves ecological resiliency by improving soil health, which improves the water-holding capacity of the soil and further increases drought resiliency, increasing biodiversity, and reducing stormwater runoff.

- Does the proposed project seek to reduce or mitigate climate pollutions such as air or water pollution?

The proposed project will also address water pollution and improve water quality as follows:

Wet weather runoff can also be reduced through turf replacement, as sustainable landscaping generally results in a significant reduction in runoff volumes. A recent SCCWRP report which

⁹ <https://californiawaterblog.com/2019/05/19/evaluating-landscape-effects-of-turf-replacement/>

assessed the effectiveness of turf replacement for water quality improvements found that the studied sustainable landscape captured all runoff from a 0.5-inch storm- approximately the size of required stormwater capture for the design storm in the area¹⁰.

Further, these projects also incorporate storm water retention features which vary in capacity. These are typically Bioretention Basins with or without an underdrain and are designed in accordance with the 2017 Technical Guidance Document (TGD) for South Orange County. These storm water features capture water from an area that is often much larger than the area treated in the sustainable landscaping project and with curb cuts they also treat adjacent impervious surfaces. In doing so, they keep significant amounts of pollutants, including bacteria, nitrogen, and phosphorous, out of local waterways. This protects local ecosystems, while also contributing to healthier landscapes and reducing needs for irrigation with treated water.

Assumptions and Rationale:

Based on benefit estimations produced through OC Stormwater Tools for the first three projects in design phases, it is assumed that each project will capture and infiltrate 30,000 cubic feet of stormwater per year, for a total of 600,000 cubic feet or 13.8 AFY of stormwater infiltrated each year. Based on these projects, it is assumed that each project will treat at least 1 acre of impervious surface. This is captured from streets, driveways, and other transportation and residential impervious surfaces.

The OC Stormwater Tools platform was developed as a collaborative effort of Orange County Public Works, MS4 Permittees, and other organizations within the South Orange County Watershed Management Area. It contains a Modeling Module, which includes a calculation engine to quantify pollutant load reduction and other benefits of BMPs. This module calculates the long-term water balance and pollutant load reduction associated with inventoried BMPs. Figure 7 below is an example of an OC Stormwater Tools calculation of the impervious area treated by one of the first turf removal projects in this program.

¹⁰ Southern California Coastal Water Research Project. *Turf Replacement BMPs to Reduce Dry and Wet Weather Runoff*

Figure 7 – Impervious surfaces treated at the Forster Ranch project site

Land Use		Area
Open Space - Low Canopy Vegetation	2.82	0.05
Open Space - Low Density Development	3.75	0.50
Residential - Single Family High Density	1.44	0.46
Transportation - Local Road	0.48	0.13
Total	8.49	1.13
Design Sizing Info		
Effective Area (acres)		1.23
85th Percentile Design Storm Depth (inches)		0.85
85th Percentile Design Volume (cuft)		3,803.47

Key Equation for Wet Weather Flow Reduction:

- Wet Weather Runoff Reduction per Project (cubic feet):
 - Area treated per project: 1 acre
 - Runoff Reduction = 30,000 cubic feet/acre treated
 - Wet Weather runoff treated = 1 Acre x 30,000 cubic feet/Acre = 30,000 cubic feet per project
- Total Wet Weather Reduction for 20 projects:
 - Runoff Reduction for 20 Projects (cubic feet) = (30,000 cubic feet) x 20 projects = 600,000 cubic feet
- Total Wet Weather Runoff Reduction in Acre Feet:
 - Total Wet Weather Runoff Reduction (AFY) = 600,000 cubic feet x (43,560 cubic feet/1 Acre Foot) = 13.8 AFY

- Total Wet Weather Runoff Reduction Over 30 Years:
 - Total Wet Weather Runoff Reduction Over 20 Years = $13.8\text{AFY} \times 30 = 414\text{AF}$ over 30 years

Results:

- Wet Weather Runoff Reduction per Project (AFY):
 - 0.69 AFY
- Total Wet Weather Runoff Reduction for 20 Projects (AFY):
 - 13.8 AFY
- Cumulative Wet Weather Runoff Reduction Over 20 Years:
 - 414 AF

- Does the proposed project include green or sustainable infrastructure to improve community climate resilience?

Yes, the landscape upgrades will incorporate green or sustainable infrastructure techniques, to promote rainwater retention and infiltration such as infiltration strips, bioswales, and rain gardens.

- Does the proposed project contribute to climate change resiliency in other ways not described above?

No.

Evaluation Criterion D – Disadvantaged Communities, Insular Areas, and Tribal Benefits (15 points)

Up to 15 points may be awarded based on the extent that the project demonstrates support for the Biden-Harris Administration’s priorities, including E.O. 14008: Tackling the Climate Crisis at Home and Abroad and the President’s memorandum, Tribal Consultation and Strengthening Nation-to-Nation Relationships. Please address only those priorities that are applicable to your project. It is not necessary to address priorities that are not applicable to your project. A project will not necessarily receive more points simply because multiple priorities are addressed. Points will be allocated based on the degree to which the project supports one or more of the priorities listed, and whether the connection to the priority(ies) is well supported in the application.

E.1.4.1 Subcriterion D.1. Disadvantaged Communities

E.O. 14008 affirms the advancement of environmental justice for all through the development and funding of programs to invest in disadvantaged communities. This criterion, which is used to identify projects that advance the Justice 40 Initiative, includes all Federally recognized Tribes and Tribal entities, and any disadvantaged communities in insular areas (American Samoa, Guam, the Northern Mariana Islands, or the Virgin Islands) identified pursuant to the following criteria.

- Please use the White House Council on Environmental Quality’s interactive Climate and Economic Justice Screening Tool (CEJST), available online at [Explore the map - Climate &](#)

Economic Justice Screening Tool (screeningtool.geoplatform.gov/en/#17.59/36.63278/-105.181329) to identify any disadvantaged communities that will benefit from your project. The CEJST developed by the White House Council on Environmental Quality is a geospatial mapping tool that utilizes publicly available, nationally consistent data sets related to climate change, the environment, health, and economic opportunity to identify disadvantaged communities. In addition to identifying specific census tracts that are disadvantaged, the CEJST includes the lands of Federally recognized Tribes as disadvantaged communities. In addition, regardless of whether a Federally recognized Tribe has land, all Federally recognized Tribal entities are considered disadvantaged communities for the purposes of the Justice40 Initiative.

Figure 8 – CEJST Map of Orange County, CA

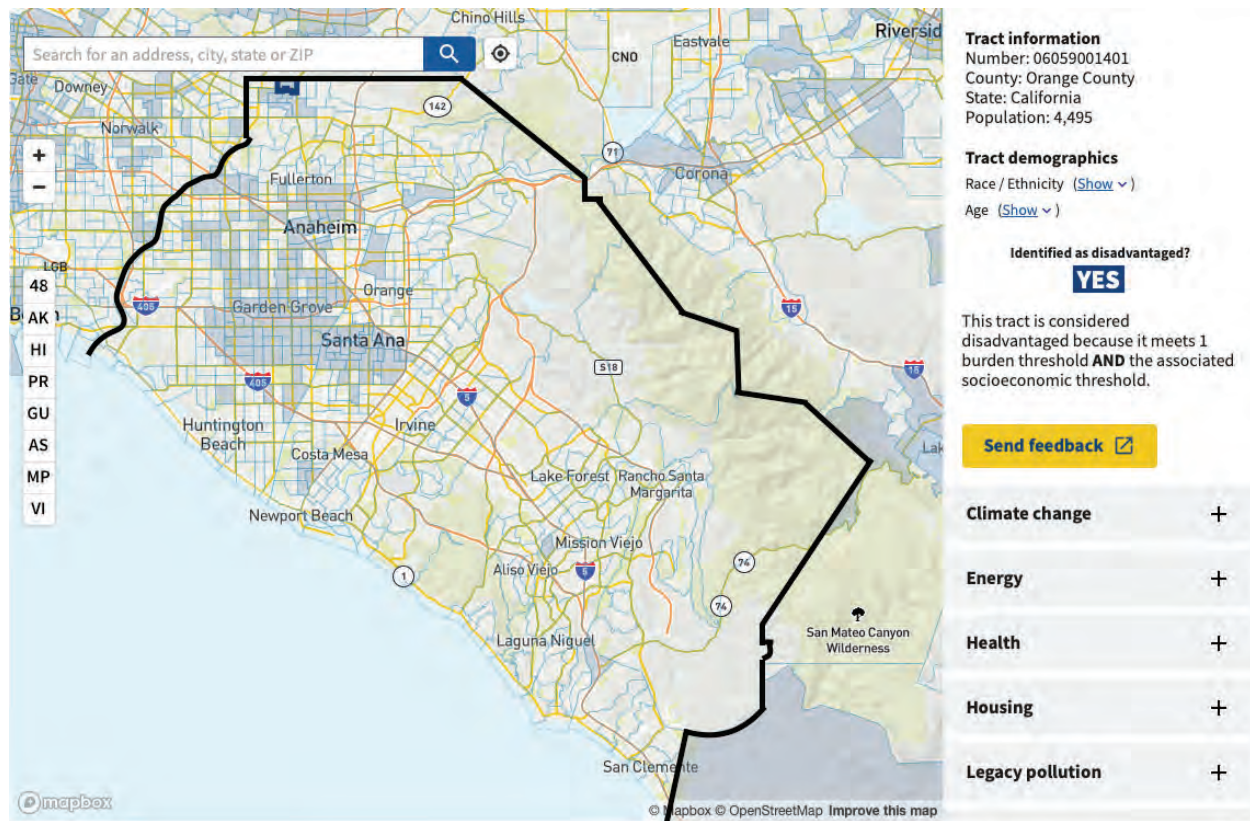


Figure 8 above shows the CEJST map of Orange County, California with disadvantaged communities highlighted in gray.¹¹ A few isolated DACs exist further south in the County with more DACs present to the north. The project will benefit the entire County including these DACs.

- If applicable, describe how the proposed project will serve or benefit a disadvantaged community, identified using the tool. For example, will the project improve public health and safety by addressing water quality, add new water supplies, provide economic growth opportunities, or provide other benefits in a disadvantaged community?

¹¹ <https://screeningtool.geoplatform.gov/en/#9.47/33.693/-117.7699>

The proposed project will increase water conservation, increase drought resiliency, reduce stormwater flows, and increase water quality and improve public health for all of Orange County, including the disadvantaged populations identified through the CEJST. Reducing dry weather flows across the County will improve the ability for all residents to use inland streams and creeks for hiking and other non-contact water related recreation. The improved water quality will also improve beach water quality and encourage greater recreational use of the County's beaches. Additionally, reducing the demand for imported water has the potential to yield long-term economic benefits by reducing the costs of water supplies (imported water is expensive), which may keep customer water rates lower.

E.1.4.2 Subcriterion D.2. Tribal Benefits

The Department is committed to strengthening tribal sovereignty and the fulfillment of Federal Tribal trust responsibilities. The President's memorandum, Tribal Consultation and Strengthening Nation-to-Nation Relationships, asserts the importance of honoring the Federal Government's commitments to Tribal nations. Address the following, if applicable:

- Does the proposed project directly serve and/or benefit a Tribe? Will the project increase water supply sustainability for an Indian Tribe? Will the project provide renewable energy for an Indian Tribe?

The people of the Acjachemen Nation were the original inhabitants of the County of Orange and the project area. The project will increase water supply sustainability throughout Orange County, which includes water supply sustainability for all Tribal members living in the area, which includes members of federally and non-federally recognized Tribes both local to Orange County and from Tribal nations outside of this area.

- Does the proposed project support Tribal led conservation and restoration priorities, and/or incorporate or benefit indigenous traditional knowledge and practices?

No.

- Does the proposed project directly support tribal resilience to climate change and drought impacts or provide other Tribal benefits such as improved public health and safety through water quality improvements, new water supplies, increased renewable energy, or economic growth opportunities? Does the proposed project support Reclamation's Tribal trust responsibilities or a Reclamation activity with a Tribe?

The proposed project will benefit all residents and members of the County, including Tribal members. As noted in the U.S. Department of the Interior's Secretarial Order 3335, "the Federal trust responsibility can often be achieved best by empowering tribes." Though not federally-recognized, the Acjachemen Nation are the original landowners and represent valuable tribal interests in the Project area. Similar to the Bureau's goals of building new or better working relationships with Tribes, the County desires to build a working relationship with the Acjachemen Nation, has begun outreach to them, and would seek to find ways to engage the Tribe and ensure their voices and priorities are heard and addressed.

Evaluation Criterion E – Completing On-Farm Irrigation Improvements (8 points)

N/A - The proposed Program does not include the completion of on-farm irrigation improvements.

Evaluation Criterion F – Readiness to Proceed (8 points)

Up to **8 points** may be awarded for this criterion.

Points may be awarded based upon the extent to which the proposed project is capable of commencing upon entering into a financial assistance agreement. Note: If your project is selected, responses provided in this section will be used to develop the scope of work that will be included in the financial assistance agreement.

Applications that include a detailed project implementation plan (e.g., estimated project schedule that shows the stages and duration of the proposed work, including major tasks, milestones, and dates) will receive the most points under this criterion.

- [_Identify and provide a summary description of the major tasks necessary to complete the project.](#) **Note: Do not repeat the more detailed technical project description provided in *Section D.2.2.2 Application Content*. This section should focus on a summary of the major tasks to be accomplished as part of the project.**

The County envisions the following major tasks for the project. More details for each task can be found under the following question in this section on project schedule.

Task 1 – Project Management and Administration

Task 2 – Participant Solicitation

Task 3 – Design, Selection, & Application

Task 4 – Construction Approval

Task 5 – Project Installation

Task 6 – Verification and Funding Requests

Task 7 – Training, Payment & Close

Task 8 – Project Closeout

- [_Describe any permits that will be required, along with the process for obtaining such permits.](#)

The project does not require any permits. The large landscape upgrades completed with the incentive funds provided by the project will require permits (Model Water Efficient Landscape Ordinance) and administrative or encroachment permits but, as an incentive program, the project itself does not require permits.

- [_Identify and describe any engineering or design work performed specifically in support of the proposed project.](#)

The proposed large landscape turf upgrade incentive program already exists and does not require any engineering or design work prior to implementation. Should it receive funding, the County could execute the project immediately.

- [_Describe any new policies or administrative actions required to implement the project.](#)

[Describe the current design status of the project. If additional design work is required prior to construction, describe the planned process and timeline for completing the design work.](#)

No new policies or administrative actions are required to implement the project.

- Please also include an estimated project schedule that shows the stages and duration of the proposed work, including major tasks, milestones, and dates. Milestones may include, but are not limited to, the following: complete environmental and cultural compliance; mobilization; begin construction/installation; construction/installation (50% complete); and construction/installation (100% complete). Was the expected timeline for environmental and cultural compliance discussed with the local Reclamation regional or area office?

Task 1 – Project Management and Administration (Nov 25 – Oct 27)

Lead: County Staff

County staff will administer and manage the large landscape turf upgrade incentive program. As part of this process, the County will also complete the environmental and cultural compliance required. From a discussion with Leslie Cleveland of the USBR Southern California Area Office on November 4, 2024, the County expects the project to be eligible for a Categorical Exclusion under NEPA and for the compliance to take about a month to complete.

Key deliverables: Completed environmental and cultural compliance. Submitted and approved project reports.

Task 2 – Participant Solicitation (Nov 25 – Mar 26)

Lead: County Staff, Water District partners, Environmental Incentives

While HOA participant solicitation will continue throughout the life of the project with the goal of program expansion beyond the project, for the 20 upgrades to be completed under this project, the County intends to have signed participation agreements with the interested HOAs within the first 4 months of the project.

Key deliverable: signed participation agreement from interested HOAs.

Task 3 – Design, Selection, & Application (Feb 26- Oct 26)

Lead: Environmental Incentives, Geosyntec Consultants, Monarch Environmental

After participation agreements have been signed, the County consultant team will design the upgrades, select the appropriate contractors, and approve the rebate applications to funders. The team's expertise with rebate programs will ensure the upgrades are designed and structured to meet all rebate requirements.

Key deliverables: design documents ready for construction and approved rebate applications.

Task 4 – Construction Approval (Sep 26 – Nov 26)

Lead: Environmental Incentives, Geosyntec Consultants

The County consultant team will create a memo with cost and benefit estimates for participant leadership (HOA Board) approval and will facilitate formal budget approval.

Key deliverable: Board-signed agreement with contractor.

Task 5 – Project Installation (Oct 26 – Apr 27)

Lead: Monarch Environmental, Construction Contractor

Monarch Environmental will check and support the upgrade installation completed by the construction contractor.

Key deliverable: Confirmation of project completion, e.g. photos, etc.

Task 6 – Verification and Funding Requests (Mar 27 – Jun 27)

Lead: Environmental Incentives

Environmental Incentives will verify that the upgrade meets all requirements and request payment of rebates and incentives.

Key deliverable: Payment requests submitted to incentive programs.

Task 7 – Training, Payment & Close (Apr 27 – Sep 27)

Lead: County staff, Environmental Incentives

County staff and Environmental Incentives will complete post-upgrade check-ins, pay participant, and store official documentation.

Key deliverables: Confirmation of payment receipt, and upgrade files stored at County.

Task 8 – Project Closeout (Oct 27)

Lead: County staff

County staff will complete all final reporting and closeout actions for the grant.

Key deliverables: Final invoice and reports submitted to USBR.

Evaluation Criterion G – Collaboration (5 points)

Up to 5 points may be awarded for projects that promote and encourage collaboration among parties in a way that helps increase the sustainability of the water supply.

Please describe how the project promotes and encourages collaboration. Consider the following:

- Is there widespread support for the project? Please provide specific details regarding any support and/or partners involved in the project. What is the extent of their involvement in the process?

Yes, widespread support exists for the Program. The County already has an existing pipeline of interested HOAs. Orange County's wholesale water providers and local water districts support

the project as do existing program participants, and the research arm (SCCWRP). Additionally, San Diego County, which has implemented a very similar program in its region, wholeheartedly lends it support to the County and to this Program, recognizing that increasing water conservation in Orange County will benefit the southern California region as a whole.

Metropolitan and MWDOC will be involved as rebate providers and with marketing. SCCWRP will help with data collection and benefits calculation/reporting. As program participants, HOA interest and support is vital. It is HOA Board members (volunteers) who will be working with the Program administrators to plan and implement their projects. San Diego shares as a partner their lessons learned and program structure to help the County be successful with its implementation.

- [What is the significance of the collaboration/support?](#)

This is one of the first examples of a multi-benefit stacked incentives program in which water supply agencies and water quality agencies have joined together and co-funded nature-based solutions on private property. The broad collaboration and support the County is receiving on this project from HOAs, local water districts, wholesale water providers, and the scientific research community helps to ensure broad outreach and program marketing, rapid participation/program adoption, ease of program administration, and successful pre- and post-project data collection and measurement.

- [Will this project increase the possibility/likelihood of future water conservation improvements by other water users?](#)

Yes, the County expects the project to drive the implementation of future large landscape turf upgrade projects both by HOAs that complete a project through the project and by HOAs that have yet to complete a turf removal project. Data from San Diego show that more than half of project participants went on to complete additional projects and the success of those projects also encouraged broader participation by new HOA partners and individual residential homeowners within the HOA communities.

In 2022, Metropolitan Water District published a study indicating that for every 100 homes using a rebate to replace grass, an additional 132 homes nearby were inspired to replace their grass.¹² This demonstrated the multiplier effect of turf conversion projects. These projects, which have an estimated life of 30-years, create long-term water efficiency practices and increased water conservation.

- [Will the project benefit multiple sectors and/or users \(e.g., agriculture, municipal and industrial, environmental, recreation, or others\)?](#)

The project will benefit commercial large landscape owners and the residents within those HOA communities through cost savings and improved aesthetics. In San Diego's program, it was estimated that on average, participants will save at least \$7,000 annually on water. These

¹² <https://www.mwdh2o.com/press-releases/new-studies-show-metropolitans-grass-removal-incentives-are-driving-transformation-of-southern-californias-landscapes>

savings will help HOAs invest in other community needs, such as recreation, safety, etc. It will directly benefit the municipal, environmental, and recreational sectors by reducing stormwater runoff volume through increased onsite retention, and improved water quality both within local streams and at local beaches.

- Please attach any relevant supporting documents (e.g., letters of support or memorandum of understanding).

Please see Appendix A for letters of support from MWDOC, Forster Ranch, and SCCWRP.

Evaluation Criterion H – Nexus to Reclamation (4 points)

Up to 4 points may be awarded if the proposed project is connected to a Reclamation project or Reclamation activity. No points will be awarded for proposals without connection to a Reclamation project or Reclamation activity.

Describe the nexus between the proposed project and a Reclamation project or Reclamation activity. Please consider:

- Does the applicant have a water service, repayment, or operations and maintenance (O&M) contract with Reclamation?
- If the applicant is not a Reclamation contractor, does the applicant receive Reclamation water through a Reclamation contractor or by any other contractual means?
- Will the proposed work benefit a Reclamation project area or activity?
- Is the applicant a Tribe?

Water supplies connect the project to Reclamation. The County is not a Reclamation contractor, however, the HOAs that will participate in the proposed project receive their water supplies through water providers that obtain imported water supplies through the Municipal Water District of Orange County (MWDOC) and the Metropolitan Water District of Southern California (Metropolitan). These imported supplies come from the Colorado River Aqueduct (CRA) and the State Water Project (SWP). The water conservation achieved through the proposed project will reduce the amount of water imported to Orange County through the CRA and SWP, reducing stress on those systems. Additionally, some projects may be implemented within the service areas of Irvine Ranch Water District and the Orange County Water District. These agencies have Title 16 contracts with Reclamation.

The project will be implemented within the Lower Colorado Region and within the Southern California Area Office activity area and will increase water use efficiency in that area. The applicant is not a Tribe.

2.7 Performance Measures

Actual water savings will be verified upon completion of a project through comparisons of pre-project and post-project water use data. The County intends to use 5 years of pre-project water use data and compare that to post-project water use data assessed at regular intervals, ideally 1-

year post-project, 3-years post-project, and 5-years post-project. The water use data comparisons will be based on monthly average use data from customer water bills. Additionally, during post-installation inspection, the area of turf removed will also be verified.

3.0 Project Budget

Table 1. —Summary of Non-Federal and Federal Funding Sources

FUNDING SOURCES	AMOUNT
Non-Federal Entities	
1. County of Orange	\$1,067,500.00
2. Program Participants	\$37,500.00
3. Metropolitan Water District of Southern California	\$1,000,000.00
Non-Federal Subtotal	\$2,105,000.00
REQUESTED RECLAMATION FUNDING	\$500,000

4.0 Environmental and Cultural Resources Compliance

Will the proposed project impact the surrounding environment (e.g., soil [dust], air, water [quality and quantity], animal habitat)? Please briefly describe all earth-disturbing work and any work that will affect the air, water, or animal habitat in the project area. Please also explain the impacts of such work on the surrounding environment and any steps that could be taken to minimize the impacts.

The proposed project is a rebate incentive program. Ground disturbing activities will be limited to and only occur on customer-owned properties and will be limited to improvements to existing landscaping with turf replacement.

The proposed activities should benefit the environment and not cause any detrimental impacts to air, water, or animal habitat.

Are you aware of any species listed or proposed to be listed as a Federal threatened or endangered species, or designated critical habitat in the project area? If so, would they be affected by any activities associated with the proposed project?

No, it is not anticipated that any species would be affected by any activities associated with the proposed project.

Are there wetlands or other surface waters inside the project boundaries that potentially fall under CWA jurisdiction as “Waters of the United States?” If so, please describe and estimate any impacts the proposed project may have.

No, there are no wetlands or other surface waters where the projects will occur that potentially fall under CWA jurisdiction as “Waters of the United States.”

When was the water delivery system constructed?

N/A – the proposed project does not involve any work on a water delivery system.

Will the proposed project result in any modification of or effects to, individual features of an irrigation system (e.g., headgates, canals, or flumes)? If so, state when those features were constructed and describe the nature and timing of any extensive alterations or modifications to those features completed previously.

No, the proposed project will not result in any modification of or effect to individual features of an irrigation system.

Are any buildings, structures, or features in the irrigation district listed or eligible for listing on the National Register of Historic Places? A cultural resources specialist at your local Reclamation office or the State Historic Preservation Office can assist in answering this question.

No buildings, structures, or features associated with the project are listed or eligible for listing on the National Register of Historic Places.

Are there any known archeological sites in the proposed project area?

No, there are no known archaeological sites that would be affected by the proposed project.

Will the proposed project have a disproportionately high and adverse effect on low income or minority populations?

No, the project will not have a disproportionately high and adverse effect on low income or minority populations. Instead, the project will offer incentives to customers to help them achieve water savings. Some of the targeted large commercial landscapes fall within areas of multi-tenant, multi-family housing dwelling units where low income or minority populations may be more likely to live. The large landscape upgrades, in addition to conserving water and improving water quality also yield aesthetic benefits and would benefit all residents in that way also.

Will the proposed project limit access to and ceremonial use of Indian sacred sites or result in other impacts on Tribal lands?

No, the proposed project will not limit access to or ceremonial use of Indian sacred sites or result in other impacts on Tribal lands as the commercial large landscapes to be improved are not located in such areas.

Will the proposed project contribute to the introduction, continued existence, or spread of noxious weeds or non-native invasive species known to occur in the area?

No, the proposed project prohibits the use of invasive species and will likely reduce the presence of noxious weeds and non-native invasive species through the conversion of existing turfgrass landscapes to landscapes consisting of drought tolerant, watershed friendly plant species.

5.0 Required Permits or Approvals

No permits or approvals from outside agencies are required for the proposed project.

6.0 Overlap or Duplication of Effort Statement

The County submitted a proposal for funding for its large landscape turf upgrade incentive program under both Funding Groups I and II of the USBR WaterSMART WEEG Program for FY 2025. If successful, USBR funding will allow the County to expand existing large landscape upgrade incentive programs within Orange County. Also, any USBR funds received will not duplicate other federal grant funds received in the past by Metropolitan or MWD OC.

Additionally, no other grant funds from state or federal sources have been received for the project, nor have any currently been applied for. In the future, the County may seek additional state and/or federal funds should relevant funding opportunities become available. Any such future funds would support increased participation separate from the funds received under this proposal and would not duplicate efforts.

7.0 Conflict of Interest Disclosure Statement

No actual or potential conflict of interest exists at the time of application submission.

8.0 Uniform Audit Reporting Statement

The County was required to submit a Single Audit report for the most recently closed fiscal year of FY 22/23. The Employer Identification Number (EIN) associated with that report is 956000928. The report is available through the Federal Audit Clearinghouse.

November 6, 2024

The Honorable Camille Calimlim Touton
Commissioner
Bureau of Reclamation
1849 C Street NW
Washington DC 20240-0001

Re: WaterSMART Grants: Water and Energy Efficiency Grants for Fiscal Year 2024 and Fiscal Year 2025, Funding Opportunity No. R24AS00052

Dear Commissioner Touton,

On behalf of the Forster Ranch Master Association (Forster Ranch), I am pleased to write in strong support of the County of Orange's (County) application for United States Bureau of Reclamation (USBR) funds from the FY 2025 WaterSMART Water and Energy Efficiency Grants Program. The H2OC RainSmart Large Landscape Turf Upgrade Incentive Program (Project) will provide incentive funding to homeowner's associations (HOAs) in Orange County, California, to complete large landscape turf removal projects and achieve water conservation.

Forster Ranch is an HOA for a large residential development located in San Clemente in south Orange County. The HOA manages the large common space areas within the overall development, which include large areas of non-functional turf. Forster Ranch participated in a pilot program for large landscape upgrades and received increased incentives and assistance to complete a 44,000 square foot turf replacement project that will save 5.5 acre-feet of water over 10 years. In addition to financial incentives, Forster Ranch received technical assistance for landscape design and project completion, rebate application support, and a post-project site visit and maintenance plan. Without the support provided by the pilot program, Forster Ranch would not have completed this turf removal project or would not have pursued it in this timeframe. Not only will the project reduce the HOA's water use but, it will also reduce irrigation runoff, improve irrigation efficiency, improve landscape sustainability, and yield long-term cost savings on water bills. Based on the success of its initial project, Forster Ranch plans to complete additional turf removal projects for common space areas it manages. Forster Ranch fully supports the County of Orange's proposal to partner with USBR to implement the H2OC RainSmart Large Landscape Turf Upgrade Incentive Program and help other HOAs implement large landscape upgrade projects that would achieve similar benefits to those of the Forster Ranch project.

As a recipient of incentive support, Forster Ranch understands its value and strongly encourages USBR's full consideration of the County's application for funds for the H2OC RainSmart Large Landscape Turf Upgrade Incentive Program. We are excited about the Project which will move other HOAs in Orange County to implement large landscape turf removal projects and achieve both water supply and water quality benefits for the region. If you have any questions, please feel free to contact Kelly Lockett, Board President, at 949-485-8187 or via email at kellylocketthoa@gmail.com.

Sincerely,



Kelly Lockett
President, Forster Ranch Master Association I
3147 Inclinado
San Clemente, CA 92673
email address



November 7, 2024

Street Address:
18700 Ward Street
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City of Tustin
City of Westminster
Yorba Linda Water District

The Honorable Camille Calimlim Touton
Commissioner
Bureau of Reclamation
1849 C Street NW
Washington DC 20240-0001

Re: WaterSMART Grants: Water and Energy Efficiency Grants for Fiscal Year 2024 and Fiscal Year 2025, Funding Opportunity No. R24AS00052

Dear Commissioner Touton,

On behalf of the Municipal Water District of Orange County (MWDOC), I am pleased to write in strong support of the County of Orange's (County) application for United States Bureau of Reclamation (USBR) funds from the FY 2025 WaterSMART Water and Energy Efficiency Grants Program. The H2OC RainSmart Large Landscape Turf Upgrade Incentive Program (Project) will provide incentive funding to homeowner's associations (HOAs) in Orange County, California, to complete large landscape turf removal projects and achieve water conservation.

MWDOC is a wholesale water provider and resource planning agency that oversees, administers, implements, and/or coordinates a suite of landscape-focused rebate programs across its territory to attempt to increase local water use efficiency. MWDOC supports the County of Orange's proposal to partner with USBR to implement the H2OC RainSmart Large Landscape Turf Upgrade Incentive Program to increase HOA participation in turf removal projects. With thousands of HOAs and commercial properties in the MWDOC service area, programs like this are critical to accelerating the transition from grass to climate-appropriate landscapes.

A USBR award would build on investments that MWDOC, the County, and our other local partners have already made towards water use efficiency in this region. MWDOC strongly encourages USBR's full consideration of the County's application for funds for the H2OC RainSmart Large Landscape Turf Upgrade Incentive Program. We are excited about and remain committed to the Project which will help achieve our common goal of increased water conservation for southern California. If you have any questions, please feel free to contact me.

Sincerely,

Joseph Berg
Director of Water Use Efficiency
Municipal Water District of Orange County
(714) 593-5008
jberg@mwdoc.com



SOUTHERN CALIFORNIA COASTAL WATER RESEARCH PROJECT
A Public Agency for Environmental Research

November 4, 2024

The Honorable Camille Calimlim Touton
Commissioner, Bureau of Reclamation
1849 C Street NW
Washington DC 20240-0001

Re: WaterSMART Grants: Water and Energy Efficiency Grants for Fiscal Year 2024 and Fiscal Year 2025, Funding Opportunity No. R24AS00052

Dear Commissioner Touton,

The Southern California Coastal Water Research Project ([SCCWRP](#)) supports the County of Orange (County) application for United States Bureau of Reclamation (USBR) funds from the FY 2025 WaterSMART Water and Energy Efficiency Grants Program. The H2OC RainSmart Large Landscape Turf Upgrade Incentive Program (Project) will provide incentive funding to homeowner's associations (HOAs) in Orange County, California, to complete large landscape turf removal projects and achieve water conservation. This is a proven strategy for water use reduction, on-site urban runoff retention, and runoff water quality improvement based on our research findings in other locations.

SCCWRP is a public research agency that develops and applies next-generation science to improve management of aquatic systems in Southern California and beyond. SCCWRP is comprised of the 14 most influential [regulated and regulatory agencies](#) focused on water quality and quantity throughout the southern California region. Our Board of Commissioners yearns for information such as the data and findings that will emanate from the County's proposal, thereby magnifying the potential impact of funding their proposal.

SCCWRP has been working with the County of San Diego's Waterscape Rebate Program to investigate whether turf replacement best management practices (BMPs) reduce dry and wet weather runoff. Results strongly indicate that turf replacement BMPs can both effectively eliminate irrigation-induced runoff and likely eliminate wet-weather runoff for rainfall events up to approximately 0.5 inches. The H2OC RainSmart Large Landscape Turf Upgrade Incentive Program can further reduce dry and wet weather runoff in southern California, in addition to saving water.

If you have any questions, please feel free to contact Dr Elizabeth Fassman-Beck, Engineering Dept Head, at 714.755.3260 or via email at ElizabethFB@sccwrp.org.

Sincerely,

Kenneth Schiff
Deputy Director



THE METROPOLITAN WATER DISTRICT
OF SOUTHERN CALIFORNIA

Office of the General Manager

November 13, 2024

Ms. Camille Calimlim Touton
Commissioner
Bureau of Reclamation
1849 C Street NW
Washington DC, 20240-0001

Ms. Touton:

Support for County of Orange H2OC RainSmart Large Landscape Turf Upgrade Program
The purpose of this letter is to express The Metropolitan Water District of Southern California's (Metropolitan) support for the County of Orange's H2OC RainSmart Large Landscape Turf Upgrade Incentive Program which will provide incentive funding to homeowner's associations and commercial properties in Orange County, California, to complete large landscape turf removal projects.

Metropolitan is the largest provider of treated water in the United States, serving 19 million Californians within our 5,200-square-mile service area. Metropolitan's mission is to provide adequate and reliable supplies of high-quality water to meet present and future needs in an environmentally and economically responsible way.

In partnership with local water agencies, Metropolitan is a leader in implementing a One Water approach for supply reliability. Metropolitan has invested more than \$1.6 billion in drought-resilient resources such as conservation, recycling, groundwater recovery, and storage. Even with these efforts, Metropolitan recognizes the continued need to diversify Southern California's water resource portfolio to proactively plan for severe droughts, shortage on the Colorado River, projected long-term impacts of climate change, and interruptions in water supply.

The H2OC RainSmart Large Landscape Turf Upgrade Incentive project will play a vital role in conserving water by providing technical and financial assistance to commercial properties, which will yield substantial water savings per project. This project represents a key step toward reducing water waste, particularly of potable water, a precious resource in California. By safeguarding this resource, the project ensures that our community's water supply is being efficiently managed, directly benefiting residents, businesses, and future generations.

Ms. Camille Calimlim Touton
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November 13, 2024

Given these reasons, Metropolitan supports the County of Orange's efforts to secure funding for the H2OC RainSmart project. Please contact Krista Guerrero at (213) 217-6768 or via email at kguerrero@mwdh2o.com if you have any questions.

Sincerely,

A handwritten signature in black ink, appearing to read "B. Goshi", with a stylized flourish at the end.

Brandon J. Goshi
Interim Manager, Water Resource Management

KG:vsm