

City of Santa Barbara

Water Conservation Strategic Plan

Making Conservation a Santa Barbara Way of Life



MADDAUS WATER MANAGEMENT
Making a Difference in the World of Water™



MAY 2026

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Abbreviations and Acronyms

AB	Assembly Bill	HET	high efficiency toilet
acct	account	LEF	Landscape Efficiency Factor
ADU	accessory dwelling unit	LIHWAP	Low-Income Household Water Assistance Program
AF	acre-feet	MFR	Multifamily residential
AFY	acre-feet per year	MUM	Mixed-use meter
AMI	Advanced Metering Infrastructure	MWM	Maddaus Water Management
AWE	Alliance for Water Efficiency	N/A	not applicable
AWWA	American Water Works Association	NO-DES	Neutral Output Discharge Elimination System
AWWARF	American Water Works Association Research Foundation	Plan	Water Conservation Strategic Plan
BMP	Best Management Practice	PPI	Poverty Prevalence Indicator
CalWEP	California Water Efficiency Partnership	psi	pounds per square inch
CEC	California Energy Commission	Regulation	Making Conservation a California Way of Life regulation
CII	Commercial, Industrial, and Institutional	REUWS	Residential End Uses of Water Study
DEI	diversity, equity, and inclusion	RWEP	Regional Water Efficiency Program
DIM	Dedicated irrigation meter	SB	Senate Bill
DSS Model	Least Cost Planning Decision Support System Model	SBMC	Santa Barbara Municipal Code
FY	fiscal year	SB X7-7	Water Conservation Act of 2009
GPCD	gallons per capita per day	SFR	Single Family Residential
gpd	gallons per day	State Board	State Water Resources Control Board
gpf	gallons per flush	ULFT	ultra-low flush toilet
gpm	gallons per minute	UWMP	Urban Water Management Plan
gpscd	gallons per service connection per day	UWUO	Urban Water Use Objective
HECW	high efficiency clothes washer		

1. Executive Summary

The City of Santa Barbara updated its Water Conservation Strategic Plan (Plan) to guide long-term water use efficiency, support compliance with new state regulations, and ensure that conservation remains a reliable, cost-effective part of the City’s water supply portfolio. This update evaluates how the community uses water today, identifies opportunities to save more, and recommends a set of programs that balance water savings, equity, cost, and feasibility. The recommended program is projected to save 984 acre-feet per year (AFY) by 2050—an amount comparable to approximately nine percent of the City’s current annual water demand. The updated Plan includes a cost-effective suite of water conservation measures that will help the City meet future water needs and comply with statewide water efficiency requirements amidst changing water demand conditions and conservation program priorities.

1.1 Purpose of the Plan

The Plan serves several key purposes:

- 1. Forecast long-term water demands** using updated population, land use, and water use trends.
- 2. Evaluate existing and potential conservation measures** to determine which are most effective for Santa Barbara’s climate, customer base, and infrastructure.
- 3. Integrate equity considerations** so that conservation programs are accessible and beneficial to all customers, including renters, multifamily residents, and lower-income households.
- 4. Support compliance with the State’s “Making Conservation a California Way of Life” regulation**, which requires suppliers to meet annual water use objectives and implement new commercial, industrial, and institutional (CII) performance measures.
- 5. Guide future investments** in water efficiency programs, staffing, and partnerships.



1.2 Overview of Analyses Performed

The Plan is built on a comprehensive set of technical and policy analyses, including:

1. Water Use and Demand Forecasting.

The City and Maddaus Water Management, Inc. (MWM) analyzed:

- 1998–2024 billing data for all customer classes
- Indoor and outdoor water use patterns
- Impacts of drought, economic cycles, and the COVID-19 pandemic
- Population, housing, and employment trends

This analysis shows that total water use has fallen to levels last seen in the 1950s, despite a much larger population.

2. Conservation Program Review.

The City's long-standing conservation program—rebates, education, landscape standards, water loss control, and more—was evaluated for effectiveness and alignment with new priorities.

3. Equity and Affordability Assessment.

The Plan incorporates findings from the 2024 Alliance for Water Efficiency report, *"An Assessment of Water Affordability and Conservation Potential in Santa Barbara, CA,"* (Affordability Report) including recommendations for more accessible program design. These insights shaped the selection of new measures, such as leak repair assistance and direct-install toilet replacements.

4. Advanced Metering Infrastructure (AMI) Integration.

With AMI fully deployed in 2024, the City now has hourly water use data for all customers. The Plan evaluates how AMI can improve leak detection, support targeted customer outreach, and enhance program evaluation.

5. Regulatory Compliance Analysis.

A detailed "gap analysis" assessed the City's readiness for statewide Urban Water Use Objective (UWUO) regulatory requirements including CII performance measures and water loss standards. The City is currently in full compliance with all components of the UWUO but continued conservation is necessary to maintain compliance.

6. Conservation Measure Screening and Modeling.

More than 100 potential measures were screened using criteria such as:

- Water savings potential
- Equity impacts
- Service area fit
- Co-benefits (e.g., stormwater, energy savings)

A resulting 18 measures were modeled using the Decision Support System Model, developed by MWM, which estimates costs, savings, and interactions between measures.

7. Program Scenario Evaluation.

Three program packages were modeled:

- **Program A** – Current measures
- **Program B** – Expanded program with additional equity-focused measures
- **Program C** – Most aggressive, additional measures, highest cost

Program B was selected as the Recommended Program. Of all the measures evaluated, those in Program B were chosen for the following reasons:

- Alignment with the One Water Santa Barbara¹ guiding principle to improve local water supply reliability by diversifying the supply portfolio and using water efficiently.
- Addresses recommendations from the Affordability Report that incorporate equity considerations for the conservation program.
- Expansion of existing efforts to meet state-mandated targets and aggregate water use objectives.
- Result in a long-term plan that models a cost-effective means to manage water supplies.

The following projected outcomes are associated with the Recommended Program:

- 984 AFY saved by 2050
- 9% reduction in projected 2050 demand (including plumbing code savings)
- Average annual utility cost: ~\$446,000
- Staffing need: 6 full-time equivalent employees by 2030

¹ More information can be found at: [City of Santa Barbara - One Water](#)

1.3 Key Findings and Takeaways

1. Conservation Remains One of the City's Most Cost-Effective Water Sources

The Fiscal Year 2024 variable avoided cost of water is \$1,078 per AF, while the recommended program saves water at \$719 per AF.

2. The City is Already Meeting All State Water Use Requirements

The City's current water use is below its current and future Urban Water Use Objectives and the City also meets all CII and water loss standards currently. Continued conservation is necessary to maintain compliance.

3. Residential Water Use Offers the Greatest Savings Potential

About 72% of the City's water use is residential, so indoor and outdoor residential programs provide the largest long-term benefit.

4. Equity Improvements are Needed and Achievable

Lower-income census tracts traditionally have lower participation in conservation programs, higher prevalence of multifamily housing, and more renters who do not directly receive water bills. The recommended program includes measures designed to reach these customers more effectively.

5. AMI Creates New Opportunities

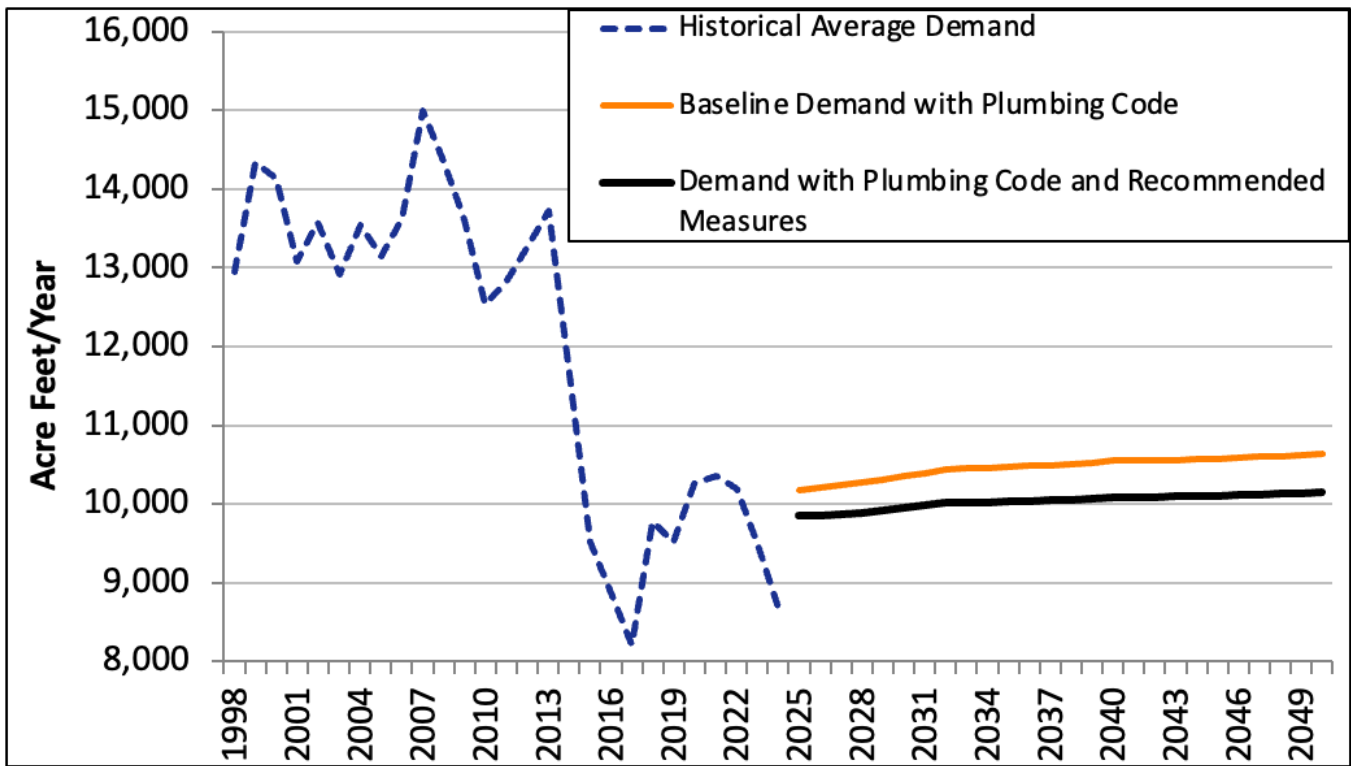
Hourly AMI water consumption data can enable faster leak detection, more precise targeting of high-use accounts, and better evaluation of program effectiveness.

Figure ES-1. City of Santa Barbara Recommended Measures



The following figure presents historical and projected water use for the City in AFY. Plumbing code elements include current local, state, and federal standards for retrofits of items such as toilets, showerheads, faucets, and clothes washers.

Figure ES-2. City of Santa Barbara Historical and Projected Baseline Demand with Plumbing Code and Recommended Measures



Note that the 2025 demand projections start from 2021-2024 average water use. The years 2014-2019 were declared drought for the City which lowered overall water consumption.



2. Introduction

This section presents an introduction to this effort with an overview of the City’s supply, climate, and demographics, as well as the project’s background, development, and purpose.

2.1 Overview of the City of Santa Barbara Water System

Santa Barbara has a semi-arid climate, so providing an adequate water supply requires careful management of water resources. The City has a diverse water supply including local reservoirs (Lake Cachuma and Gibraltar Reservoir), groundwater, State Water Project water, desalinated water, infiltration water from a conveyance tunnel, and recycled water, as illustrated in the following figures.

Conservation has been a long-term priority for the City and is considered a water source. A supply assessment is conducted twice a year by the City in which the water saved through conservation is regarded as equal to other water supply options. When the City conducts supply and demand forecasting analyses, the estimated water made available through conservation is a part of the supply portfolio.

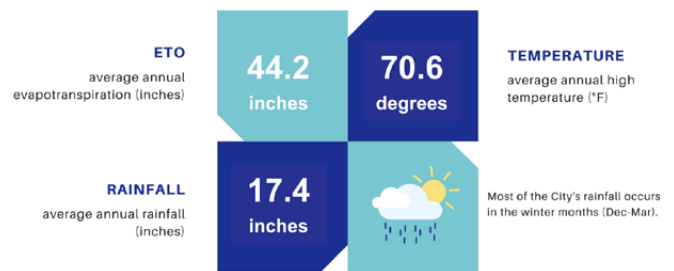
The City has recorded measurements of all water sources and production since 1920 and has metered all service connections since 1973 (Santa Barbara Municipal Code [SBMC] §14.08.010);² as of fiscal year 2025, there are 27,722 service connections.

The City uses a tiered water rate structure that provides incentive for customers to reduce water use. The City bills customers monthly based on metered use, with the units of consumption clearly indicated.

2.1.1 Climate

The City is located on the central coast of California between the Santa Ynez Mountains and the Pacific Ocean. It offers year-round sunshine with a temperate Mediterranean-style climate of cool, wet winters and mild, dry summers. Temperatures only rarely fall below freezing in winter. During the late summer and early fall, hot, dry sundowner winds can create high water demands.

Figure 2-2. Santa Barbara Climate



The numbers presented are based on data from 1994-2025 from Santa Barbara CIMIS Station No. 107.

Figure 2-1. City of Santa Barbara Water Sources



² City of Santa Barbara. [Municipal Code, SBMC §14.08.010](#)

2.1.2 Demographics

Santa Barbara is the second-most populous city in the county with an estimated population of 93,340 at the time of writing this Plan.³

The City has a mix of housing types, including single family residences and multi-unit residences. The City is largely built-out, though it should be assumed that infill and redevelopment will continue at roughly the same rate as in the recent past, resulting in a minor increase in population.

Santa Barbara is a popular vacation destination, and tourism is an important part of the local economy. In addition, many people commute from locations throughout the county or adjacent counties to work in Santa Barbara. It is estimated that there are more than 48,000 jobs in the service area.⁴ Population from tourism and commuters is not factored into the estimated population numbers. However, water use from tourism and commuters is accounted for under the non-residential customer categories in the DSS Model.

2.2 Project Background

The City of Santa Barbara has been a long-term leader in water conservation. The City's Water Conservation Program has been successful in reducing the use of potable water supplies, achieving compliance with state and federal conservation requirements, and creating a water efficiency ethic in the Santa Barbara community. The City's commitment to water conservation has been evidenced by reductions in water demands achieved over the past 30 years. As of the writing of this Water Conservation Strategic Plan, community water use has decreased to the same level it was in the late 1950s, despite population having nearly doubled since that time.

Water use efficiency in the City is supported by coordinating initiatives to achieve a holistic approach to providing the water system and each customer within the service area with the tools needed to conserve water. Recently, a shift in the challenges and drivers for urban water conservation in the City has occurred due to the recent drought, statewide water supply conditions, new state water urban water use objectives, the implementation of Advanced Metering Infrastructure, and changing program priorities (such as the integration of equity considerations in program design). The Plan considers best management practices consistent with current regulations and best practices in the industry and has been guided by the American Water Works Association Manual of Practice M52 – *AWWA Water Conservation Programs – A Planning Manual* (AWWA, 2017).

In 2010, the City hired Maddaus Water Management to forecast and plan for long-term demand management reductions and meet the Water Conservation Act of 2009 (SB X7-7) per capita water use reduction requirements. MWM analyzed the existing conservation program and used its proprietary DSS Model to evaluate current and potential water conservation measures. The DSS Model quantified the demand reduction effects of these measures along with the effects of plumbing codes and appliance standards. Over the past decade, the City has built on the analytical foundation of the DSS Model and related forecasts through consistent program implementation and performance tracking, including additional modeling efforts in 2014, 2018, and 2020. Results of these modeling efforts were used in water supply planning documents and informed water supply policies still in use by the City today.

The City uses benchmarks to assess ongoing program implementation and effectiveness as part of its performance measures. The measures must be measurable and reflect current workload, practices, and policies. Implementation of the conservation measures from the previous DSS Model analyses have been assessed through various performance measures over the past 15 years. These include metrics on meeting the SB X7-7 20% by 2020 gallons per capita per day (GPCD) target annually, participation in the City's Water Education Program for youth, attendees at landscaping workshops for homeowners and professionals, landscape rebate participation, water checkup appointments for homes and businesses, the percentage of e-newsletters read by customers, and more. An example of the City's performance measures report can be found in Appendix A.

Building on the strong foundation of program implementation, participation tracking, and analytical rigor of previous forecasting efforts, this Water Conservation Strategic Plan aims to present an overview of the conservation evaluation process that was completed for the City of Santa Barbara. The goal is to develop a plan that will optimize program costs and water savings and lay a foundation for continued compliance with state mandates. The City has a current Water Conservation Program, which includes the measures that comprise Conservation Program A (described in Chapter 5) and additional qualitative measures. This Plan evaluates whether expanding existing efforts is a feasible and cost-effective way to meet future water needs in comparison to using and/or developing other water sources, while meeting other program objectives such as compliance with state conservation requirements and the incorporation of equity components.

³ This is an estimate of 2025 population based on 2020 Census data and includes a population estimate for the Mission Canyon Community Plan. Population estimate for 2025 is escalated from the 2020 Census estimate using Santa Barbara County Regional Growth Forecasts

⁴ Based on December 2025 employment reported in Mission Canyon and City of Santa Barbara per the [Employment Development Department \(EDD\) web page](#), accessed March 2026.

2.3 Plan Development

The City worked closely with MWM to compile extensive historical data on the region, agency, conservation measures, production, consumption, weather, and various census data points. Together, these formed the foundation for MWM's DSS Model, which prepares long-range water demand and conservation water savings projections.⁵ More detailed information about the DSS Model can be found in the appendices of this Plan, including a description of the assumptions, analysis, and methodology used.

Based on the analysis of current water use patterns, and taking into account characteristics of the service area, a list of more than 100 potential conservation measures was compiled and evaluated. In previous efforts conducted by the City, significant stakeholder input was gathered through work groups established to evaluate needs and rank measures per pre-defined and stakeholder-defined criteria. The measure screening in this current effort was an update to the previous endeavors. During this measure screening, 18 measures were selected for further detailed economic analysis. Assumptions and results for each of the 18 individual measures and three programs (Programs A, B, and C) are described in detail in this Plan.

Following the DSS Model completion and selection of Program B as the Recommended Program for implementation, the Water Conservation Strategic Plan was prepared. This Plan is aligned with a compliance strategy for the new state requirements and with the equity recommendations from the Alliance for Water Efficiency's "An Assessment of Water Affordability and Conservation Potential in Santa Barbara, CA" study.

2.4 Purpose and Scope of Strategic Plan

Through the identification and prioritization of conservation measures, the Plan enables the City to project long-range demands, identify attainable conservation goals, develop strategies, and attempt to raise public awareness. By combining new initiatives with existing programs, this comprehensive strategy and slate of conservation activities will contribute to a more sustainable management of water supplies for the Santa Barbara community.

This Plan incorporates the City objectives as follows:

- Provide assessment, analysis, and measurement of completed and existing water conservation programs.
- Identify cost-effective water conservation opportunities.
- Support the development of updated water demand forecasts used in the City's Urban Water Management Plan (UWMP) and other long-term water supply planning efforts.
- Integrate equity considerations into the screening and prioritization of conservation measures.
- Lay a foundation for continued compliance with state mandates.

In addition, the Plan is intended to serve as a guide for the City regarding future water use efficiency and conservation investments and activities. It includes a functional implementation plan to establish and administer cost-effective conservation measures. Based on a preliminary analysis of the 18 individual measures, three programs (Programs A, B, and C) were designed by the City. Each of the three programs were evaluated to determine the net effect of running multiple measures together over the 26-year period of analysis (2025–2050).



⁵ The DSS Model is an "end-use" model that breaks down total water production (water demand in the service area) to specific water end uses, such as plumbing fixtures and appliance uses. It uses a bottom-up approach that allows for multiple criteria to be considered when estimating future demands, such as the effects of fixture replacements, plumbing codes, and conservation efforts.

3. Historical and Current Water Use

This section presents historical and current water use data and data collection methodologies.

3.1 Information Review and Data Collection Methods

Monthly water use and account data from 2021–2024 was used to derive typical non-drought average water use per account per day. These years were selected because they represent more recent water consumption trends, are after the 2014-2019 drought, and are after the COVID-19 Pandemic. Based on the City’s water billing system, residential water use was broken down into single family, single family with an accessory dwelling unit (ADU), and multifamily categories. Historical data was segregated into indoor and outdoor water use by customer type using the monthly billing data. Irrigation-only water use was also analyzed (from consumption data for irrigation-only accounts). Non-residential categories of use were analyzed for average daily commercial and industrial water use on a gallons-per-account basis.

3.2 Consumption

Figure 3-2 illustrates historical monthly total consumption from the last 27 years. Consumption data is measured at the customer meters. The City’s water use decreased with the 2008-2011 recession and the multi-year drought which affected the City from 2014-2019.⁶ Water use was further impacted by the COVID-19 Pandemic.⁷

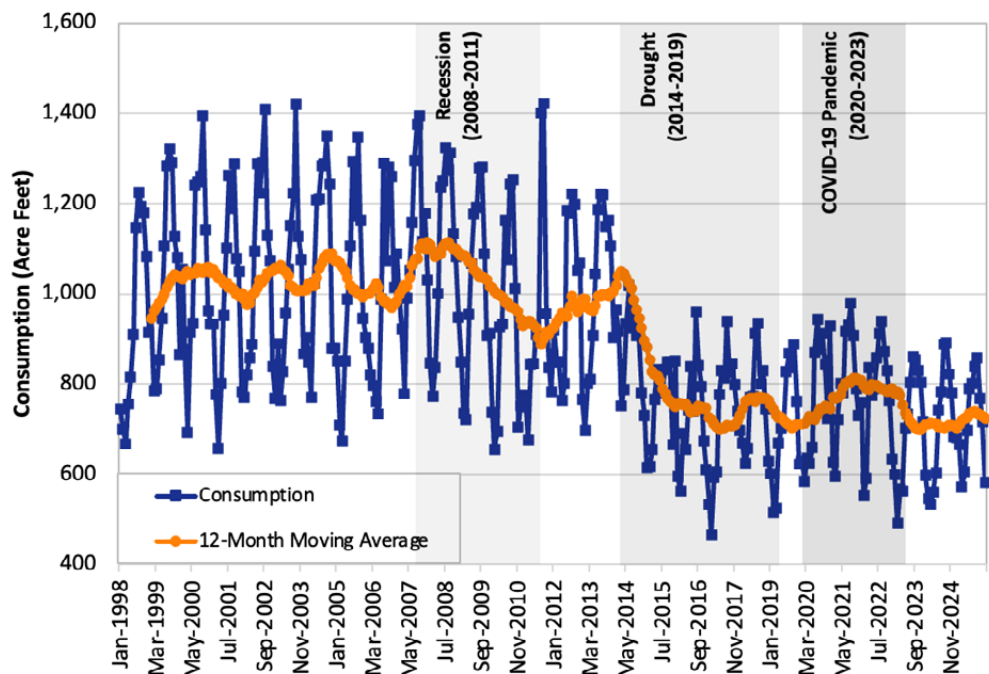
The City serves several types of water users through approximately 27,597 potable connections (excluding fire lines), all of which are metered. For the purpose of this analysis, current and projected potable water user categories are classified as follows:

- Single Family
- Single Family with Accessory Dwelling Unit (ADU)
- Multifamily
- Commercial
- Industrial
- Irrigation

Figure 3-1.
Data Used in the DSS Model

<p>General Information</p> <ul style="list-style-type: none"> • Agency Info • Planning Documents • Abnormal Years <p>Historical Data</p> <ul style="list-style-type: none"> • Customer Categories • Production • Consumption • Maximum Day Demand • Weather • Avoided Cost of Additional Water Supplies <p>Demographic Data</p> <ul style="list-style-type: none"> • Population • Jobs <p>Conservation</p> <ul style="list-style-type: none"> • Conservation Targets • Historical Conservation • Water Loss Program • Landscape Area Measurements • CII Classifications

Figure 3-2.
City of Santa Barbara Historical Consumption



⁶ See Resolution No. 17-017

⁷ California Health and Human Services. 2023. [End of California's COVID-19 State of Emergency and the Federal Public Health Emergency for COVID-19.](#)

Figure 3-3. Average Consumption by User Category

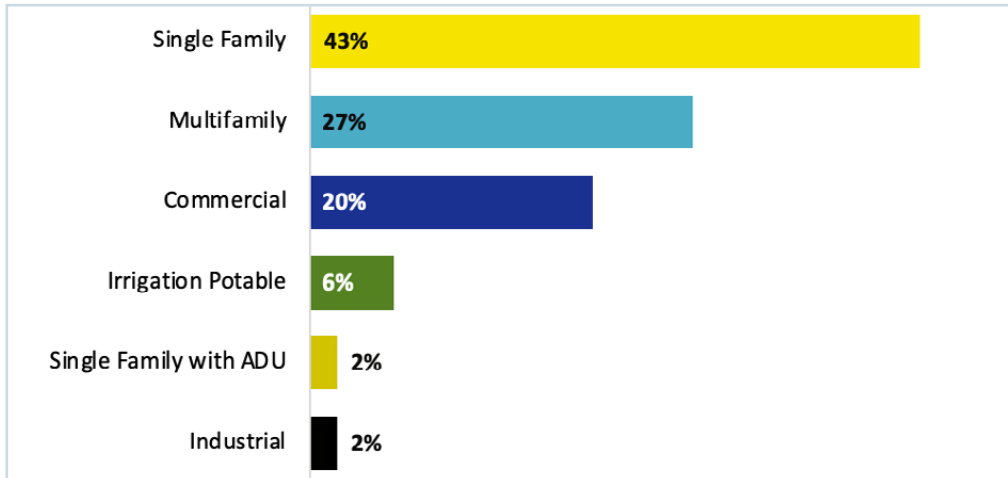


Figure 3-3 is based on 2021–2024 historical water use per account by customer category, representing conditions after the 2014-2019 drought and the COVID-19 Pandemic.

Single Family with ADU accounts represent single-family residences with an accessory dwelling unit (an independent living unit usually comprised of living quarters with a kitchen and bathroom). This category was included in modeling as it is expected that water use on single family properties with an ADU varies from water use by single family residences without an ADU. As vacant lots are scarce in the City, ADUs are in high demand as a key way to build new housing. The City offers preapproved ADU building plans to streamline the building process. Modeling this customer category separately will allow for the City to more accurately track their water use, potential water savings and potential conservation measure costs. Figure 3-3 presents the water use profile of the average annual billed metered consumption of the various user categories based on monthly water use and account data from years 2021–2024.

3.3 Historical and Current Conservation Program

The City's Water Conservation Program began as a response to drought in the late 1970s. In 1988, the Water Conservation Program was enhanced as a result of recommendations from the City's Five-Year Water Policy Action Plan. As a result of the 1987-1991 drought, the City accelerated implementation of the Water Conservation Program.

In December 1990, the Santa Barbara County Regional Water Efficiency Program (RWEF) was established as a collaboration among the many local water purveyors and the County of Santa Barbara Water Agency. RWEF promotes the efficient use of water countywide and provides information and assistance to the 16 local water purveyors within the county, including the City of Santa Barbara. RWEF members coordinate cooperative water conservation efforts among purveyors, co-fund projects and programs, function as a clearinghouse for information on water efficiency, manage specific projects and programs, and monitor local, state, and national legislation related to efficient water use. RWEF provides an annual report with information on accomplishments; the FY2023-24 report can be found in Appendix G.

In January 1992, the City joined the California Urban Water Conservation Council, now the California Water Efficiency Partnership (CalWEP), by signing the Memorandum of Understanding Regarding Urban Water Conservation. Since that time, the City has been actively implementing the Best Management Practices (BMPs) and other water conservation measures. Additionally, implementing the BMPs satisfies contractual requirements with the Bureau of Reclamation for the Cachuma Reservoir Project.

The City's Water Conservation Program aims to minimize the use of potable water supplies, meet BMP requirements, and achieve compliance with state efficiency standards by making water conservation a Santa Barbara way of life. Water conservation measures are evaluated for cost-effectiveness based on the avoided cost of additional water supplies.

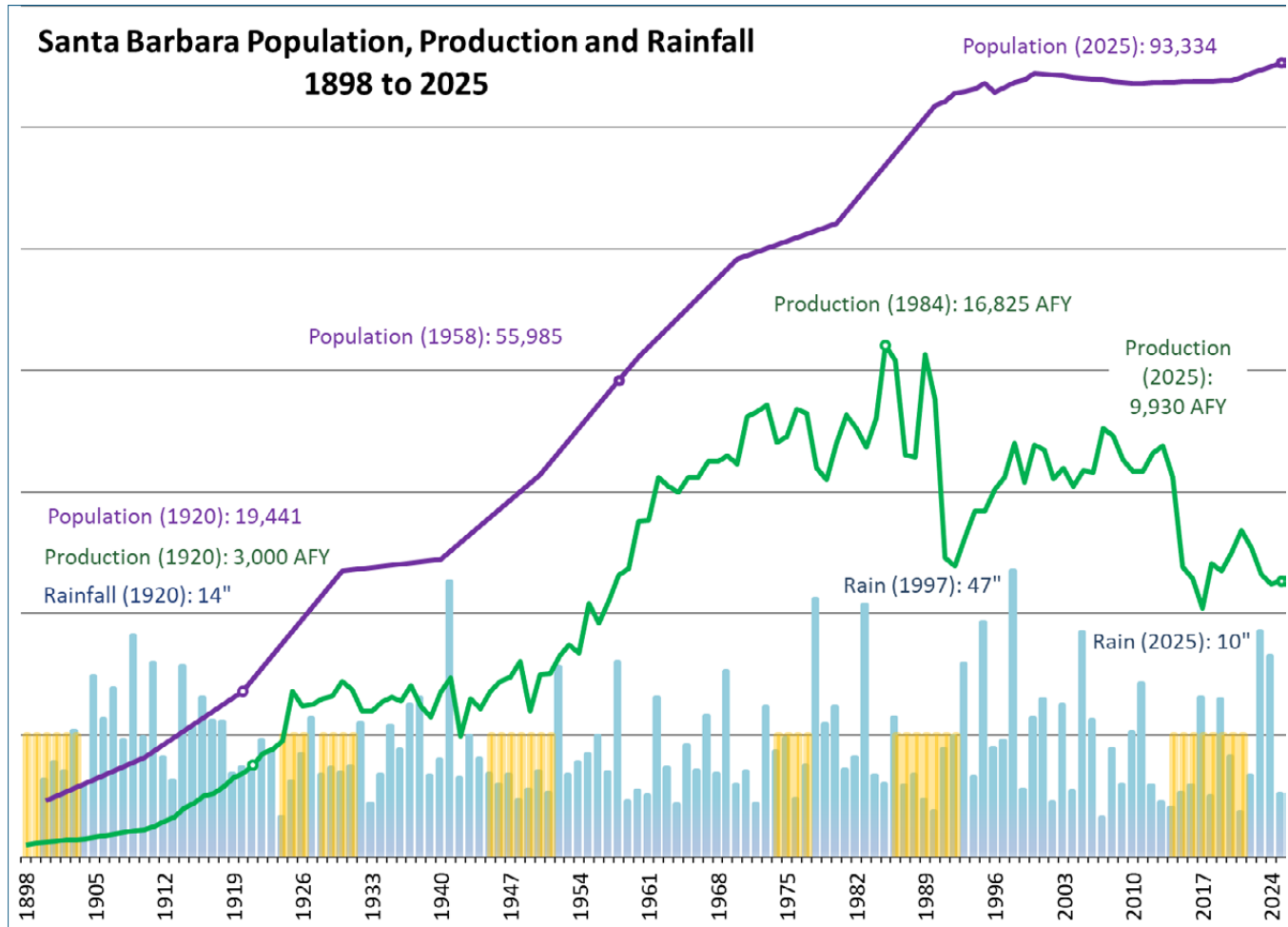
Water use efficiency in the City is supported by a coordinated effort of the City and RWEF initiatives to create a holistic approach for providing the needed water conservation tools to both the water system and each customer within the service area. Additionally, the City requires water efficiency in building codes and standards as a result of state-guided mandates and local ordinances.

The City's water conservation program has been recognized by the Alliance for Water Efficiency with Platinum Status under the AWWA G480 Water Conservation and Efficiency Program Operation and Management Standard. Platinum Status is the highest level of recognition and reflects 100 percent compliance with nationally recognized best practices for water conservation and efficiency programs. The G480 Standard evaluates key program elements including conservation planning, public outreach and education, water loss control, metering practices, drought planning, and landscape efficiency programs.

The City's long-term commitment to water conservation is evident in reductions in water demand achieved over the past 35 years. Total system production has dropped from a peak near 16,800 AFY in the mid-1980s to about 14,600 AFY before the most recent drought and is averaging approximately 9,700 AFY⁸ as of the writing of this Plan (based on 2021–2024 data). This water use trend (including the recycled water system production that started in 1989), along with historical annual population and rainfall in the City, is illustrated in Figure 3-4 along with notable historical drought periods.

⁸ Rounded to the nearest hundred acre-feet.

Figure 3-4. City of Santa Barbara Population, Water Production, and Rainfall, 1898–2025



Note: The total water production in the above graph includes the recycled water system production that came online in 1989. Yellow bars indicate periods of drought.

3.3.1 Utility Operations Measures

Utility operations measures encompass preventing water waste, reducing water loss, and addressing water efficiency in development projects.

Water Waste Prevention

City Ordinance No. 4558, adopted in February 1989, prohibits the waste of water, which is defined as any excessive, unnecessary or unwarranted use of water, including, but not limited to: 1) any use which causes significant runoff beyond the boundaries of property served by a meter; 2) failure to repair any leak or rupture in any water pipes, faucets, valves, plumbing fixtures or other water service appliances within 72 hours after notice by the City; and 3) irrigation during and for a period of 48 hours after a measurable rainfall event. The City makes educating the community on water waste practices a high priority. The City’s water waste ordinance can be found in the City’s municipal code SBMC §14.20.007 Prohibition Against Waste of Water.⁹ Enforcement of the City’s water waste ordinance is found in SBMC §14.20.226 Penalties and Charges.¹⁰

⁹ City of Santa Barbara. [Municipal Code, SBMC §14.20.007](#), accessed March 2026.

¹⁰ Ibid. [Municipal Code, SBMC §14.20.226](#) accessed March 2026.

Water Loss Control

The City has been conducting annual water audits of the water distribution system since 2010 using the approach described in the AWWA Manual M36 – Water Audits and Loss Control Programs (AWWA, 2016). The purpose of the audit is to quantify the City’s real losses (water physically lost from the system through leaks, breaks, theft, and other means), as well as apparent losses (water lost through meter under registration and data handling errors). In addition to conducting annual water loss audits, beginning in 2017, the City has worked with a third-party validator to complete a level 1 validation of each water audit, as required by Senate Bill (SB) 555. This ensures the data used to compile the audits are as accurate as possible and helps to identify areas where data collection and quality could be improved.

In response to increased water main breaks in the late 1980s, the City Council created an annual Water Main Improvement Program and established a goal of annually replacing 1%, or approximately 3 miles, of the City’s water mains. This goal was an integral part of the Water Capital Improvement Program for over 30 years. In June 2018, the City Council approved increasing the annual replacement goal to

2%, or approximately 6 miles, of water mains. This more aggressive replacement goal targets the distribution system’s cast iron mains, which were installed between 1900 and 1950, make up 44% of the City’s distribution system, and have an average life span of 77 years. Proactively replacing water mains reduces main breaks, which helps to reduce the City’s real water losses.

To address water loss during annual maintenance activities, the City invested in a Neutral Output Discharge Elimination System (NO-DES) truck to flush water distribution pipelines. Before the NO-DES truck was in use, the City would have to perform this annual distribution system maintenance work by flushing water from fire hydrants to storm drains. With NO-DES technology, the City can now flush distribution lines by connecting two fire hydrants to a filtration truck that flushes, recirculates, and filters the water before returning it back to the distribution system.

The City launched a comprehensive Meter Replacement Program in 2014 with goals to replace the City’s aging meter population with new meters that more accurately register lower flows and that were compatible with advanced metering infrastructure (AMI). The AMI system was deployed to all City water customers in March 2024. The detailed consumption data provided by AMI offers potential to improve the identification of meter inaccuracies and distribution system leaks, ultimately supporting more effective management of both apparent and real water losses. As the City’s AMI data analytics capabilities are further developed, the City will continue to explore these and other potential applications to strengthen system efficiency and water loss management.

Table 3-1 shows the City’s total water losses (real and apparent loss) range from 35.3 to 14.0 gallons per service connection per day (gpscd) between FY2021 and FY2025. The City’s FY2025 Water Loss Audit shows the City’s total water losses were 14 gpscd, and real water losses were 10.1 gpscd, which is below the City’s real water loss standard of 28.8 gpscd.

As of the writing of this Plan, the City is currently creating a Water Loss Control Strategic Plan to increase the City’s confidence in its water loss calculations, ensure legislative targets are met, and direct strategic and cost-effective water loss control efforts. The City anticipates the Water Loss Control Strategic Plan will be completed by the end of Fiscal Year 2026.

Water Efficient Landscape Standards

For development projects, the City has adopted Water Efficient Landscape Standards that are more stringent than California’s Model Water Efficient Landscape Ordinance. The City reviews plans and conducts inspections to ensure compliance with design standards, including a water wise plant palette, efficient irrigation, proper pressure regulation, smart irrigation controllers, mulch, and more. The landscape design standards were originally adopted by the City in 1989 and last updated in 2023. The City has submitted an annual report to the state since December 2015 that includes the total number of approved projects and square feet of new/revised landscape.

Table 3-1. Annual Water Losses (Real and Apparent Loss)

	FY2021	FY2022	FY2023	FY2024	FY2025
Total Water Loss, AFY	1,148	747	796	1,041	411
Total Water Loss, gpscd	35.5	23.0	26.9	35.3	14.0

Note: Reported losses for years FY2021-FY2025 based on water loss audits.

3.3.2 Public Information and Outreach

The City strives to raise awareness among all customer types of the importance of efficient and responsible water use. The City works to foster a culture of conservation within the community and affect impactful behavioral changes. Components of the City’s existing public education program include the following:

- **Communicating the value of water** – The City regularly provides the public with images and status updates of water sources. The City regularly provides presentations to community groups and informational tables at events to communicate information on local water sources, the history of water in Santa Barbara, water efficiency, and more.
- **Providing information on methods and opportunities for reducing consumption** – The City engages customers in water efficiency through the City’s website, the WaterSmart customer portal, newsletters, informational videos, social media, printed materials, public presentations, workshops, and more. The City promotes the use and maintenance of water efficient WaterSense products, practices, and services.
- **Delivering consistent, persistent messages and media campaigns** – This is done through radio messages, television commercials, print advertising, social media messaging, digital advertising, and more, including messaging for both indoor and outdoor water use efficiency. Messages are tailored to the season (i.e., “turn it down” in the fall and “sprinkler spruce up” in the spring).

Figure 3-5. City of Santa Barbara Drought Advertising Example



3.3.3 Current Public Information Programs

- **Water Conservation Phone Line** – The Conservation Phone Line assists customers with identifying and resolving high water use by providing guidance on leak detection, water use analysis, and efficiency improvements. Staff help customers understand their water use patterns, explain the rate structure, and connect them with available rebates, resources, and tools, including registration for the WaterSmart portal.
- **WaterSmart Customer Portal and Automated Leak Alerts** – As part of the AMI project, the City has a customer-facing water use and billing portal called WaterSmart. Through WaterSmart, customers can monitor water use by the hour, day, and month; receive automated leak alerts; pinpoint reasons behind a high bill; customize alerts for unusual water use; and sign up for autopay and paperless billing.
- **Website** – The City’s Water Conservation Program website is SantaBarbaraCA.org/WaterWise. Additionally, the City contributes to and promotes the website for the Regional Water Efficiency Program of Santa Barbara County: WaterWiseSB.org.
- **Conservation Videos** – DIY and informational videos on sustainable landscaping, leak detection, efficient irrigation, water supply, and more are on the City’s Water Conservation YouTube Channel: YouTube.com/SaveWaterSB.
- **Media Campaign** – Spring, summer, and fall media campaigns are implemented by the City, often in conjunction with RWEF to expand reach. Advertisements are placed online, on TV, in movie theatres, in print publications, and on the radio.
- **Water Bill Messages/Bill Insert/e-Newsletter** – Monthly water conservation messages are printed directly on water bills and are customized by customer classification. A monthly water bill insert is mailed with all water bills and available electronically for online bill pay customers. A Water Resources e-newsletter is sent out quarterly and a citywide “City News in Brief” e-newsletter is sent out weekly, with a water efficiency section included every week.
- **Social Media** – Outreach on water conservation actions and events are posted on the Nextdoor website, as well as the City’s Facebook and X accounts.
- **Demonstration Gardens** – The Water Conservation Program has many beautiful water wise demonstration gardens to showcase sustainable landscaping: Alice Keck Park Memorial Garden in conjunction with the Parks Department, the Firescape Garden in conjunction with the Fire Department, Spencer Adams Park in conjunction with the Parks Department and via a Surfrider Foundation Whale Tail Grant, the El Estero Recycled Water Garden, the Water Wise Home Garden in conjunction with the Santa Barbara Botanic Garden, and the Santa Barbara Association of Realtors Rainwater Garden in conjunction with the Association of Realtors.
- **Public Events** – City staff set up tables and displays and engage the public in water efficiency information at local events such as Earth Day, Santa Barbara Botanic Garden events, various school science nights, and neighborhood association meetings.

- **Garden Wise TV Show** – Garden Wise is a 30-minute quarterly television show about designing and maintaining sustainable landscapes. Featured segments include: Plant Rant, What Tree is That?, Crimes Against Horticulture, and Design a Water Wise Garden featuring local designers. This program is coordinated and co-funded through RWEF.
- **Water Wise Gardening for Santa Barbara County Website** – This robust gardening information website is tailored to the Santa Barbara climate with an extensive plant database of over 1,000 water wise plants, more than 300 photos of local gardens, and guidance on gardening design and practices: WaterWiseGardeningSB.org. This program is coordinated and co-funded through RWEF.

Figure 3-6. “Sprinkler Spruce Up” Media Campaign



Figure 3-7. City of Santa Barbara’s Television Program Garden Wise



3.3.4 Current School Education Programs

- **Classroom Presentations** – This involves fun and engaging K-6 presentations about Santa Barbara’s water supply, the water cycle, water conservation, and wastewater treatment. Songs, photos, and videos are used, based on the age group. Sixth grade presentations include the Living Wise kit and curriculum – a take home kit with water and energy fixtures and activities to conduct at home. Presentations are tailored to grade or class objectives and are aligned to California content standards and the Education and the Environment Initiative Curriculum.
- **Field Trips** – Water facilities such as the El Estero Water Resource Center, Cater Water Treatment Plant, Charles E. Meyer Desalination Plant, Sheffield Reservoir, and the Firescape Garden are available for school and community group tours with City personnel to lead and educate attendees.
- **Musical Assemblies** – This program includes musical-comedy education shows about water supplies, the value of water, groundwater, and water efficiency. It is coordinated and co-funded through RWEF.
- **WaterWise High School Video Contest** – This annual countywide contest encourages high schools to create and submit a 30-second public service announcement for water efficiency in English or Spanish. Winning videos are used for television and movie theater advertising. This program is coordinated and co-funded through RWEF.
- **WaterWise Science Fair Award** – This special award is part of the larger Santa Barbara County Science Fair for junior and senior science fair projects that address water efficiency, water supplies, or water treatment. This program is coordinated and co-funded through RWEF.

Figure 3-8. Rebate Participant: Before and After



3.3.5 Outdoor Water Use Efficiency

The City’s outdoor water use efficiency programs are intended to promote the “new normal” of water wise landscaping through proper design, installation, and maintenance of new and existing landscapes and irrigation systems.

- **Sustainable Lawn Replacement Program** – Rebates are available to help offset the cost of replacing water-thirsty lawns and irrigation with water-wise plants and efficient irrigation. Rebate amount is based upon square footage of lawn removed and can be stacked with the rain garden rebate from the Creeks Division for a higher dollar-per-square foot and higher rebate maximum.
- **Irrigation Efficiency Rebates** - Rebates are available for smart irrigation controllers, spray to drip system conversions, spray to low-precipitation nozzle conversions, and laundry-to-landscape graywater systems.
- **Irrigation Budgets for Dedicated Irrigation Meters** – The City has budget-based rates for accounts with dedicated irrigation meters to incentivize water efficiency. For the City’s 900 irrigation meters, the monthly water budget is determined by the property’s irrigated landscaped area, the water requirements of plants, and the current weather conditions. The purpose of providing a monthly water budget is to bill based on the water needs of the landscaping; water use that exceeds the budget is billed at a higher rate. Customers can track their water use compared to their budget in the WaterSmart portal.
- **Green Gardener Program** – Taught through Santa Barbara City College School of Extended Learning, gardeners are trained in resource efficiency and pollution prevention landscape maintenance practices. Gardeners attend a 15-week course taught in both English and Spanish covering topics such as irrigation design and maintenance, fertilizing, soil health, integrated pest management, pruning, and reduction of green waste. This program is coordinated and co-funded through RWEF.
- **Mulch Delivery Rebate** – The City will rebate a portion of the cost of up to two dump truck loads per year of county mulch deliveries to reduce evaporation and increase water retention in the soil.
- **Graywater Information** – The City provides education on the use of graywater with handouts, fact sheets, sample plan sheet, videos, and information on the City’s website. The City promotes the use of graywater in accordance with the California Plumbing Code Chapter 15.¹¹
- **WaterWise Garden Recognition Contest** – Residential front gardens are evaluated for water efficiency, design elements, and sustainability. The winning garden is submitted to the countywide contest for the top prize. Winning properties receive an engraved sandstone boulder and are highlighted in public outreach to encourage water-wise practices. This program is coordinated and co-funded through RWEF.

¹¹ California Building Standards Commission, CA Plumbing Code. (2025). [Chapter 15 Alternate Water Sources for Nonpotable Applications.](#)

3.3.6 Residential Programs

In addition to the programs previously listed, the following programs are geared toward residential customers:

- **Flume Smart Home Water Monitor Rebate** – The City offers a direct distribution rebate on the Flume smart home water monitoring system. Flume easily attaches to the meter and allows users to monitor water use down to the minute and catch water leaks quickly using a smartphone app.
- **Washing Machine Rebate Program** – The Smart Rebates Program is coordinated by CalWEP for participating water suppliers throughout California. The City participates with high efficiency clothes washer rebates for residential customers who replace an existing high water use washing machine with a qualifying high efficiency model.

3.3.7 Commercial, Industrial, and Institutional Programs

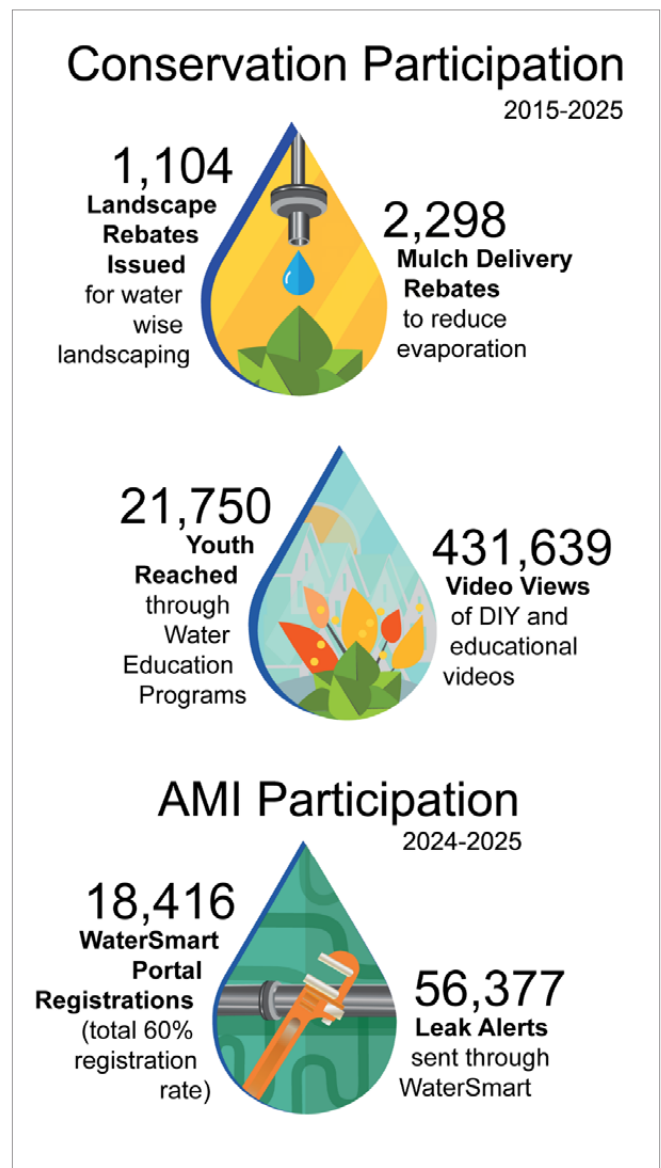
In addition to the programs previously listed, the following programs are geared toward CII customers:

- **CII WaterWise Survey and Incentive Program** – This tailored program for high water use CII customers includes a comprehensive water survey and incentives for making recommended upgrades. The survey includes identifying high water use appliances, searching for hidden leaks, cataloging use and flow rates of fixtures, and identifying areas for improvement. A summary report is generated which includes an analysis of the facility’s water use, water and cost-saving recommendations eligible for monetary incentives from the City, and estimated return on investment.
- **Lodging Industry Towel and Linen Cards** – Free linen cards and towel rack hangers are available to encourage patrons to conserve water during their stay by reusing towels and linens.
- **Restaurant Table Cards** – Free table tents are available to inform restaurant customers that water will be served upon request.
- **Green Business Program of Santa Barbara County** – Businesses are certified through onsite evaluations from City staff. New and existing certified Green Businesses receive workshops, trainings, resources, and recognition. Organized by the California Green Business Network, Santa Barbara County.

Figure 3-9. Restaurant Table Card Example



Figure 3-10. Conservation Participation, 2015-2025



3.4 AMI Data

The City has recently completed implementation of an AMI system, representing a significant achievement and advancement in system operation and water use monitoring. AMI consists of digital water meter registers, wireless communication equipment, and data management software that automatically collects water use data from customer meters. Unlike traditional meter reading systems that collect a single read per billing cycle, AMI provides hourly water consumption data. This allows both the City and its customers to better understand water use patterns and respond more quickly to abnormal consumption events.

3.4.1 AMI Implementation and Milestones

The City began preparing for AMI implementation in 2014 by replacing existing meters with AMI-compatible meters. Installation of the Aclara radio-frequency network and software began in 2021 and marked a major step in the project. Approximately 28,000 meters were equipped with meter transmission units and 22 data collection units were installed throughout the City to collect and transmit meter data. The AMI network installation was completed ahead of schedule and within budget in July 2023, after which the City began collecting hourly water use data from all customers and integrated the data into the City’s billing and customer service systems.

In March 2024, the City launched the WaterSmart customer portal, which provides customers with direct access to their water use data, leak notifications, and conservation recommendations. Customer adoption has been strong and registration rates have exceeded initial expectations.

3.4.2 AMI in Water Management

The implementation of AMI has significantly improved the City’s ability to monitor water use and respond to operational issues. The system allows all customer meter reads to be collected within approximately one hour, compared to several days previously required for manual meter reading. This automated data collection has improved operational efficiency and enabled staff to focus more on proactive system management and customer service.

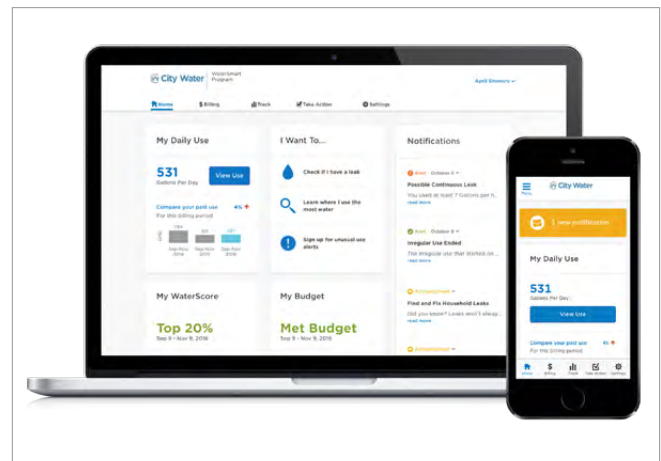
AMI data also supports improved leak detection. Automated monitoring of hourly water use allows the City to quickly identify unusual consumption patterns that may indicate leaks or other issues. Customers who enroll in the WaterSmart portal can receive automated notifications of high or continuous water use, allowing them to address potential leaks before they result in significant water loss or unexpected bill impacts. In addition, City staff routinely review system alerts and proactively contact customers when abnormal water use patterns are detected.

3.4.3 AMI Data Considerations

AMI data can enhance the City’s ability to refine conservation program targeting and evaluate potential new measures. A substantial analysis of historical program participation was completed as part of the Alliance for Water Efficiency report, “An Assessment of Water Affordability and Conservation Potential in Santa Barbara, CA.” Building on this analysis, AMI data provides an additional layer of insight by enabling the City to identify accounts exhibiting specific water use patterns, such as high seasonal irrigation demand, persistent high usage, or other indicators of conservation potential that may align with current or future conservation measures. When combined with the GIS-based analyses conducted for the water affordability report (discussed below in section 3.5.4), AMI data can help estimate potential water savings and support more strategic targeting of program participation to maximize achievable savings.

AMI data availability was reviewed as part of MWM’s modeling efforts, and it is recommended that the City explore options to retain AMI data for longer than the vendor currently stores it. This ensures the data remains available for future program evaluation and planning analyses. At present, AMI data represents an opportunity to strengthen conservation planning and program effectiveness over time.

Figure 3-11. WaterSmart Customer Portal



3.5 Water Affordability and Conservation

As part of this Plan, equity considerations were embedded into the measure selection and design process to incorporate this important driver in planning for the next phase of water conservation in the City.

3.5.1 Background

With the cost of water and wastewater rising across the country, the Water Resources Department initiated an effort in spring 2023 with the Alliance for Water Efficiency (AWE) to study the affordability of City water and wastewater service. The results of the study were documented in a final written report “*An Assessment of Water Affordability and Conservation Potential in Santa Barbara, CA*” (Affordability Report). Measuring water affordability is a relatively new concept in the water industry and affordability metrics are just beginning to be established. In the Affordability Report, affordability was assessed using a combination of various metrics, including the Household Burden Indicator and Poverty Prevalence Indicator (PPI), which focus on water and wastewater bill impacts to households in the lowest 20th percentile of income within each census tract. Unlike previous studies conducted by AWE, the City’s assessment also included the financial impact of water and wastewater services on multifamily residential (MFR) households, rather than focusing solely on single family residential (SFR) households.

The study found that the City’s water customers, when viewed as a whole, have little to no water affordability concerns. However, when analyzed at the census tract level, certain tracts are more burdened by water affordability. Several tracts qualify as disadvantaged communities (median annual household income less than 80% of the statewide annual median household income), and the combination of high cost of living and low wages results in City utility bill costs that are a “moderately high” burden.

Overall, the study found that the City is already conducting a number of best practices related to rate structures, affordability, and water conservation. Some the best practices include the price of tier one water consumption being relatively low compared to the highest tier, providing an online bill calculator, having a dedicated water conservation program, and translating outreach materials into Spanish. The Affordability Report provided additional recommendations ranging from low-impact to high-impact, and from simple implementation to complex and long-range implementation.

3.5.2 Prioritization of Recommendations

The following table presents the highest priority recommendations identified by the City’s Water Commission in the Affordability Report, listed in anticipated order of implementation. Priorities were determined based on several factors, including cost/benefit analysis, ease of implementation, items already being implemented, items that will take more time to develop or are more complex, and items that may require policy action and/or should be addressed as part of future rate studies.

Table 3-2. Priority Equity Recommendations

Status	Recommendation
Completed	Leverage AMI hourly data and WaterSmart portal communication platform to help target water conservation tips, programs, and customer assistance programs to those who are using water inefficiently and if done proactively, can help avoid high bills. (Affordability Report recommendation number 10).
Completed	Assess historical participation in water conservation programs by census tract. (Affordability Report recommendation number 5).
In Progress	Explore strategies to expand and improve the accessibility of current water conservation programs. (Affordability Report recommendation number 6.)
In Progress	Ensure communications and marketing strategies for AMI data and the WaterSmart portal are specifically designed to reach account holders in low-income and multifamily settings. (Affordability Report recommendation number 9.)
In Development	Explore partnerships with existing efforts addressing a broader range of affordability challenges. (Affordability Report recommendation number 12.)
In Development	Explore customer assistance programs to improve and/or expand support to low-income households. This effort should also assess the process for customer participation and aim to make it as easy and accessible as possible. (Affordability Report recommendation number 13.)

3.5.3 Leverage AMI Data to Target Water Conservation

The Affordability Report was released prior to the Citywide launch of WaterSmart in March 2024. WaterSmart is the City's customer-facing portal in which account holders can access hourly, daily, weekly, and monthly water use, pay bills online, receive automated water leak alerts, set custom notifications, see a breakdown of their bill, explore water efficiency recommendations, and more.

Staff will continue to target outreach and programs to customers who meet certain water use thresholds such as continuous leaks or over-irrigation. Staff conducts individual outreach to customers via phone and email that WaterSmart has identified as experiencing continuous use or large leaks to ensure the customer is aware of the issue and to provide support as needed.

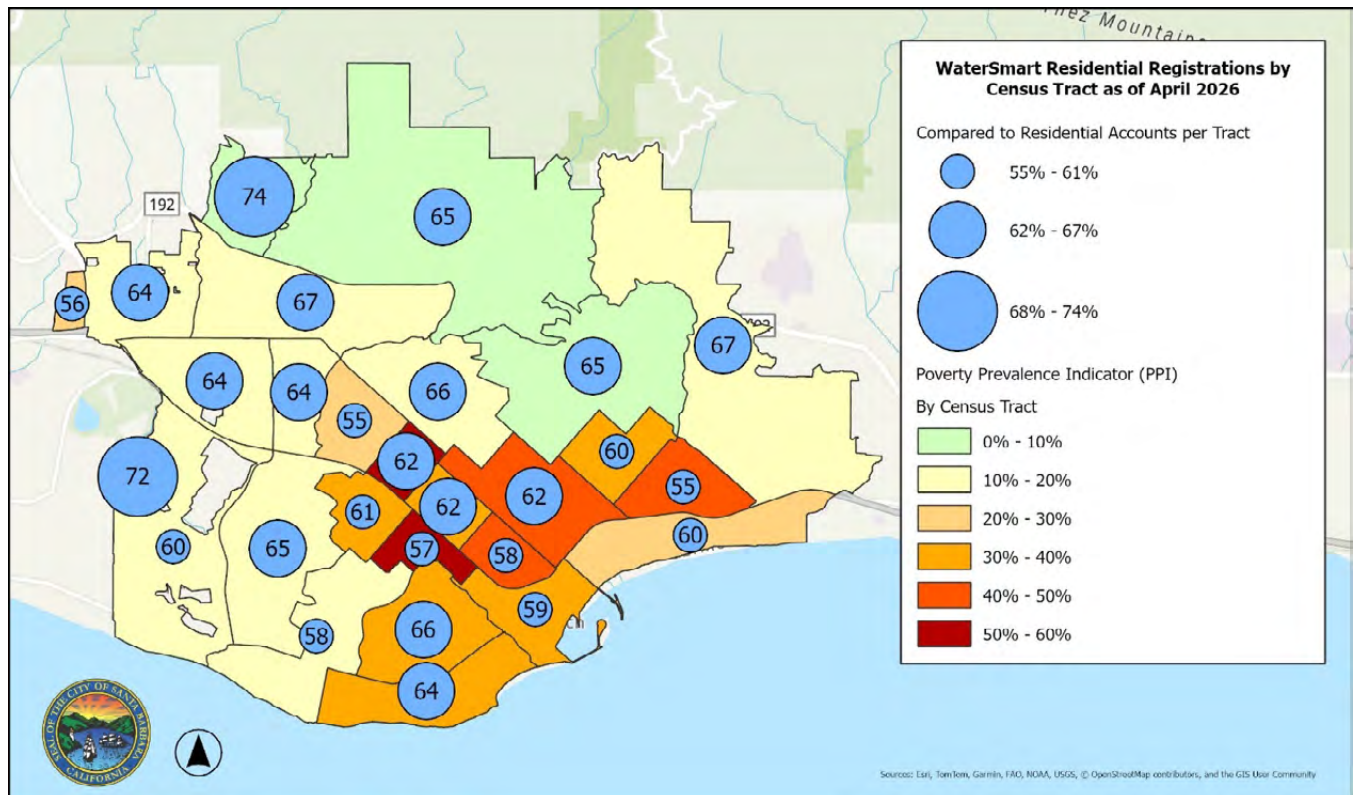
3.5.4 Assess Historical Participation in Water Resources Program

Per the recommendations in the Affordability Report, an assessment was conducted by the City using GIS to analyze the locations of historical program participation by account number and customer type (single-family, multifamily). Data from the past 20 years was analyzed by census tract. The measures analyzed include bill assistance, WaterSmart registrations, and water conservation measures like toilet rebates, showerhead giveaways, etc. This information serves as the roadmap for where more targeted and equitable outreach and communication can occur and provides staff with the baseline knowledge needed to more effectively implement the remaining top priority recommendations in the future.

The following measures were included in the mapping analysis:

- **WaterSmart Registrations** – WaterSmart can be a helpful tool for account holders of high burdened households because it provides customers with detailed water use information and tailored recommendations for water efficiency. WaterSmart is currently only available to individually metered customers that receive a water bill (not master-metered MFR or renters who do not pay their water bills). WaterSmart also has an interactive utility bill breakdown chart that shows the components of their utility bills so customers can see where the bulk of their charges are stemming from. One of the most impactful components of WaterSmart for high burdened households is the ability to recognize and automatically alert customers of continuous water use, usually indicating a leak. Early detection and alerting can prompt the customer to make leak repairs quickly, thus reducing the higher bill charges associated with the increased water use.
- The mapping analysis (illustrated in Figure 3-12) showed a positive customer reception of this new tool for water efficiency and customer assistance. The number of residential registrations was compared to total residential water accounts per census tract and overlaid on the Poverty Prevalence Indicator (PPI) from the Affordability Report. In general, higher registration rates were seen in the census tracts that have a lower PPI (less financially burdened). The most recent map analysis (Figure 3-12) shows an improvement in registrations throughout the service area, especially in the high PPI tracts, bringing those tracts more in line with registration rates across the community. Initially, the lowest uptake was seen in the five census tracts with the highest PPI, the tracts that are more financially burdened and have a higher density of multifamily accounts. Those five census tracts have a higher percentage of Spanish as the primary language spoken in the household, so City staff have worked with the WaterSmart developers to send outreach that is available in both English and Spanish languages to improve access.

Figure 3-12. WaterSmart Residential Registrations by Census Tract



- **Bill Assistance** – The City participated in two major federal and state financial assistance programs in the past four years, the Low-Income Household Water Assistance Program (LIHWAP), and the California Water and Wastewater Arrearages Program. LIHWAP was a federally funded program that offered assistance to low-income households to pay past due residential water and wastewater bills. The program ended in March 2024; there were 156 City customers who received a total of \$410,923 in LIHWAP assistance. City staff applied for and received funding from the California Water and Wastewater Arrearages Payment Program in 2022 and 2024. A total of \$1,999,324 was dispersed to 4,181 qualifying residential and commercial water accounts.
- *The mapping analysis found that, overall, participation in both programs was seen throughout the City with higher clusters in lower income census tracts.*
- **Water Conservation Measures** – Measures analyzed as part of this mapping exercise include residential Water Checkups; indoor programs (including showerhead distributions, toilet rebates, and clothes washer rebates); and outdoor programs (irrigation evaluations, mulch rebates, free rain sensors and soil probes, water broom rebates, irrigation rebates, and lawn removal rebates).
- *In general, census tracts with higher PPI scores, meaning lower incomes, tended to have lower rates of water conservation program participation. However, it should be noted that the Affordability Report found that “in lower income Census tracts, average water use per dwelling unit tends to be lower.” Although rates of water conservation program participation are generally less in census tracts with higher PPIs, this may be a function of water use. For example, census tracts with high PPIs (lower incomes) are generally composed of higher density areas with properties with typically smaller landscaped areas, so the ability to save water outdoors and participate in outdoor conservation programs is low.*

3.5.5 Conservation Measure Evaluation Criteria

One of the priorities of this Plan is to evaluate conservation measures not solely on water savings, but on a broader set of evaluation criteria that includes equity. In conducting this Plan update, staff expanded the analysis of potential water conservation measures. As expanded on in Chapter 4, each measure was scored using evaluation criteria designed to ensure equitable, practical, and effective outcomes for the City’s diverse customer base. Measures were scored based on the four criteria below; each were given equal weight:

1. **Water Savings Potential (Per Account)** – Refers to the water savings potential a measure has on an account-by-account basis and the expected adoption rate. This is a qualitative assessment of expected water savings potential; actual savings were quantitatively measured using the DSS Model.
2. **Diversity, Equity, and Inclusion** – Considers how the measure benefits different customer groups, income levels, and housing types, and how accessible it is to non-English-speaking or underrepresented communities.
3. **Service Area Match** – Evaluates whether the measure is appropriate for Santa Barbara’s climate, building stock, and lifestyle characteristics.
4. **Additional Service Area Benefits** – Identifies co-benefits such as stormwater management, habitat creation, energy savings, community aesthetics, or educational opportunities.

These criteria ensure that recommended measures not only save water but also provide broader community and environmental value. This involves designing programs that provide equitable access to water-saving technologies and support for underserved populations, thereby helping to maximize access across all types of customers.

The City is currently participating in an AWE study titled “Characterizing Water Use in Low-Income Households Seeking Bill Pay Assistance” that will analyze household water use patterns related to water affordability challenges and recommend complementary bill payment assistance and leak repair programs. AWE will analyze City utility billing and water use data to quantify the prevalence of leaks, persistently high consumption, and inefficient fixtures among low-income households seeking assistance. Participation in the study will provide a deeper understanding of water use trends among low-income customers, helping the City evaluate whether plumbing repair or efficiency retrofit programs could complement bill assistance efforts.

3.5.6 Next Steps for Achieving Equity

As the City explores assistance programs and continues to implement the Affordability Report recommendations, ensuring that the program benefits those in need is a complex issue. The data shows that the lowest income census tracts have the highest density of multifamily residences. Currently, only 17% of multifamily dwelling units are individually metered. In addition, customers who rent their homes, both multifamily and single family residential, may not directly see or pay their water bills because they are included in their rent. This leads to potential landlord transparency issues and challenges related to ensuring the assistance program is actually passed along to the customers experiencing affordability challenges. During the Affordability Report it was difficult to obtain survey responses and workshop participation from low-income customers, leading to the conclusion that water affordability may not be top of mind for these customers, as it is only one part of a much larger affordability issue in the community. Other affordability concerns such as housing and food costs may be more top of mind.

The City continues to focus on strategies to improve accessibility of water conservation programs, including WaterSmart. The City is working to improve language-access by ensuring information and resources are also available in Spanish, since that is the main additional language spoken in the community. The City could also train others in the community who work with or are trusted by low-income or otherwise vulnerable households to help account holders get registered in WaterSmart, assist residents with water conservation education and strategies, or volunteers with plumbing skills.

The City has potential to reduce indoor water use through reliable strategies like high-flush volume toilet replacements. However, traditional rebate programs are a challenge for customers who may not be able to make the upfront purchase and wait for reimbursement or may not be able to pay for plumbing services. Common alternative program models include a direct install model (with or without a customer cost-share), or a free or subsidized leak detection and plumbing repair service program. These measure considerations were modeled and are included in the Program recommended in this Plan.

As the City continues to explore these opportunities, staffing capacity is a key factor in the City's ability to expand water affordability assistance and build partnerships with community-based organizations. Implementing the remaining recommendations from the Affordability Report will require significant coordination, outreach, and program administration. In addition, engaging these households often requires trusted community partners, language-accessible outreach, and hands-on support for programs such as WaterSmart enrollment, conservation education, or direct-install efficiency upgrades. Developing and maintaining these partnerships, while also administering potential programs such as leak repair services or direct-install fixture replacements, would require dedicated staff capacity. It is estimated that approximately one additional full-time equivalent position would be needed to effectively implement the remaining Affordability Report recommendations and support long-term community engagement in those programs.



Photo: Benoit Debaw - Unsplash

4. Urban Water Use Objectives

This section presents background information about the requirements put forth in the *Making Water Conservation a California Way of Life* regulation (Regulation) which was one of the primary drivers for developing this Plan. As stated in the introduction, one of the purposes of this Plan is to assess if the City is on track to meet requirements in future compliance years with its current estimated demand, growth projections, and conservation program.

4.1 Regulation Background

In 2018, the California Legislature passed Assembly Bill (AB) 1668 and Senate Bill (SB) 606. This legislation directed the State Board to adopt water efficiency standards for residential and landscape use and performance measures for CII water use. In 2024 the State Board adopted the Regulation, which established a unique Urban Water Use Objective (UWUO) or water budget for each urban retail water supplier and performance measures for CII customers. Annual reporting on the Regulation was required beginning January 1, 2025. Compliance is required beginning January 1, 2027, and is measured based on the various standards and CII performance measures that are in effect for the reporting period. The standards and performance measures have various effective dates over the course of the next fifteen years and are based on which compliance options water suppliers choose.

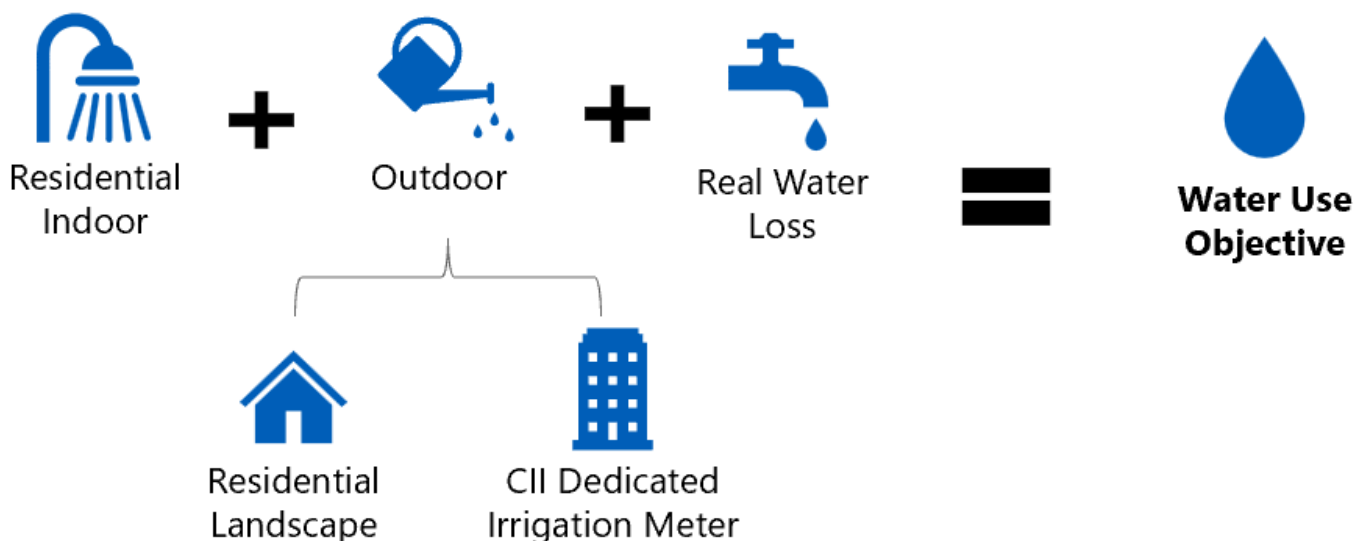
4.2 Urban Water Use Objective

The Regulation requires urban water suppliers to comply with an UWUO that is calculated annually. The calculation is based on local characteristics and standards for residential indoor and outdoor use, outdoor use from dedicated irrigation meters (DIMs), water loss, a bonus incentive for potable reuse, and variances. The standards for indoor and outdoor use decrease over the implementation period between 2025 and 2040, requiring urban water suppliers to meet stricter water use budgets as time progresses.

4.2.1 Residential Indoor Water Use Standard

The residential indoor water budget component of the UWUO is calculated by multiplying the applicable gallons per capita per day (GPCD) consumption standard by the supplier's service area population and by the number of days in the year. The GPCD standards applied to calculate the residential indoor water budget decrease over time, starting at 47 GPCD in years 2025 through 2029 and decrease to 42 GPCD in 2030 and beyond.

Figure 4-1. Breakdown of Urban Water Use Objective Components



4.2.2 Residential Outdoor Water Use Standard

The residential outdoor water use standard is calculated based on the square footage of the City's residential irrigated landscape area, local weather data, and a landscape efficiency factor (LEF). The LEF is 0.8 starting in fiscal year (FY) 2025 to FY 2035, 0.63 from FY 2035 to FY 2040, and is 0.55 beginning in FY 2040. As the LEF lowers, the residential outdoor water use standard is reduced. The total residential irrigated landscape area and the weather data used in the calculation is provided by the State.

4.2.3 Commercial Outdoor Water Use Standard

Like the residential outdoor water use standard described above, the commercial outdoor water use standard is also calculated by multiplying landscape area measurements by a LEF. The standard for dedicated irrigation meters (DIM) serving commercial customers (CII-DIM) is calculated in the same way as the residential outdoor standard. However, the LEF for CII-DIMs is 0.8 from FY 2025 to FY 2035, 0.63 from FY 2035 to FY 2040, and drops to 0.45 beginning in FY 2040.

The CII-DIM water budget will go into effect beginning July 1, 2028 to allow water suppliers time to identify and measure DIM accounts and/or install DIMs on CII large landscapes. Prior to June 30, 2028, the CII-DIM budget will be equal to actual deliveries associated with landscape irrigation reported to the State Board in the electronic annual report.

4.2.4 CII Mixed-Use Meter Large Landscape Compliance

In addition to the commercial outdoor water use standard, which establishes a water use budget for commercial landscapes, the Regulation includes a requirement for conversion of large landscapes with mixed-use meters (MUMs). The CII MUMs portion of the Regulation requires suppliers to measure and report all large CII landscapes (greater than half an acre in size) with MUMs by July 1st, 2027. By June 30, 2039, suppliers will have to implement one of the following compliance options and maintain the process for compliance at a rate of 95% of all CII MUM large landscapes starting in June 30, 2040.

- **Compliance Option 1** – Conversion to DIMs: Suppliers must install DIMs in large CII landscapes. For suppliers using the first compliance option, all CII large landscapes with MUMs must be measured and reported by July 1st, 2027.
- **Compliance Option 2** – Use In-Lieu Technologies: Instead of installing DIMs, suppliers must implement at least one of the following methods: water budget-based management programs without a rate structure, water budget-based rate structure, installation of technologies that enable the supplier to identify, estimate, and analyze outdoor water use (such as AMI or remote sensing), and offer, at a minimum, one BMP from the Outreach, Technical Assistance, and Education category and at least two BMPs identified in the Landscape category.

The options above have different data requirements that will be due on June 30, 2039, when full compliance is required.

4.2.5 Water Loss Standard

In 2022, a separate State Board regulation established system-specific standards for water losses.¹² A supplier will calculate its annual water loss budget by multiplying its system-specific standard by the number of days in the year, and, depending on the units associated with the standard, by either the number of total service connections or the length of the distribution system, in miles. Suppliers must meet their Water Loss Standard starting January 1, 2028 (for data submitted for 2025-2027). After the initial compliance period, suppliers will be evaluated every three years based on their average system losses across those three years.

The water loss standard is unique in that it was originally regulated under prior and independent 2015 legislation – Senate Bill 555. Therefore, compliance can be enforced individually for water loss, unlike other standards within the long-term framework legislation.

¹² Cal. Code Regs., tit. 23, §§ 980-986

4.3 CII Performance Measures

In addition to compliance with the calculated UWUO, the City must also implement CII Performance Measures. The Performance Measures were developed by the State Board to address water use associated with the business community but are not a quantifiable standard since CII water use efficiency consists of many diverse industries, production rates, equipment, and other unique factors. CII water use efficiency is also difficult to assess and quantify due to the prevalence of shared or multiple meters supplying multiple businesses and the frequent turnover of business types.

The performance measures primarily focus on identification of the types of CII customers and implementation of BMPs which consist of offering various types of resources and programs to the CII customer sector. The four performance measures are:

1. **Identify Disclosable Buildings** – The owners of disclosable buildings are required to submit monthly energy use data annually to the California Energy Commission (CEC) via the ENERGY STAR Portfolio Manager web portal. This performance measure requires all urban water suppliers to identify the number of disclosable buildings in their service area and to provide monthly water use data for at least the previous 12 months when requested by owners or owner’s agents of the buildings. They are also required to annually report the number of customers for which water use data has been provided annually.
2. **CII Account Classification** – Water suppliers are required to classify their CII customers according to the broad classification categories used by the US Environmental Protection Agency’s ENERGY STAR Portfolio Manager tool. All CII customers must be classified into the 22 designated categories by July 1, 2027.
3. **Identify High Volume Users** – The regulation requires identification of high-volume CII water users implementing one of three compliance options, each with an associated deadline. Option 1 requires identifying existing CII users who fall at or above the 97.5th percentile for CII water use, as well as those at or above the 80th percentile for CII water use, with a compliance deadline of June 30, 2025. Option 2 expands this analysis by requiring classification of CII customers and identifying those at or above the 97.5th percentile and the 80th percentile within each classification category (from the CII Classification measure described above). This option allows for a later compliance date of June 30, 2027. Option 3 extends the deadline further to June 30, 2029, and requires the development and application of Key Business Activity Indicators to assess inefficiency within CII classification categories.
4. **Implement Best Management Practices for High Volume Users** – This task requires water suppliers to design resources and implement water efficiency programs from five categories of CII BMPs: 1) Outreach, Technical Assistance, and Education, (2) Incentives, (3) Landscape, (4) Collaboration and Coordination, and (5) Operational. Two BMPs from each category must be offered to the top 97.5th percentile of CII users and one BMP from each category must be offered to the top 80th percentile of CII users. Singular BMPs can address multiple categories. Suppliers must have a conservation program that meets the BMP requirements in place by 2039, and progress towards compliance must be reported annually.

Table 4-1. CII Categories for Classification

ENERGY STAR Portfolio Manager Categories			California Water Boards Categories
Banking/Financial Services	Lodging/Residential	Retail Services	CII Laundries
Education	Manufacturing/Industrial	Technology/Science	Landscapes with Dedicated Irrigation Meters (DIM)
Entertainment/Public Assembly	Mixed-Use	Utility	
Food Sales and Service	Office	Warehouse/Storage	Water Recreation
Health Care	Parking	Workshop	Car Wash
Public Services	Religious	Other	

4.4 Reporting and Compliance Schedule

Reporting on the regulation started in 2025, and water use is expected to be in compliance with each supplier's UWUO by 2026. The City submitted its second report in December 2025. Beginning in 2026, the State Board may issue conservation orders to suppliers that are not in compliance, and beginning in 2027, the State Board may impose administrative civil liabilities for non-compliance with the UWUO.

Additionally, ongoing compliance with the targets set by SB 7 of Special Extended Session 7 (SB X7-7, 2009) is required. SB X7-7 required water suppliers to calculate their actual 2020 gross water use to determine whether they had met their 2020 target of reducing per-capita water consumption by 20%. The City's 2020 target was 117 gallons per capita per day (gpcd) or less and the City achieved an actual per capita water in 2020 of 92 gpcd.

The Regulation uses the 2020 target as a backstop for calculating the UWUO. The City's 2020 target is lower than its calculated UWUO, with a calculated UWUO plus excluded water demand of 13,970 AF compared to the SB X7-7 target of 12,933 AF,¹³ resulting in a capped UWUO that aligns with the 2020 target.

In future reporting years, if the UWUO is higher than the SB X7-7 target, then it is capped at the SB X7-7 target as the objective that the City will be subject to and report on annually. Since the various standards decrease over time, compliance is based on the applicable standards that are in effect for each reporting year. Compliance is assessed based on the total UWUO, and not on each individual component.

Although the City is already in compliance with current standards and estimates compliance with future standards for the UWUO, the long-term framework underpins that the City must "stay the course" with community water conservation measures. The exemplary water conservation achieved by City water customers and the leadership demonstrated by the Water Commission and City Council has positioned the community to better withstand droughts and state regulations. It is important to note that the long-term framework necessitates significant staff time for tracking, analyzing, and reporting on the UWUO, the water loss standard, and the CII performance measures. Additionally, the UWUO will require some changes and enhancements to City water conservation programs and outreach to continue to achieve compliance.

4.5 UWUO Compliance Status

As part of this Plan update, the City and MWM conducted a gap analysis completed over a series of meetings to discuss all aspects of the new Regulation and the City's current activities and water use metrics for compliance. The City is currently in compliance with all components of the Regulation. A recap of the City's compliance with each component is as follows:

- **Urban Water Use Objective** – The City is in compliance with current urban water use objectives. Below are a couple objectives that are in progress for future continued compliance.
- **CII Mixed-Use Meter Large Landscape Compliance** – This component of the UWUO requires all CII landscapes with MUMs that are greater than half an acre in size to be measured and reported by July 1, 2027. By June 30, 2039, suppliers will have to implement one of the compliance options described earlier. The City plans to offer irrigation audits to comply with the reporting requirements of this component by 2039. Staff time costs for this Regulation requirement have been modeled in the "Regulation Requirements" measure presented in following chapters; more details for this measure can be found in Appendix E.
- **Water Loss Standard** – For the initial compliance period, the State Water Resources Control Board will assess if the City has met its water loss standard in at least one of three years for the period of 2025 – 2027. As described in Chapter 3 above, the City's FY2025 Water Loss Audit shows the City's total water losses were 14 gpcd, and real water losses were 10.1 gpcd, which is below the City's real water loss standard of 28.8 gpcd. Although the City has met its water loss standard established by the State Water Resources Control Board for the initial compliance period, it must continue to do so in all subsequent compliance periods. Going forward, the City's compliance will be assessed every three years based on its average losses across the three-year compliance period. The City is working on development of a Water Loss Control Strategic Plan.
- **CII Performance Measures** – The City must also adhere to regulatory requirements for the CII performance measures listed below. Administrative costs to comply with these requirements are included in the measure titled "Regulation Requirements" that will be presented in the following chapters.
 - **Identify Disclosable Buildings** – The City is required to provide owners of disclosable buildings with at least 12 months of historical water use data upon request. The City is currently compliant with this performance measure.
 - **CII Account Classification** – The City completed its CII classification according to the ENERGY STAR Portfolio Manager Tool classification categories in November 2024 and has maintained classifications.
 - **Identify High Volume Users** – The regulation requires identification of high-volume CII water customers. The City completes this analysis every year and is in compliance with this performance measure.
 - **Implement Best Management Practices (BMPs)** – This task requires water suppliers to design resources and implement water efficiency programs for CII customers. The City is currently compliant with this component of the Regulation through its existing conservation program and measure offerings.

The City's comprehensive conservation programs, tracking, and monitoring processes support compliance with CII Best Management Practices. The conservation program recommended in this Plan is designed to sustain existing conservation achievements as per the Regulation while also allowing the City to address additional priorities, including equity-focused program design.

¹³ This figure was reported in the City's FY2024 Annual UWUO and Water Use Report.

5. Conservation Measure Evaluation

This section details the screening process, the conservation measures that were analyzed, the measure assumptions, and inputs used in the DSS Model.

5.1 Screening of Conservation Measures

This section presents an overview of the measure screening and analysis process completed to arrive at conservation program recommendations that balance the greatest ease and efficiency of program administration, the lowest cost of implementation, water savings, and current program priorities (such as continued compliance with the Regulation and equity considerations informed by the Affordability Report).

An important step in updating the City’s Water Conservation Strategic Plan included identification of new measures that may be appropriate and the screening of these measures to a short-list for detailed evaluation (benefit-cost analysis). This evaluation was specific to the factors that were unique to the City’s service area, such as water use characteristics, economies of scale, and demographics, and were aligned with the City’s program priorities as mentioned above. The measure screening process also involved a review of the gap analysis (summarized in the previous section) conducted to evaluate the City’s activities against the requirements of the new state Regulation to ensure any gaps in measure activities were addressed.

The experience of many utilities has shown there is a reasonable limit to how many measures can be feasibly implemented at one time. Programs that consist of a large number of measures are historically difficult to implement successfully. Therefore, prioritization of measures is important both as an outcome of this planning effort and as the program is implemented. The approach to program implementation is viewed as a “living” process where opportunities may arise and be adopted as new technologies become available over time. Program timelines can also be adjusted, with the recognition that doing so may impact the savings objectives. The screening process undertaken with the City’s staff yielded 18 measures for further evaluation.

Potential new measures were screened using qualitative evaluation that considered a list of more than 100 potential water conservation measures, the experience of MWM and City staff, the previous conservation planning effort conducted in 2020, and a review of what other water agencies with innovative and effective conservation programs were effectively (or unsuccessfully) implementing. In this effort’s measure screening, City staff considered the criteria outlined in the following figure when evaluating whether a measure should be included in the cost-benefit analysis.

Figure 5-1. City of Santa Barbara Measure Screening Criteria

Water Savings Potential (Per Account):

Refers to the water savings potential a measure has on an account-by-account basis and the expected adoption rate. This is a qualitative assessment of expected water savings potential; actual savings will be quantitatively measured using the DSS Model.

Diversity, Equity, and Inclusion:

Considers how the measure benefits different customer groups, income levels, and housing types, and how accessible it is to non-English-speaking or underrepresented communities.

Service Area Match:

Evaluates whether the measure is appropriate for Santa Barbara’s climate, building stock, and lifestyle characteristics.

Additional Service Area Benefits:

Identifies co-benefits such as stormwater management, habitat creation, energy savings, community aesthetics, or educational opportunities.

5.2 Conservation Measures Analyzed

Table 5-1 describes the 18 measures that were selected for analysis during the screening process. The list includes devices or measures that can be used to achieve water conservation; methods through which the device or measure will be implemented; and what distribution method, or mechanism, can be used to activate the device or measure.

Table 5-1. Measure Descriptions

Measure Name	Description
Commercial	
CII Water Survey	City staff will conduct a comprehensive water survey of fixtures and appliances and provide recommendations as to how the customer can become more water efficient and save money. Participation in the survey is a requirement for eligibility in the Customized CII Incentive measure.
Customized CII Incentive	This measure models an incentive program for CII users that will be conducted after analyzing the recommendations on the findings report that is provided through the CII Water Survey measure. Financial incentives will be provided after analyzing the cost-benefit ratio of each proposed project. Rebates are tailored to each individual site as each site has varying water savings potential.
Restaurant Spray Nozzles Rebate	Rebate 1.15 gallons per minute (gpm) or lower spray nozzles for the rinse and clean operation in restaurants and other commercial kitchens. Stack with existing SoCalGas rebate.
Irrigation	
Irrigation Evaluation	All public and private irrigators of large landscapes would be eligible for free landscape water surveys upon request. Typically those with high water use would be targeted and provided a customized report.
Sprinkler to Drip Irrigation Retrofit	Provide rebate for customers to convert their sprinkler system to efficient drip irrigation. Eligible materials include: pressure regulator filter assembly, drip tubing, ¼" tubing, drip emitters, connectors, figure 8s, goof plugs, and stakes/staples. Does not include micro spray, irrigation valves, labor, or tax. Cannot be used in combination with the Sustainable Lawn Replacement rebate.
Sustainable Lawn Replacement Rebate	The Sustainable Lawn Replacement Rebate provides incentives to help offset the cost of replacing water-thirsty lawns with water-wise plants and efficient irrigation. Total rebate amount is based upon square footage of lawn removed. Stacked rebate available for rain gardens, with funding provided by the Creeks Division.
Spray Sprinklers to Low-Precipitation Sprinklers Retrofit	Provide rebate for customers to upgrade nozzles to reduce misting, runoff, and allow the water to soak into the ground more easily. Eligible materials include: Rotating or low-precipitation nozzles at 1 gpm flow or less.
Smart Sprinkler Timer Rebate	Provide a rebate for the purchase of a weather-based/smart irrigation controller. Smart irrigation controllers can be programmed to give plants the right amount of water for the type of plant, soil, time of year, and weather - often with a smartphone. Eligible materials include: smart controller or weather sensor add-on for existing controller.
Water Efficient Landscape Standards	Compliance with the City's WELS is mandatory whenever a landscaping or irrigation plan is required by any Chapter or Section of the City Municipal Code or by any City design review or land use review body. ¹⁴ The Standards are intended to promote water conservation while allowing flexibility in designing attractive and cost effective water-wise landscapes. As part of this measure, staff perform plan reviews and final inspections for compliance.
Mulch Delivery Rebate	Rebate of two deliveries of the County mulch per customer per year. Mulch helps reduce evaporation and retain soil moisture, reducing irrigation needs.

¹⁴ SBMC § 14.23.005, Ordinance 6101, and Council Resolution No. 23-007

Measure Name	Description
Residential	
Residential High Efficiency Clothes Washer (HECW) Rebates	Rebate for a high efficiency clothes washer. Only applicable on eligible models and for replacing an existing high-water using washer.
Plumber Initiated High Efficiency Toilet (HET) Retrofit Program^E	Subsidize installation cost of new HETs purchased in bulk by the utility to replace 3.5 gallons per flush (gpf) toilets with 0.8 gpf toilets. Licensed plumbers, pre-qualified by the utility would solicit customers directly. Customers would get a new HET installed at no cost or a discounted price. May focus efforts on income-qualified residential account holders and partner with gas company for economies of scale.
Community and Education	
School Education	This measure includes the City's school education initiatives: 1) The LivingWise Program wherein 6th grade students receive a kit containing high-efficiency water and energy fixtures to install within their homes. 2) Musical assemblies for K-6 grade students to promote water efficiency and conservation. 3) In-class presentations to K-6 grade students about where water comes from and how to conserve it.
General Public Education	This measure includes the City's varied public outreach efforts, including printed and digital advertising, information on the City's websites, targeted messaging campaigns, informational videos, and educational workshop series.
Green Gardener Program	15-week bilingual course taught through Santa Barbara City College's School of Extended Learning. The class covers topics on resource-efficient and pollution prevention landscape maintenance practices. After completion of the course and a final test, gardeners are placed on the Green Gardener list which is promoted to the public. Green Gardener recertification issued annually with completion of 2 hours continuing education.
Leak Assistance	
AMI Customer Portal and Leak Alerts	This measure includes the AMI customer portal and the automated leak alert system. Leak alerts are sent by WaterSmart via email, text, phone, or print. This measure includes staff time to respond to calls and emails about leak alerts as well as to discuss water use with customers (i.e. conduct Virtual Water Checkups).
Leak Detection Device Rebate	This measure models the CalWEP direct-distribution program for Flume rebates. Customers order leak detection devices directly through the Santa Barbara website and the rebate is built into reduced cost.
Leak Repair Rebate^E	This measure will provide a rebate to cover part of the labor and materials cost for repairing water leaks, with a higher rebate amount for income-qualified account holders.

Note: Measures denoted with an "E" incorporate equity considerations recommended in the Affordability Report (see Section 3.5.5 for more information on recommendations to improve equity in the City's water conservation program).

Information about the DSS Model analysis approach to measure unit costs, water savings, and market penetrations can be found in Appendix D. Actual measure inputs used in the DSS Model to evaluate the water conservation measures selected by the City can be found in individual measure screenshots in Appendix E.

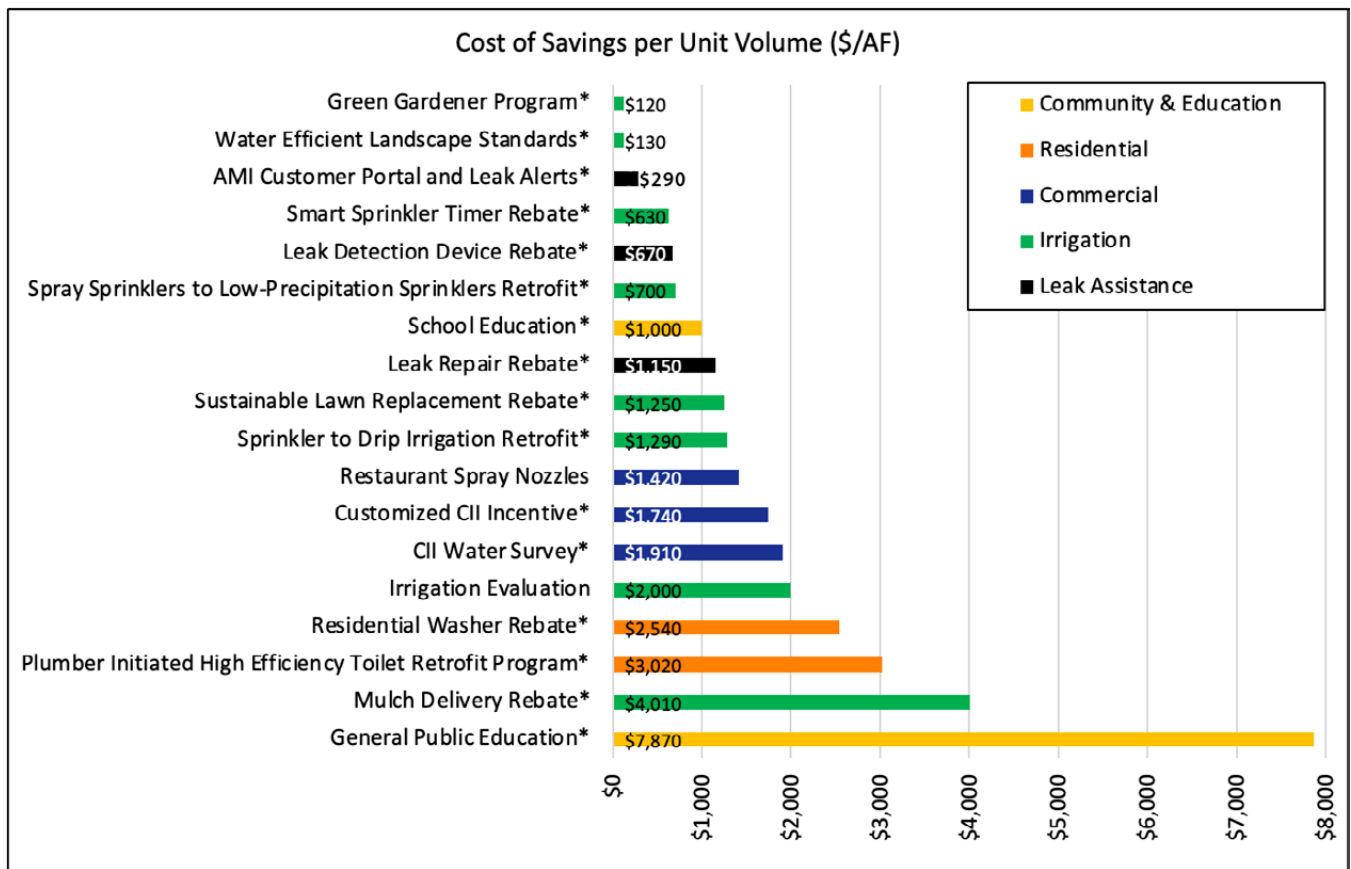
5.3 Comparison of Individual Conservation Measures

MWM conducted an economic evaluation of each selected water conservation measure using the DSS Model. Appendix F presents detailed results with how much water each measure will save through 2050, how much each measure will cost (including utility and staff time cost estimates), and the cost of saved water per unit volume if the measure were to be implemented on a stand-alone basis (i.e., without interaction or overlap from other measures that might address the same end use or uses). Cost savings from reduced water demand was quantified annually and based on avoided costs provided by the City.¹⁵

While each measure was analyzed independently, it is important to note that very few measures operate independently. For example, The AMI customer portal and leak alert measure may lead to an irrigation evaluation or an irrigation or landscape rebate. Higher efficiency indoor fixtures go hand-in-hand with school and public education.

It should be noted that the utility costs and water savings from general public education measure are not double counted with other conservation measures. That is, savings from measures which address the same end use(s) are not additive; the model uses impact factors to avoid double counting in estimating the water savings from programs of measures (for more information on impact factors, please refer to Appendix F). As a result, the costs appear significantly higher for the general public education measure than for other measures due to the very minimal water savings estimated for the high staff time investment. However, other measures certainly would be less effective or possibly infeasible without an active outreach program. Without public outreach, customers would be unaware of conservation measures and participation would likely plummet. With that in mind, Figure 5-2 presents a comparison of each measure’s cost of water saved per unit volume.

Figure 5-2. Conservation Measures – Cost Per Acre-Foot of Water Saved



Notes: The “General Public Education” conservation measure has minimal assigned water savings and is based on an investment in community education and awareness to help drive participation in other conservation measures. Costs are rounded to the nearest \$10.

*These measures are part of the recommended program (Program B).

¹⁵ The City’s estimated average water production cost is \$1,078/AF including treatment, energy, and transport costs. Water production costs are based on FY 2024 variable costs including the following supply sources: Cachuma, Gibraltar/Mission Tunnel, Cachuma carryover/MWD, groundwater, State Water, banked water/water purchases, existing desalination, and expanded desalination.

6. Conservation Program Evaluation

This section provides a summary of which measures were included in each of the three conservation programs analyzed, as well as the program the City selected to implement. The three programs were designed to illustrate a range of various measure combinations and resulting water savings taking into consideration the following:

- Existing conservation measures
- Conservation measures recommended by AWWA, CalWEP, California Department of Water Resources, and others
- New and innovative measures
- Measure equity among customer categories
- Customer demographics

In addition, this section identifies and prioritizes the conservation programs and projects by cost effectiveness, quantifiable water savings, and compliance with American Water Works Association G480 Water Conservation Program Operation and Management Standard (G480 Standard).

6.1 Measure Selection for Conservation Program Alternatives

MWM conducted an economic analysis to show the actual cost of implementing water conservation programs. The City's existing conservation program was evaluated, as well as two additional, increasingly aggressive programs. MWM and the City created a list of potential program concepts that were appropriate for the City's service area and that could meet the City's goals of continued Regulation compliance and implementation of equity recommendations from the Affordability Report. As the City is currently in compliance with all aspects of the Regulation, the program concepts centered on implementing equity recommendations and maintaining current conservation efforts. Factors for determining which measures should be in each program included evaluation of two types of parameters, (1) measure feasibility parameters and (2) program priority alignment. Measure feasibility was evaluated based on budgeting, feasibility to implement the program as informed by City staff time estimates, and the time at which each measure would need to be introduced to promote conservation efforts. Measures were also evaluated for alignment with the Affordability Report recommendations and to ensure the suites of measures in programs save water across all customer categories.

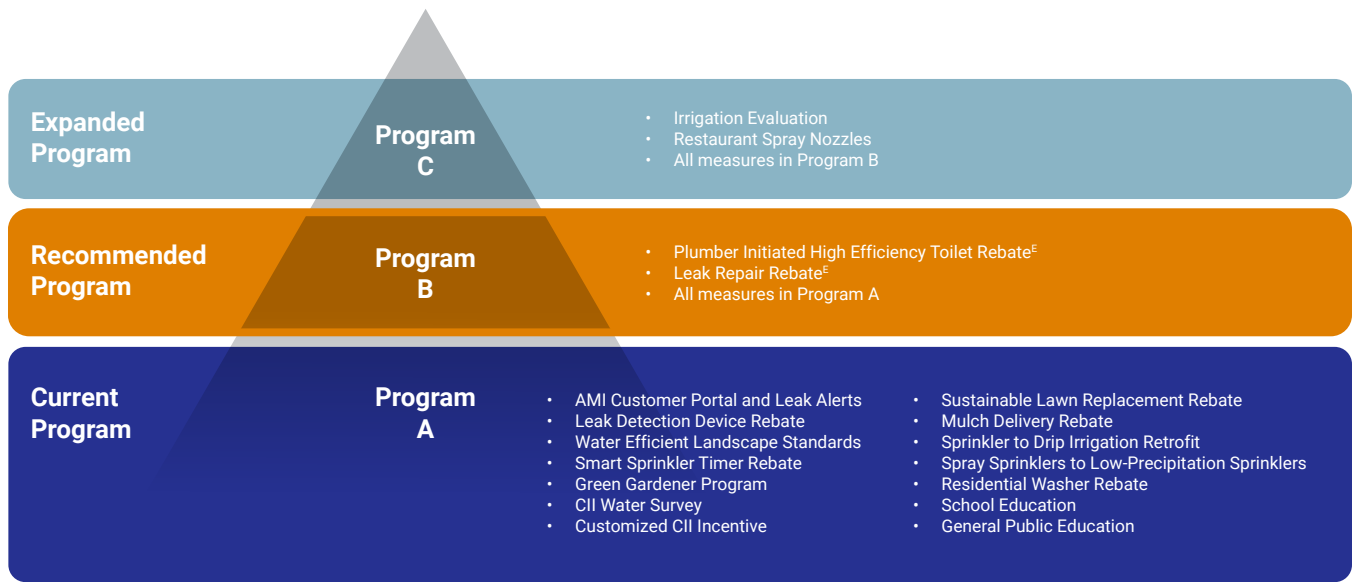
These program scenarios were not intended to be rigid but rather to demonstrate the range in savings that could be generated if selected measures were run at the same time. When programs were analyzed, any overlap in water savings (and benefits) from individual measures was considered to provide a total combined water savings (and benefits). Each program is described below:

- **Program A** – Current Measures. Current conservation program with no changes; includes 14 measures.
- **Program B** – Recommended Measures. In addition to existing efforts, this Program includes more measures that incorporate equity recommendations from the Affordability Report through two additional measures (plumber-initiated high efficiency toilet retrofit program measure and the leak repair rebate measure) and is comprised of 16 measures. This is the recommended program.
- **Program C** – All Modeled Measures. In addition to the measures in the Programs described above, this Program includes an additional outdoor measure and commercial rebate. This Program represents all modeled measures that include water savings¹⁶ in this effort (a total of 18 measures).

Figure 6-1 presents the City's conservation measure program scenarios, indicating which measures were selected and modeled within each program.

¹⁶ An additional measure, "Regulation Requirements", was modeled to estimate the staffing costs of Regulation related reporting activities but has no water savings associated with it and was not included in modeled programs. This measure can be updated by the City and can serve as a tool to estimate staffing costs for reporting requirements in the future.

Figure 6-1. Selected Conservation Program Measures



Note: Measures denoted with an “E” were designed to integrate equity considerations.

Table 6-1 shows the benefit-cost ratios for conservation Programs A, B, and C as well as average annual utility costs and Full-Time Equivalent (FTE) staff required. Each program’s present value of water savings and utility costs as well as cost of water saved can be found in Appendix F.

Table 6-1. Comparison of Program Benefit-Cost Ratios, Average Costs, and FTE Requirements

Conservation Program	Water Utility Benefit-Cost Ratio	Average Annual Utility Costs (2026-2050)	Full-Time Equivalent Staff Required (2030)
Program A with Plumbing Code	1.08	\$415,300	4.5
Program B with Plumbing Code	1.04	\$446,100	6
Program C with Plumbing Code	0.99	\$486,700	6

Table 6-2 shows the water system demands for the City of Santa Barbara. Demand is shown in acre-feet in 5-year increments over the modeling period. Table 6-2 and Figure 6-2 include demand with and without plumbing code, and projected demand with plumbing codes and three active conservation program scenarios.

Table 6-2. City of Santa Barbara Potable Water System Demands in AFY for Years 2030-2050

	2030	2035	2040	2045	2050
Baseline Demands	10,539	10,774	10,927	11,029	11,133
Plumbing Code Savings	188	304	379	450	500
Demands with Plumbing Code Savings	10,351	10,470	10,547	10,579	10,633
Conservation Program A Savings	402	426	433	455	468
Demands with Plumbing Code and Conservation Program A Savings	9,949	10,044	10,105	10,124	10,166
Conservation Program B Savings	402	438	459	472	484
Demands with Plumbing Code and Conservation Program B Savings	9,949	10,031	10,088	10,107	10,149
Conservation Program C Savings	405	454	477	490	503
Demands with Plumbing Code and Conservation Program C Savings	9,947	10,016	10,070	10,089	10,131

Figure 6-2 presents historical and projected water demand in AFY given multiple scenarios. Plumbing code elements include current local, state, and federal plumbing code standards for retrofits of items such as toilets, urinals, showerheads, faucets, and clothes washers.

Figure 6-2. City of Santa Barbara Historical and Projected Demand

All line types shown in the legend are presented in the graph. Program B and Program C demand scenarios are close in value and therefore may be somewhat indistinguishable in the figure.

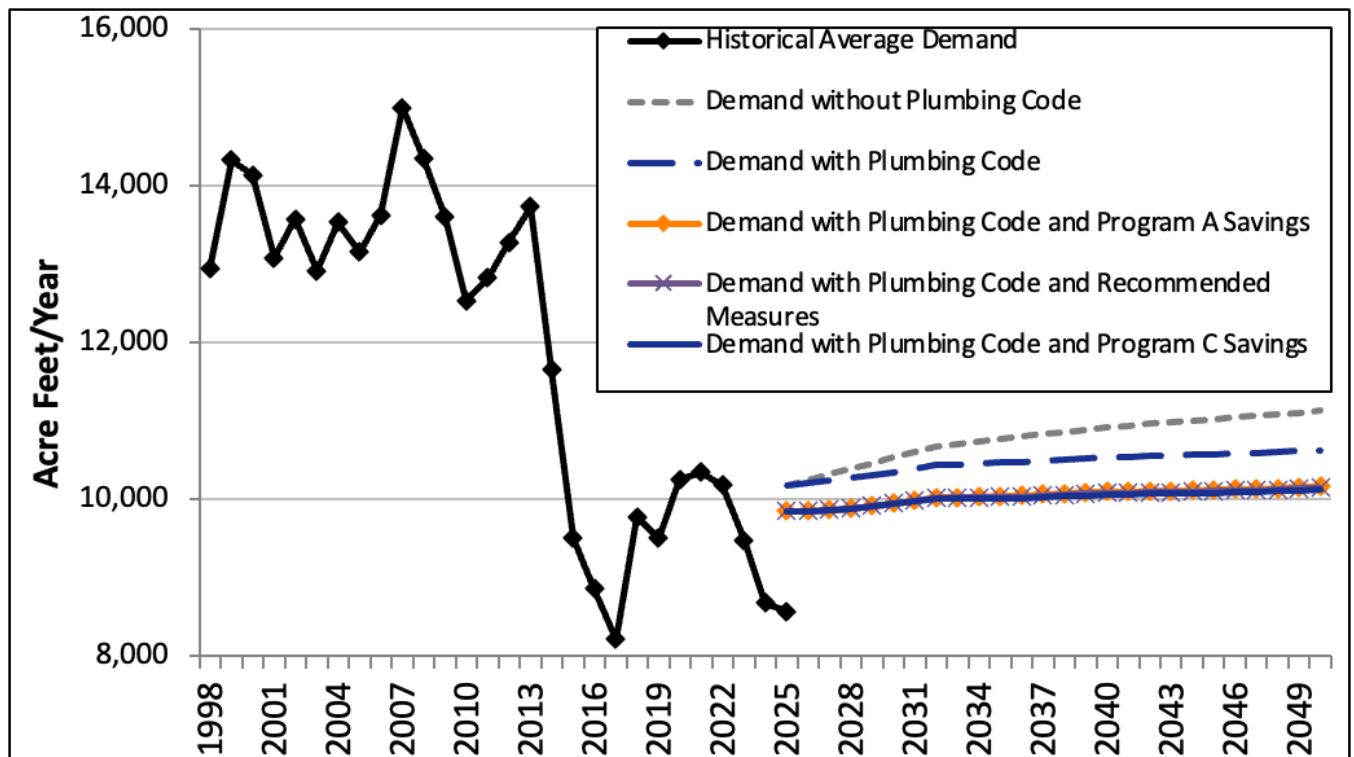
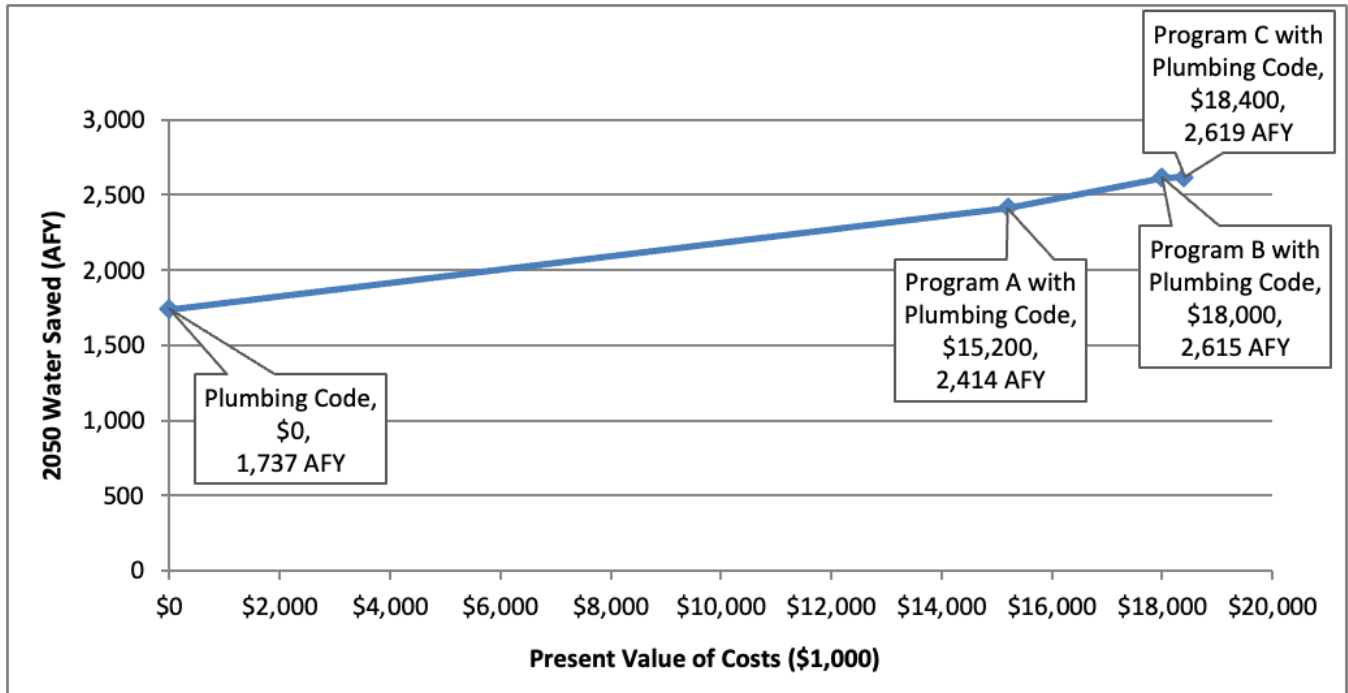


Figure 6-3 illustrates how marginal returns change as more money is spent to achieve water savings in AFY in 2050. A cost-effectiveness curve displays the results of the present value of each program's costs versus the cumulative water savings at the end of the planning period, as the curve flattens out more expenditure is needed to get less savings. This curve is helpful in determining how far to push the "conservation envelope" as the point of diminishing economic returns is evident.

Figure 6-3. Present Value of Utility Costs Versus Water Saved in 2050



6.2 Selected/Recommended Program

To achieve continued water conservation savings, comply with new Regulation and state reporting requirements, incorporate equity into program design, and maintain water use reductions, the City has elected to implement Program B. Of all the measures evaluated, those in Program B were chosen for the following reasons:

- Alignment with the One Water Santa Barbara guiding principle to improve local water supply reliability by diversifying the supply portfolio and using water efficiently.
- Addresses recommendations from the Affordability Report (Alliance for Water Efficiency, 2024) that incorporate equity considerations for the conservation program through inclusion of two new measures that directly address equity concerns
- Expansion of existing efforts to meet state-mandated targets and aggregate water use objectives.
- Result in a long-term plan that models a cost-effective means to manage water supplies.

Program B includes 16 of the measures evaluated in this planning effort and represents a robust, forward-looking program with a favorable benefit-cost ratio. This Recommended Program (Program B) is the most comprehensive option that best meets the City's current program objectives. Its measures are likely to be implemented, eligible for funding, and well-suited for outside partnerships. The Recommended Program provides a broad range of customer benefits in a more equitable manner, incorporates recommendations from the 2024 Affordability Report, and aligns with Regulation requirements. The Recommended Program has a benefit-cost ratio of 1.04 and is estimated to achieve 984 AFY in water savings by 2050.

7. Conclusions and Next Steps

Current conditions have resulted in the City to choosing Program B as the Recommended Program for implementation. However, water use is very dynamic and responds to changes in population, economy, weather, efficiency of devices, and types of industry. In the future, as the community evolves and water use patterns and weather change, the City may adjust implemented measures, and measure targets and schedules. This may include expanding upon, or scaling back, various program components and measures to increase efficiency, improve cost-effectiveness, adopt or adjust to better technology or methods, or adjust to budget and staffing parameters. Whether additional measures become necessary is dependent on several factors, including potential future drought conditions, compliance with the annual aggregate water use objectives as provided by the state, and the City's ability to support new and more innovative programs.

With clearly defined individual conservation measures as well as calculable water saving objectives and customer target goals, the City has quantifiable performance objectives that can be tracked on both an individual conservation measure level and an overall program level.

7.1 Selected Program Estimated Water Savings and Budget

In conjunction with plumbing codes, the Recommended Program saves 9% of projected demand in 2050. From the utility standpoint, the average cost of water saved for the Recommended Program is \$719 per AF, which is less than the avoided cost of water at \$1,078 per AF. This program has the potential to reduce per capita water use in a very cost-effective manner.

7.2 Implementation

The City will continue to monitor conservation program performance by tracking participation levels, implementation progress, and measure effectiveness over time. Table 7-1 summarizes the modeled utility costs of implementing the Recommended Program through 2050, while the discussion that follows describes the associated staffing needs and factors that may influence future costs.

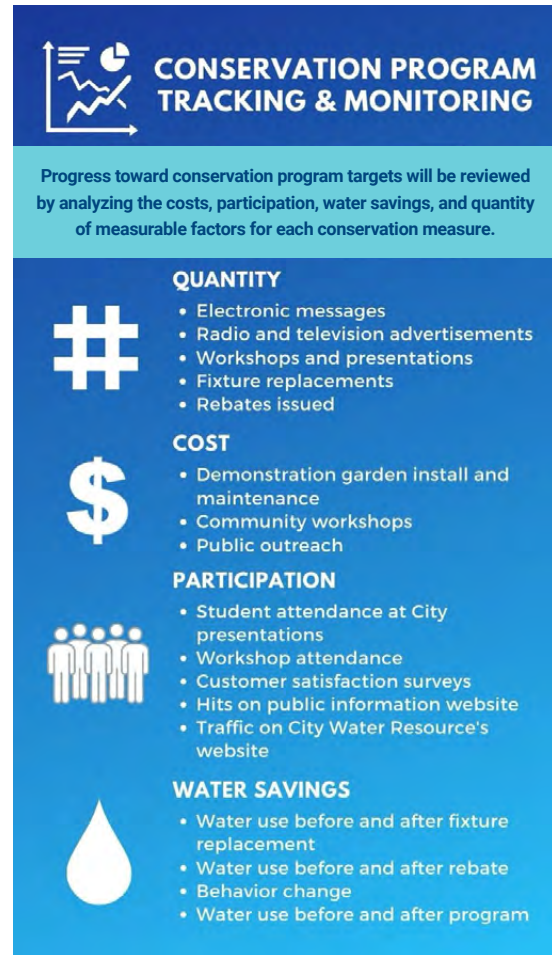
The City will also submit annual reports to the State Board, five-year updates of the Water Management Plan submitted to the US Bureau of Reclamation, and five-year updates of the Urban Water Management Plan to the CA Department of Water Resources, among other efforts as described in the following subsections. Additionally, progress on the demand management measures is tracked quarterly and annually through performance measures.

7.2.1 Tracking and Monitoring

The City will continue to monitor progress and track the level of participation and effectiveness of conservation measures through the following:

- Prepare an annual performance measure plan in concert with the budget planning process.
- Store and manage measure participation, cost, and other data to gauge successes and areas that need improvement. Consider establishing data best practices as part of this tracking effort so that participation tracking can integrate with AMI data, such as to estimate water savings from measure participation.
- Review Plan goals in the DSS Model annually and update measure participation or other elements that are refined through experience.
- Track water use annually relative to the City's Urban Water Use Objective to ensure the City remains on track for compliance. Monitoring UWUO progress annually will allow the City to identify potential gaps early and provide sufficient time to adjust program strategies, ramp up conservation efforts, or revise measures and participation targets as needed.
- Monitor equity outcomes using GIS-based analysis by leveraging the demographic and spatial analysis completed as part of the Affordability Report. This approach can help evaluate whether conservation measures that include equity considerations are successfully reaching low-income customer groups. The City's participation in the Alliance for Water Efficiency "Characterizing Water Use in Low-Income Households Seeking Bill Pay Assistance" study is also expected to provide additional insights into customer behavior and program accessibility, which can help refine measure offerings and outreach strategies to improve equitable participation.
- Expand the use of AMI data to inform program targeting and evaluation. AMI data can help identify customers with water use patterns associated with higher conservation potential such as high seasonal irrigation demand and persistent high use, which can inform targeted outreach and improve the effectiveness of certain conservation measures. As equity metrics and best practices for equitable conservation planning continue to evolve, AMI-based analyses can also be integrated with demographic and spatial data to support more refined and data-driven program targeting.
- Track costs and staff time requirements to implement the conservation program. The new Regulations and other state reporting requirements demand significant staff time for continued compliance. Tracking staff time to complete required reporting and Regulation activities as well as time to implement programs will help inform future staffing decisions and allow the City to respond more effectively to changes to the conservation program (for example, if participation targets are increased as a response to higher demands materializing in future years).
- Track water use to ensure the Plan is on track to meet water use reduction goals. Use the input from City staff and the annual work planning process as the forum to amend the Plan, budget, staffing, schedule, and so forth to stay on track.

Figure 7-1. Conservation Program Tracking & Monitoring



7.2.2 Implementation Costs

Table 7-1 depicts the modeled utility expense to implement the Recommended Program through 2050. Expenses for each measure are calculated from device and material expenses and do not include staffing costs (staffing requirements are noted in the following subsection). In addition, individual measure cost is based on target implementation metrics. For example, some measures are based on a percentage of accounts and therefore may grow or decline as the customer populations change, while others are based on the number of accounts and may therefore remain steady.

It is anticipated that the current participation in the City's conservation program measures will continue to increase modestly through 2030 (when new measures are modeled to come online). The higher modeled projected costs in 2028 and 2029 are mostly driven by participation estimates for lawn replacement rebates in the commercial customer category, which are modeled to decrease in 2030 when compliance with the statewide nonfunctional turfgrass watering ban is anticipated to be largely complete.¹⁷

The costs presented in this table are programmatic and measure-specific expenses for the water conservation program. There are broader allocated administrative costs associated with running the conservation program that are not included in the costs below. It is estimated that a 24% additional expenditure is required to meet City allocated and administrative costs each year.

¹⁷ Information about California Assembly Bill 1572 can be found at: <https://legiscan.com/CA/text/AB1572/id/2814825>

Table 7-1. Modeled Utility Costs for the Recommended Program

Fiscal Year	Utility Cost
Projected Budget Provided by City	
2026	\$343,000
Proposed Budget Provided by City	
2027	\$346,000
Modeled Projected Costs	
2028	\$457,000
2029	\$426,000
2030	\$429,000
2031	\$426,000
2032	\$450,000
2033	\$450,000
2034	\$451,000
2035	\$452,000
2036	\$453,000
2037	\$454,000
2038	\$454,000
2039	\$455,000
2040	\$455,000
2041	\$436,000
2042	\$437,000
2043	\$437,000
2044	\$438,000
2045	\$438,000
2046	\$439,000
2047	\$439,000
2048	\$440,000
2049	\$440,000
2050	\$441,000

Notes: Costs are rounded to the nearest thousand dollars, a 6.1% nominal interest rate was used to estimate present value costs.

7.2.3 Staffing Requirements

This section summarizes the staff time requirements needed to achieve the key objectives driving this Plan update: maintaining compliance with new regulatory requirements and annual reporting obligations, integrating equity considerations into the conservation program, and sustaining long-term water conservation savings.

7.2.4 Overview

The City is currently running a conservation program with 4.5 FTE staff (one full-time Water Conservation Analyst and other positions whose role includes support for water conservation activities). It is recommended that the City increase the FTE water conservation team by at least 1.5 staff with water conservation experience (for a total of 5.5 FTEs by year 2030 and 6 FTEs by 2032) to implement the Recommended Program, address continued Regulation compliance and annual state reporting requirements, and implement the recommendations from the Affordability Report.

7.2.5 Implementing Affordability Report Recommendations

Implementing the recommendations from the Affordability Report will require significant coordination, outreach, and program administration. In addition, engaging households often requires trusted community partners, language-accessible outreach, and hands-on support for programs such as WaterSmart enrollment, conservation education, or direct-install efficiency upgrades. Developing and maintaining these partnerships, while also administering potential programs such as leak repair services or direct-install fixture replacements, would require dedicated staff capacity. As outlined in the Affordability Report, it is estimated that approximately one additional full-time equivalent position would be needed to effectively implement the remaining Affordability Report recommendations and support long-term community engagement in those programs.

7.2.6 Implementing the Recommended Program and Activities for Continued Regulation Compliance

As part of the gap analysis conducted to assess the City's compliance with the new Regulation, staff time requirements for annual reporting and upcoming requirements (such as CII MUMs, CII Best Management Practices, AB 1572, and SAFER reporting) were estimated in collaboration with the City. Compliance activities are estimated to require approximately 350 staff hours in 2027, declining slightly to about 300 hours annually thereafter.

The Recommended Program was developed using historical participation data to estimate achievable targets. The program includes two additional equity-focused measures: the leak repair rebate and the plumber-initiated high efficiency toilet retrofit program, which are intended to better reach customers facing financial and structural barriers. These measures are estimated to require an additional 40-60 staff hours annually to administer (at the modeled participation rates) and are assumed to begin in 2030, when improved data from Affordability Report recommendation implementation and enhanced tracking can support more refined targeting. However, this additional staff time to administer the new measures assumes the measures have been established and does not model the staff time required to create them such as outreach, internal coordination, setting up administrative protocols, and other required activities to establish the systems and processes to run the measures. Therefore, these estimates assume participation rates that are conservative, time requirements per participant that are conservative, and do not include time for increased outreach or community coordination. Therefore, these staff time estimates can be significantly higher. In combination, implementation of the Recommended Program and ongoing compliance efforts is projected to require approximately 0.5 FTE by 2032, with potential increases as participation grows and programs evolve.

However, staffing needs arise earlier due to near-term compliance demands. With compliance activities alone requiring approximately 350 hours in 2027, additional capacity is needed to avoid overextending existing staff while maintaining and advancing program priorities. To support regulatory compliance and implementation of Affordability Report recommendations, as well as implement the Recommended Program, it is recommended that one full-time equivalent (1.0 FTE) position be added by 2030. This role would support reporting, coordination, and program administration, while progressing the implementation of Affordability Report recommendations as mentioned above. As efforts to implement Affordability Report recommendations mature and data improves, staffing can be scaled accordingly, with an estimated additional 0.5 needed by 2032 to support full program implementation.

In summary, staffing recommendations to meet program needs and implement the Affordability Study recommendations would be phased in the following way:

- Hire an additional FTE by FY 2030 (consider hiring in FY 2028). This position would begin the implementation of Affordability Report recommendations, while supporting Regulation reporting requirements. It is anticipated that launching the two new measures in the recommended program will require significant staff time and iteration, and this position can synergistically work on the relationship-building activities recommended in the Affordability Report while also working to establish the two new measures.
- Hire an additional half FTE by 2032 (consider hiring in FY 2030). This position would support the implementation of the new measures and reporting requirements. The FTE and half FTE duties and workload can continue to be synergistic as data found through the implementation of Affordability Report recommendations will likely inform changes to conservation measures that can be implemented by the FTE and half FTE.

7.2.7 Next Steps

In addition to conducting Recommended Program implementation as described in the previous section, some next steps are as follows:

- Review program staff needs and hire staff accordingly to adequately support program needs. Refine as needed around budget, water savings needs, staff capabilities, and community interests.
- Prioritize measures for implementation, with the highest priority for implementation given to those that contribute the most to meeting water saving targets and/or can be implemented with relative ease. Key questions to direct action include:
 - What level of support will be required from conservation staff to run the selected measures?
 - What other support is needed (e.g., outsourced support or other sources of funding) to run these programs?
- Develop implementation plans that describe in detail how to implement each conservation measure.
- Prepare annual performance measures in concert with the budget process.
- Identify potential partnership opportunities and form collaborations, applying for grants where appropriate.
- Continue to collect and analyze measure participation, costs, and other data to gauge successes and areas that need improvement.

7.3 Conclusions

The following is a summary of the Water Conservation Strategic Plan analysis findings:

- Conservation is one of the least expensive means of meeting future water supply needs for the area. The avoided cost of water was estimated to be \$1,078/AF, while the average cost of water saved for the Recommended Program is \$719/AF. Implementation of the recommended conservation measures should reduce per capita water use and has the potential to defer the need for further infrastructure expansion. While the conservation actions identified can have a significant cost (annual utility costs for the Recommended Program range from \$414,000 to \$465,000 rounded to the nearest thousand dollars), the cost of not participating in conservation and having to address increased demands through engineering solutions is higher. Furthermore, with climate change, long-term drought, and environmental restrictions on the delivery of imported water, additional water supplies may not be available to meet future increases in demand.
- The City is currently in compliance with all components of the “Making Water Conservation a California Way of Life” Regulation. This Plan incorporates staffing costs for continued compliance activities and presents a suite of measures that are estimated to maintain water conservation achievements for continued compliance with water use objectives.
- Equity is a main driver in this Plan update, and the recommendations from the 2024 Affordability Report prepared by the Alliance for Water Efficiency are integrated into the Recommended Program .
- The availability of AMI data presents the City with opportunities to enhance conservation measure outreach efforts and targets, as well as potential water savings estimates for future planning efforts. As equity metrics and more information about customers is made available, such as through the AWE “Characterizing Water Use in Low-Income Households Seeking Bill Pay Assistance” study, the City can leverage its AMI data to inform its conservation program.
- Through the DSS Model analysis, the City identified fixture costs, applicable customer classes, time period of implementation, measure life, administrative costs, end uses, end-use savings per replacement, and a target number or percentage of accounts per program year. This thorough analysis is used in the 2025 City of Santa Barbara Urban Water Management Plan and additional Santa Barbara planning documents.
- Continuing water conservation efforts appears to be a feasible and cost-effective means of:
 - Being more sustainable within existing water supplies.
 - Meeting the water use objectives outlined in the “Making Conservation a California Way of Life” Regulation as well as complying with the CII Performance Measures.
 - Measuring, tracking, and reducing non-revenue water losses as outlined in SB 555 and to stay in compliance with the Water Loss Standard of the Regulation.
- Approximately 72% of the City’s service area water use is associated with residential water use. Consequently, residential conservation programs will produce the most savings. At 22% of overall water use, the City’s service area does not include extensive commercial activity. Therefore, the conservation potential for the commercial sector is not as high.
- Based on the analysis, the City has selected to implement Recommended Program (Program B), with 16 measures, a utility benefit-cost ratio of 1.04 and a cost of water saved of \$719 per AF, an average annual next 5-year utility cost of \$438,000, and an average annual FTE staff of 6 (1.5 more FTE than currently needed).



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Appendix A – Performance Measures Report

FY2025 Performance Measures Results

Relevant Objectives from Program 4612 (Water Supply & Conservation) and Program 4611 (Meter Services)

Goal	FY25 Target	FY25 Qtr1 Actual	FY25 Qtr2 Actual	FY25 Mid-Year Actual	FY25 Qtr3 Actual	FY25 Qtr4 Actual	FY25 Year-End Actual
Track digital outreach efforts in City publications (Water e-newsletter, new customer e-newsletters, etc.).	50% Open Rate	52%	61%	57%	53%	62%	57%
Number of plans reviewed for conformance with Water Efficiency Landscape Standards for Water Conservation	100	52	62	114	68	59	241
Number of plans reviewed for conformance with individual water metering requirements	100	48	58	106	91	69	266
Number of customer support interactions for WaterSmart/conservation	3,500	1,128	907	2,035	1,000	948	3,983
Residential gallons per capita per day (GPCD) (Average over time period)	70 or less	63	66	61	55	58	58
Promote public education of the City's water resources by providing tours of Desal and EEWTP	10	8	2	10	12	9	31
Promote public education of the City's water resources by providing presentations to community	3	2	1	3	2	1	6
Percent of accounts registered for WaterSmart	10%	42.9%	48.2%	48.2%	50%	55%	55%
(accounts registered/total of accounts eligible for WaterSmart = percentage)		13,198/30,768	14,871/30,853	14,871/30,853	15,472/30,884	16,865/30,884	16,865/30,884
AMI read rate success maintained above 98%	98%	98.8%	99.3%	99.1%	99.38%	99.24%	99.24%
Percent of Waste of Water (WoW) investigated	100%	100%	100%	100%	100%	100%	100%
(WoW investigated/total WoW reports = percentage)		10/10	9/9	19/19	11/11	10/10	40/40

Appendix B – DSS Model Overview



DSS Model Overview – The Least Cost Planning Decision Support System Model (DSS Model) is used to prepare long-range, detailed demand projections. The purpose of the extra detail is to enable a more accurate assessment of the impact of water efficiency programs on demand and to provide a rigorous and defensible modeling approach necessary for projects subject to regulatory or environmental review.

Originally developed in 1999 and continuously updated, the DSS Model is an “end-use” model that breaks down total water production (water demand in the service area) to specific water end uses, such as plumbing fixtures and appliances. The model uses a bottom-up approach that allows for multiple criteria to be considered when estimating future demands, such as the effects of natural fixture replacement, plumbing codes, and conservation efforts. The DSS Model may also use a top-down approach with a utility-prepared water demand forecast.

Demand Forecast Development and Model Calibration – To forecast urban water demands using the DSS Model, customer demand data is obtained from the water agency being modeled. Demand data is reconciled with available demographic data to characterize water usage for each customer category in terms of number of users per account and per capita water use. Data is further analyzed to approximate the split of indoor and outdoor water usage in each customer category. The indoor/outdoor water usage is further divided into typical end uses for each customer category. Published data on average per capita indoor water use and average per capita end use is combined with the number of water users to calibrate the volume of water allocated to specific end uses in each customer category. In other words, the DSS Model checks that social norms from end studies on water use behavior (e.g., flushes per person per day) are not exceeded or drop below reasonable use limits.

Passive Water Savings Calculations – The DSS Model is used to forecast service area water fixture use. Specific end-use type, average water use, and lifetime are compiled for each fixture. Additionally, state and national plumbing codes and appliance standards are modeled by customer category. These fixtures and plumbing codes can be added to, edited, or deleted by the user. This process yields two demand forecasts, one with plumbing codes and one without plumbing codes.

Figure B-1. DSS Model Main Page



Active Conservation Measure Analysis Using Benefit-Cost Analysis

– The DSS Model evaluates active conservation measures using benefit-cost analysis with the present value of the cost of water saved (\$/Million Gallons or \$/Acre-Foot). Benefits are based on savings in water and wastewater facility operations and maintenance (O&M) and any deferred capital expenditures. The figures on the following page illustrate the processes for forecasting conservation water savings, including the impacts of fixture replacement due to existing plumbing codes and standards.

Model Use and Validation – The DSS Model has been used for over 20 years for practical applications of conservation planning in over 300 service areas representing 60 million people, including extensive efforts nationally and internationally in Australia, New Zealand, and Canada.

Figure B-2. Sample Benefit-Cost Analysis Summary

Benefit Cost Analysis		Util Cost Five Year Start Year	Water Savings Year		Units						
Benefit Cost Analysis		2020	2030		AF						
	Measure	Present Value of Water Utility Benefits	Present Value of Community Benefits	Present Value of Water Utility Costs	Present Value of Community Costs	Water Utility Benefit to Cost Ratio	Community Benefit to Cost Ratio	Five Years of Water Utility Costs 2020-2025	Water Savings in 2030 (afy)	Cost of Savings per Unit Volume (\$/af)	
AMI	Full AMI Implementation	\$3,976,434	\$16,635,194	\$1,566,069	\$5,893,340	2.54	2.82	\$320,000	133.764878	\$324	
RESH	Residential Rebates for HECW	\$139,312	\$365,447	\$95,879	\$200,665	1.45	1.82	\$50,325	5.124572	\$824	
WC	Water Checkup	\$7,648,165	\$30,288,419	\$6,005,949	\$7,665,564	1.27	3.95	\$1,382,995	239.652915	\$877	
IRRE	Irrigation Evaluations	\$1,589,488	\$1,589,488	\$1,918,184	\$4,332,779	0.83	0.37	\$443,824	98.051821	\$646	
CIIR	CIIR Water Survey Level 2 and Customized Rebate	\$910,720	\$3,313,109	\$915,904	\$2,581,185	0.99	1.28	\$193,725	18.753753	\$1,055	
NOZZ	Free Sprinkler Nozzle Program	\$277,886	\$277,886	\$329,386	\$455,933	0.84	0.61	\$103,145	23.005687	\$680	
MULC	Mulch Program	\$80,739	\$80,739	\$287,676	\$287,676	0.28	0.28	\$66,932	4.554625	\$2,000	
LDS	Water Conserving Landscape and Irrigation Codes	\$1,055,819	\$1,055,819	\$350,316	\$7,979,608	3.01	0.13	\$78,568	46.098525	\$161	
PRV	Pressure Reduction Valve Rebate	\$102,170	\$193,972	\$49,161	\$132,223	2.08	1.47	\$37,818	8.503521	\$425	
LEAK	Leak Detection Device Rebate	\$174,130	\$847,416	\$306,843	\$1,288,743	0.57	0.66	\$80,053	6.065394	\$1,895	
UHET	Ultra-High Efficiency Toilet Rebate	\$538,624	\$538,624	\$405,529	\$761,556	1.33	0.71	\$362,736	16.287780	\$921	

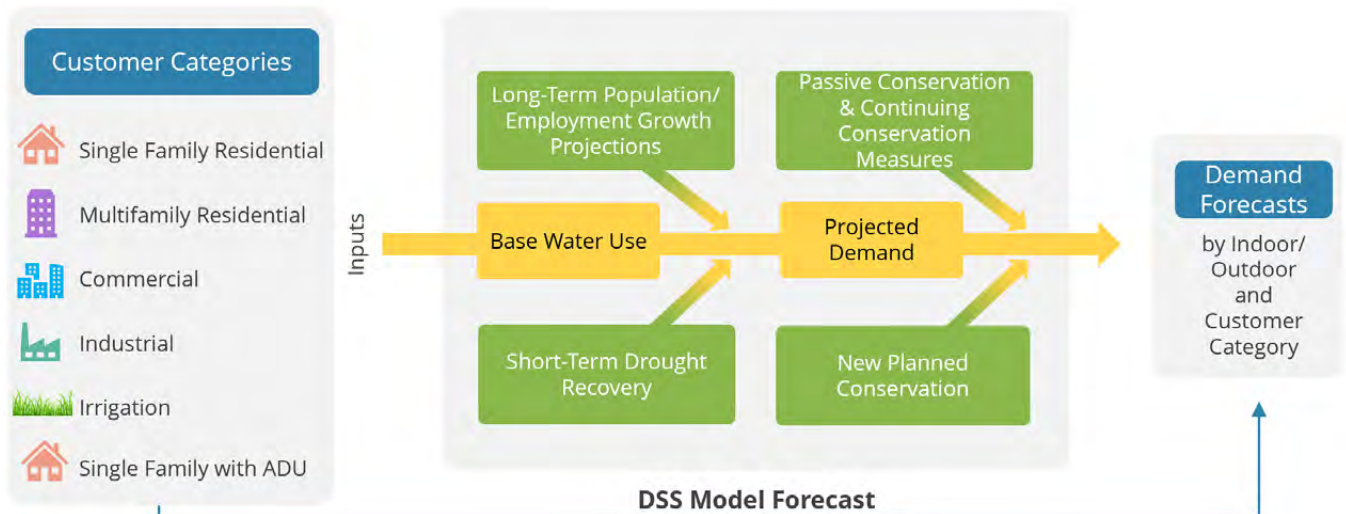
Figure B-3. DSS Model Analysis Locations in the U.S.



The California Water Efficiency Partnership (CalWEP) has peer reviewed and endorsed the model since 2006. It is offered to all CalWEP members for use to estimate water demand, plumbing code, and conservation program savings.

The DSS Model can use one of the following: 1) a statistical approach to forecast demands (e.g., an econometric model); 2) a forecasted increase in population and employment; 3) predicted future demands; or 4) a demand projection entered into the model from an outside source. For the City, baseline demand was developed based on deriving a non-drought year average year demand per account factor for each customer category and projecting each customer category's account growth based on either population growth or commercial growth projections. The following figure presents the flow of information in the DSS Model Analysis.

Figure B-4. DSS Model Analysis Flow



Appendix C – Projected Water Demands With and Without Plumbing Code Savings

This section presents baseline water demands with and without the plumbing code; details regarding the national and state plumbing codes; and key inputs and assumptions used in the DSS Model, which is used to prepare long-range, detailed demand projections. This rigorous modeling approach is especially important if the project will be subject to regulatory or environmental review.

C.1 Projected Baseline Demand

The assumptions having the most dramatic effect on future demands are: 1) the natural replacement rate of fixtures; 2) how residential or commercial future use is projected; and 3) the percent of estimated real water losses. As described in the previous section, baseline customer category water use was determined using 2021–2024 historical monthly water use as the data available for this range of years represents more recent demand trends after the 2014-2019 drought and the COVID-19 Pandemic. After several demand scenarios were explored, City staff determined that the projected baseline water demand would represent demands with plumbing code and the recommended program (Program B). As part of the development of the 2025 Urban Water Management Plan, the City reviewed a total of 7 different scenarios. The scenarios included faster and slower housing and employment growth rates, demand creep, climate change, and water rates impacts.

C.2 Estimated Plumbing Code Savings

The DSS Model forecasts service area water fixture use. In the codes and standards part of the DSS Model, specific fixture end-use type (point of use fixture or appliance), average water use, and lifetime are compiled. Additionally, state and national plumbing codes and appliance standards for toilets, urinals, showers, and clothes washers are modeled by customer category. This approach yields two distinct demand forecasts related to plumbing code savings: 1) with plumbing codes and 2) without plumbing codes. Plumbing code measures are independent of any conservation program and are based on customers following applicable local, state and federal laws, building codes, and ordinances.

Plumbing code-related water savings are considered “passive” and reliable long-term savings and can be depended upon over time to help reduce overall system water demand. In contrast, water savings are considered “active” if a specific action unrelated to the implementation of codes and standards is taken by the water agency to accomplish conservation measure savings (e.g., offering turf replacement rebates). The DSS Model incorporates the following items as a “code,” meaning that the savings are assumed to occur and therefore are “passive” savings:

- The Federal Energy Policy Act of 1992 (amended in 2005)
- California Code of Regulations Title 20 California State Law (Assembly Bill 715)
- California State Law Senate Bill 407
- 2015 California Code of Regulations Title 20 Appliance Efficiency Regulations
- 2025 CALGreen Code (effective January 1, 2026)
- Energy Conservation Standards for Residential Clothes Washers (United States Department of Energy ruling, effective July 15, 2024)

Figure C-1 conceptually describes how plumbing codes using “fixture models” are incorporated into the flow of information in the DSS Model.¹ The demand projections, including plumbing code savings, further assumes no active involvement by the water utility, and that the costs of purchasing and installing replacement equipment (and new equipment in new construction) are borne solely by the customers, occurring at no direct utility expense. The inverse of the fixture life is the natural replacement rate expressed as a percentage (i.e., 10 years is a rate of 10% per year).

¹ Fixture models are used in the DSS Model to track individual plumbing devices and their water savings as they change and become more efficient over time.

Figure C-1. DSS Model Overview Used to Make Potable Water Demand Projections

The DSS Model makes water demand projections using a multi-level process.

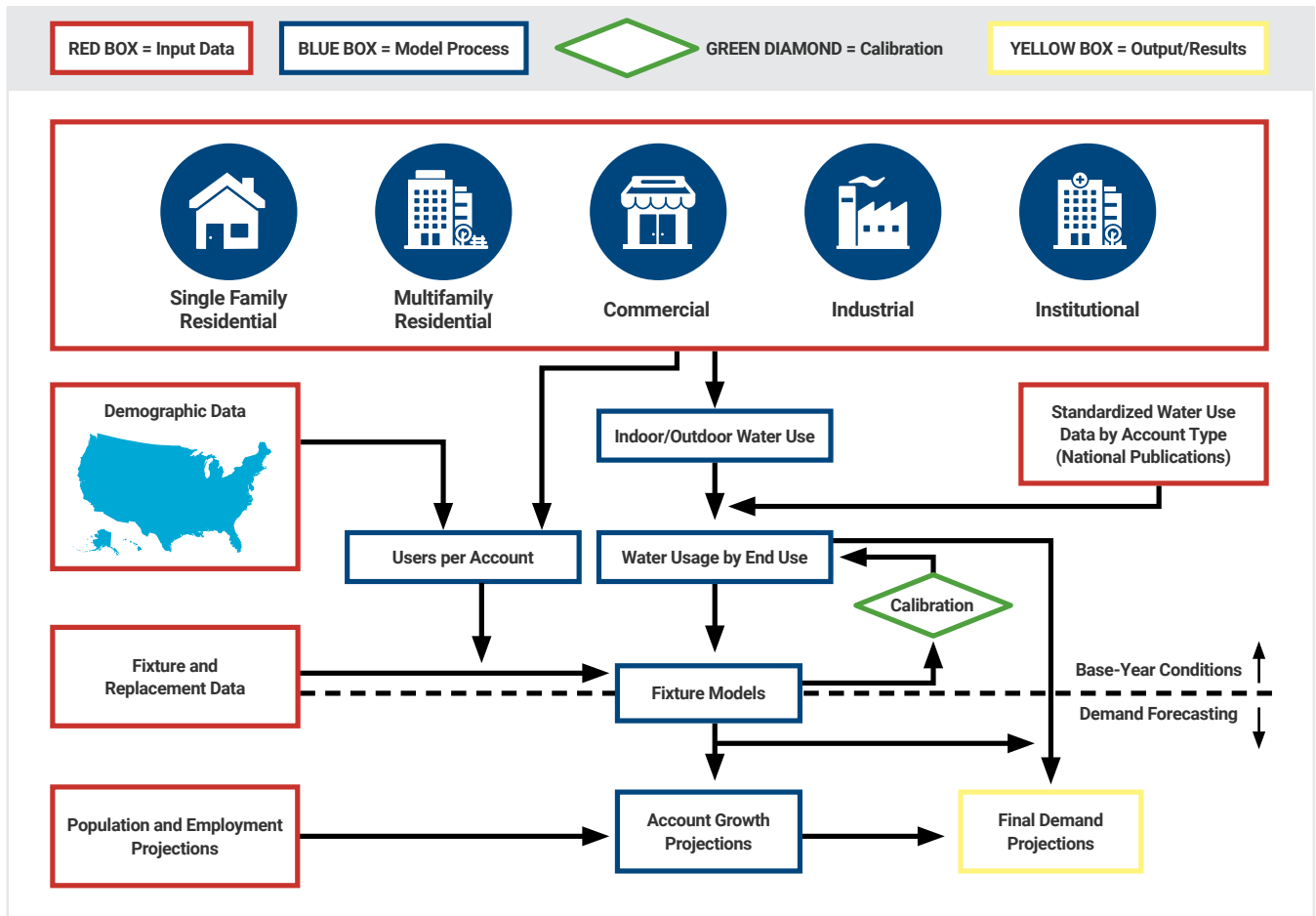
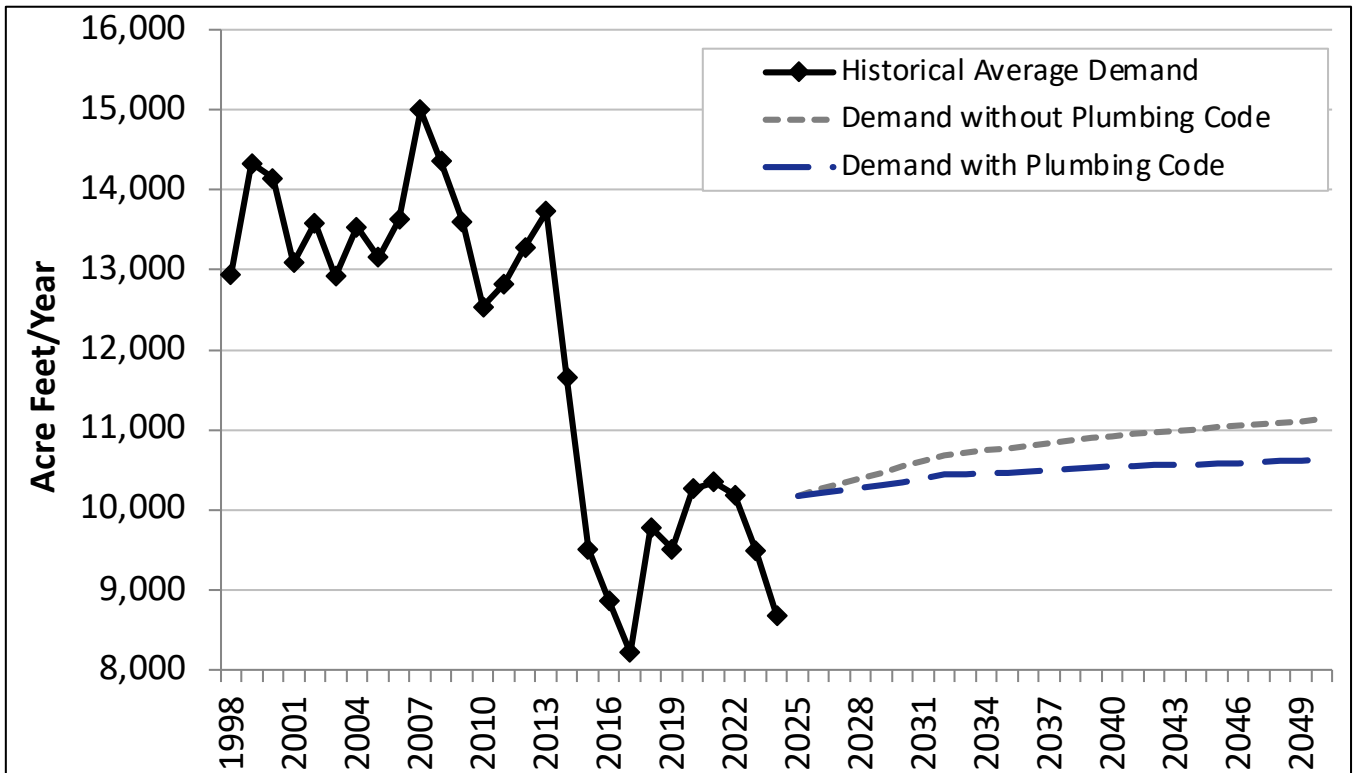


Table C-1 shows the water system demands for the City in acre-feet in 5-year increments over the 25-year modeling period (years 2025-2050), demands are presented starting in 2026. Figure C-2 illustrates demands in graphical format. Both the table and the figure include historical (baseline) demand as well as demand with and without plumbing code. While the demand projection in modeling began in 2025, this year has been omitted as at the time of writing, actual demand data for the year is available.

Table C-1. City of Santa Barbara Potable Water System Demands in AFY for Years 2026-2050

	2026	2030	2035	2040	2045	2050
Baseline Demands	10,252	10,539	10,774	10,927	11,029	11,133
Plumbing Code Savings	43	188	304	379	450	500
Demands with Plumbing Code Savings	10,210	10,351	10,470	10,547	10,579	10,633

Figure C-2. City of Santa Barbara Potable Water System Demands



C.3 National Plumbing Code

The Federal Energy Policy Act of 1992, as amended in 2005, mandates that only fixtures meeting the following standards can be installed in new buildings:

- **Toilet** – 1.6 gal/flush maximum
- **Urinals** – 1.0 gal/flush maximum
- **Showerhead** – 2.5 gal/min at 80 pounds per square inch (psi)
- **Residential faucets** – 2.2 gal/min at 60 psi
- **Public restroom faucets** – 0.5 gal/min at 60 psi
- **Dishwashing pre-rinse spray valves** – 1.6 gal/min at 60 psi
- **Clothes washers** – Integrated Water Factor (IWF) of 6.5

Replacement of fixtures in existing buildings is also governed by the Federal Energy Policy Act, which mandates that only devices with the specified level of efficiency (as shown above) can be sold as of 2006. The net result of the plumbing code is that new buildings will have more efficient fixtures and old inefficient fixtures will slowly be replaced with new, more efficient models. The national plumbing code is an important piece of legislation and must be carefully taken into consideration when analyzing the overall water efficiency of a service area.

In addition to the plumbing code, the U.S. Department of Energy regulates appliances, such as residential clothes washers, further reducing indoor water demands. Regulations to make these appliances more energy efficient have driven manufactures to dramatically reduce the amount of water these machines use. Generally, front-loading washing machines use 30-50% less water than conventional models (which are still available).

C.3.1 Clothes Washers

In this analysis, the DSS Model forecasts a gradual transition to high efficiency clothes washers (using 15 gallons or less) so that by the year 2028 that will be the only type of machine available for purchase. In addition to the industry becoming more efficient, rebate programs for washers have been successful in encouraging customers to buy more water efficient models. Given that machines last about 10 years, eventually all machines on the market will be the more water efficient models. ENERGY STAR washing machines have a water factor of 6.0 or less – the equivalent of using 3.1 cubic feet (or 23.2 gallons) of water per load. The maximum water factor for residential clothes washers under current federal standards is 9.5. The water factor equals the number of gallons used per cycle per cubic foot of capacity. Prior to

the year 2000, the water factor for a typical new residential clothes washer was about 12. In March 2015, the federal standard reduced the maximum water factor for top- and front-loading machines to 8.4 and 4.7, respectively. In 2018, the maximum water factor for top-loading machines was further reduced to 6.5. For commercial washers, the maximum water factors were reduced in 2010 to 8.5 and 5.5 for top- and front-loading machines, respectively. Beginning in 2021, the maximum water factor for ENERGY STAR certified washers was 3.2 for front-loading and 4.3 for top-loading machines. In 2011, the U.S. Environmental Protection Agency estimated that ENERGY STAR washers comprised more than 60% of the residential market and 30% of the commercial market (ENERGY STAR, 2011). A new ENERGY STAR compliant washer uses about two-thirds less water per cycle than washers manufactured in the 1990s. Standards for residential clothes washers fall under the regulations of the U.S. Department of Energy. In 2018, the maximum water factor for standard top-loading machines was reduced to 6.5. Under the Energy Conservation Standards for Residential Clothes Washers (United States Department of Energy ruling, effective July 15, 2024), the minimum water efficiency ratio for standard top-loading machines (greater than 1.6 cubic feet of capacity) would be 0.57 pounds of laundry per gallon per cycle. At the time of writing (March 2026), the Department of Energy has proposed to rescind the Conservation Standards for Residential Clothes Washers.

C.3.2 Dishwashers

For residential dishwashers manufactured on or after January 1, 2010, Congress has set the maximum water use for a standard size dishwasher at 6.5 gallons per cycle and for a compact size dishwasher at 4.5 gallons per cycle. The Department of Energy has set more stringent requirements. For dishwashers manufactured on or after May 30, 2013, standard size dishwashers must not exceed 5.0 gallons per cycle and compact size dishwashers shall not exceed 3.5 gallons per cycle. Per the Amended Water Use Standards for Residential Dishwashers set by the Department of Energy, all dishwashers manufactured on or after April 23, 2027 must not exceed 3.3 gallons per cycle and 3.1 gallons per cycle for standard and compact models respectively. At the time of writing this Plan, the Department of Energy has requested comments for a proposal to rescind the water requirements established under the Amended Water Use Standards for Residential Dishwashers.

C.4 State Plumbing Code

This section describes California state codes applicable to the City's water use.

C.4.1 California State Law – AB 715

Plumbing codes for toilets, urinals, showerheads, and faucets were initially adopted by California in 1991, mandating the sale and use of ultra-low flush toilets (ULFTs) using 1.6 gpf, urinals using 1 gpf, and low-flow showerheads and faucets. AB 715 led to an update to California Code of Regulations Title 20 mandating that all toilets and urinals sold and installed in California as of January 1, 2014 must be high efficiency versions having flush ratings that do not exceed 1.28 gpf (toilets) and 0.5 gpf (urinals).

C.4.2 California State Laws – SB 407 and SB 837

SB 407 addresses plumbing fixture retrofits on resale or remodel. The DSS Model carefully considers the overlap with SB 407, the plumbing code (natural replacement), CALGreen, AB 715 and rebate programs (such as toilet rebates). SB 407 (enacted in 2009) requires that properties built prior to 1994 be fully retrofitted with water conserving fixtures by the year 2017 for single family residential houses and 2019 for multifamily and commercial properties. SB 407 program length is variable and continues until all the older high flush toilets have been replaced in the service area. The number of accounts with high flow fixtures is tracked to make sure that the situation of replacing more high flow fixtures than actually exist does not occur. Additionally, SB 407 conditions issuance of building permits for major improvements and renovations upon retrofit of non-compliant plumbing fixtures. SB 837 (enacted in 2011) requires that sellers of real estate property disclose on their Real Estate Transfer Disclosure Statement whether their property complies with these requirements. Both laws are intended to accelerate the replacement of older, low efficiency plumbing fixtures, and ensure that only high efficiency fixtures are installed in new residential and commercial buildings.

C.4.3 2019 CALGreen and 2015 CA Code of Regulations Title 20 Appliance Efficiency Regulations

Fixture characteristics in the DSS Model are tracked in new accounts, which are subject to the requirements of the 2025 California Green Building Code and 2015 California Code of Regulations Title 20 Appliance Efficiency Regulations adopted by the California Energy Commission (CEC) on September 1, 2015. The CEC 2015 appliance efficiency standards apply to the following new appliances, if they are sold in California: showerheads, lavatory faucets, kitchen faucets, metering faucets, replacement aerators, wash fountains, tub spout diverters, public lavatory faucets, commercial pre-rinse spray valves, urinals, and toilets. The DSS Model accounts for plumbing code savings due to the effects these standards have on showerheads, faucet aerators, urinals, toilets, and clothes washers.

- **Showerheads** – January 2026: 1.8 gpm
- **Wall Mounted Urinals** – January 2026: 0.125 gpf (pint)
- **Lavatory Faucets and Aerator** – January 2026: 1.2 gpm at 60 psi
- **Kitchen Faucets and Aerator** – January 2026: 1.8 gpm with optional temporary flow of 2.2 gpm at 60 psi
- **Public Lavatory Faucets** – January 2026: 0.5 gpm at 60 psi

In summary, the controlling law for toilets is Assembly Bill 715, requiring high efficiency **toilets** of 1.28 gpf sold in California beginning in 2014. The controlling law for wall-mounted urinals is the 2015 CEC efficiency regulations requiring that ultra-high efficiency pint **urinals** (0.125 gpf) be exclusively sold in California beginning January 1, 2016. This is an efficiency progression for urinals from AB 715's requirement of high efficiency (0.5 gpf) urinals starting in 2014.

Standards for **residential clothes washers** fall under the regulations of the U.S. Department of Energy. In 2018, the maximum water factor for standard top-loading machines was reduced to 6.5.

Showerhead flow rates are regulated under the 2015 California Code of Regulations Title 20 Appliance Efficiency Regulations adopted by the CEC, which requires the exclusive sale in California of 2.0 gpm showerheads at 80 psi as of July 1, 2016 and 1.8 gpm showerheads at 80 psi as of July 1, 2018. The WaterSense specification applies to showerheads that have a maximum flow rate of 2.0 gpm or less. This represents a 20% reduction in showerhead flow rate over the current federal standard of 2.5 gpm, as specified by the Energy Policy Act of 1992.

Faucet flow rates likewise have been regulated by the 2015 CEC Title 20 regulations. This standard requires that the residential faucets and aerators manufactured on or after July 1, 2016 be exclusively sold in California at 1.2 gpm at 60 psi; and public lavatory and kitchen faucets/aerators sold or offered for sale on or after July 1, 2016 be 0.5 gpm at 60 psi and 1.8 gpm at 60 psi (with optional temporary flow of 2.2 gpm), respectively. Previously, the 2010 California Green Building Code had regulated all faucets at 2.2 gpm at 60 psi.

C.5 Key Baseline Potable Demand Inputs, Passive Savings Assumptions, and Resources

The following table presents the key assumptions and references that are used in the DSS Model in determining projected demands with plumbing code savings.

Table C-2. List of Key Assumptions

Parameter	Model Input Value, Assumptions, and Key References				
Model Start Year for Analysis	2025				
Water Demand Factor Year (Base Year)	2021-2024				
Population Projection Source	2020 Census Data, Santa Barbara County Association of Governments Regional Growth Forecast 2050 and the Mission Canyon community plan.				
Employment Projection Source	California Employment Development Department Santa Barbara County Association of Governments Regional Growth Forecast				
Avoided Cost of Water	The City's estimated average water production cost is \$1,078/AF including treatment, energy, and transport costs. Water production costs are based on FY 2024 variable costs including the following supply sources: Cachuma, Gibraltar/Mission Tunnel, Cachuma carryover/MWD, groundwater, State Water, banked water/ water purchases, existing desalination, and expanded desalination.				
Potable Water System Base Year Water Use Profile					
Customer Categories	Start Year Accounts	Total Water Use Distribution	Demand Factors (gpd/acct)	Indoor Use %	2025 Modeled Residential Indoor Water Use (GPCD)
Single Family	16,712	43.1%	207	57%	45
Multifamily	6,731	27.1%	323	83%	40
Commercial	2,745	20.2%	591	69%	N/A
Industrial	51	1.9%	2,917	57%	N/A
Irrigation (Potable)	900	6.2%	553	0%	N/A
Single Family with ADU	431	1.6%	295	58%	42
Total/Avg	27,627	100%	N/A	74%	N/A

Table C-3. Key Assumptions Resources

Parameter	Resource
<p>Residential End Uses</p>	<p>Key Reference: California Department of Water Resources Report “California Single Family Water Use Efficiency Study,” (DeOreo, 2011 – Page 28, Figure 3: Comparison of household end-uses) and AWWA Research Foundation (AWWARF) Report “Residential End Uses of Water, Version 2 - 4309” (DeOreo, 2016).</p> <p>Table 2-A. Water Consumption by Water-Using Plumbing Products and Appliances - 1980-2012. PERC Phase 1 Report. Plumbing Efficiency Research Coalition. 2013.</p> <p>Model Input Values are found in the “End Uses” section of the DSS Model on the “Breakdown” worksheet.</p>
<p>Non-Residential End Uses, percent</p>	<p>Key Reference: AWWARF Report “Commercial and Institutional End Uses of Water” (Dziegielewski, 2000 – Appendix D: Details of Commercial and Industrial Assumptions, by End Use).</p> <p>Santa Clara Valley Water District Water Use Efficiency Unit. “SCVWD CII Water Use and Baseline Study.” February 2008.</p> <p>Model Input Values are found in the “End Uses” section of the DSS Model on the “Breakdown” worksheet.</p>
<p>Efficiency Residential Fixture Current Installation Rates</p>	<p>2023 U.S. Census American Community Survey (5-year estimates), Housing age by type of dwelling plus natural replacement plus rebate program (if any).</p> <p>Key Reference: GMP Research, Inc. (2019). 2019 U.S. WaterSense Market Penetration Industry Report.</p> <p>Key Reference: Consortium for Efficient Energy</p> <p>Model Input Values are found in the “Codes and Standards” green section of the DSS Model by customer category fixtures.</p> <p>Probolsky Residential Community Survey (2019).</p> <p>MWM Market Saturation Study (2010, Santa Barbara).</p>
<p>Water Savings for Fixtures, gal/capita/day</p>	<p>Key Reference: AWWARF Report “Residential End Uses of Water, Version 2 - 4309” (DeOreo, 2016).</p> <p>Key Reference: California Department of Water Resources Report “California Single Family Water Use Efficiency Study” (DeOreo, 2011 – Page 28, Figure 3: Comparison of household end-uses). WCWCD supplied data on costs and savings; professional judgment was made where no published data was available.</p> <p>Key Reference: California Energy Commission, Staff Analysis of Toilets, Urinals and Faucets, Report # CEC-400-2014-007-SD, 2014.</p> <p>Model Input Values are found in the “Codes and Standards” green section on the “Fixtures” worksheet of the DSS Model.</p>
<p>Non-Residential Fixture Efficiency Current Installation Rates</p>	<p>Key Reference: 2023 U.S. Census American Community Survey (5-year estimates), Housing age by type of dwelling plus natural replacement plus rebate program (if any). Assume commercial establishments built at same rate as housing, plus natural replacement.</p> <p>California Energy Commission, Staff Analysis of Toilets, Urinals and Faucets, Report # CEC-400-2014-007-SD, 2014.</p> <p>Santa Clara Valley Water District Water Use Efficiency Unit. “SCVWD CII Water Use and Baseline Study.” February 2008.</p> <p>Model Input Values are found in the “Codes and Standards” green section of the DSS Model by customer category fixtures.</p> <p>MWM Market Saturation Study (2010, Santa Barbara).</p>

Parameter	Resource
Residential Frequency of Use Data, Toilets, Showers, Faucets, Washers, Uses/user/day	<p>Key Reference: AWWARF Report “Residential End Uses of Water, Version 2 - 4309” (DeOreo, 2016). Summary values can be found in the full report.</p> <p>Key Reference: California Energy Commission, Staff Analysis of Toilets, Urinals and Faucets, Report # CEC-400-2014-007-SD, 2014.</p> <p>Key Reference: Alliance for Water Efficiency, The Status of Legislation, Regulation, Codes & Standards on Indoor Plumbing Water Efficiency, January 2016.</p> <p>Model Input Values are found in the “Codes and Standards” green section on the “Fixtures” worksheet of the DSS Model and confirmed in each “Service Area Calibration End Use” worksheet by customer category.</p>
Non-Residential Frequency of Use Data, Toilets, Urinals, and Faucets, Uses/user/day	<p>Key References: Estimated based on AWWARF Report “Commercial and Institutional End Uses of Water” (Dziegielewski, 2000 – Appendix D: Details of Commercial and Industrial Assumptions, by End Use).</p> <p>Key Reference: California Energy Commission, Staff Analysis of Toilets, Urinals and Faucets, Report # CEC-400-2014-007-SD, 2014.</p> <p>Fixture uses over a 5-day work week are prorated to 7 days.</p> <p>Non-residential 0.5gpm faucet standards per Table 2-A. Water Consumption by Water-Using Plumbing Products and Appliances - 1980-2012. PERC Phase 1 Report. Plumbing Efficiency Research Coalition, 2012.</p> <p>Model Input Values are found in the “Codes and Standards” green section on the “Fixtures” worksheet of the DSS Model and confirmed in each “Service Area Calibration End Use” worksheet by customer category.</p> <p>East Bay Municipal Utility District – <i>Commercial Water Efficiency Guidebook (2025)</i>.</p>
Natural Replacement Rate of Fixtures (percent per year)	<p>Residential Toilets 2%-4%</p> <p>Non-Residential Toilets 2%-3%</p> <p>Residential Showers 4% (corresponds to 25-year life of a new fixture)</p> <p>Residential Clothes Washers 10% (based on 10-year washer life).</p> <p>Key References: “Residential End Uses of Water” (DeOreo, 2016) and “Bern Clothes Washer Study, Final Report” (Oak Ridge National Laboratory, 1998).</p> <p>Residential Faucets 10% and Non-Residential Faucets 6.7% (every 15 years). CEC uses an average life of 10 years for faucet accessories (aerators). A similar assumption can be made for public lavatories, though no hard data exists and since CII fixtures are typically replaced less frequently than residential, 15 years is assumed. CEC, Analysis of Standards Proposal for Residential Faucets and Faucet Accessories, a report prepared under CEC’s Codes and Standards Enhancement Initiative, Docket #12-AAER-2C, August 2013.</p> <p>Model Input Value is found in the “Codes and Standards” green section on the “Fixtures” worksheet of the DSS Model.</p>
Residential Future Water Use	<p>Increases Based on Population Growth and Demographic Forecast</p>
Non-Residential Future Water Use	<p>Increases Based on Employment Growth and Demographic Forecast</p>

C.5.1 Fixture Estimates

Determining the current level of efficient fixtures in a service area while evaluating passive savings in the DSS Model is part of the standard process and is called “initial fixture proportions.” MWM reconciled water efficient fixtures and devices installed within the City of Santa Barbara service area and estimated the number of outstanding inefficient fixtures.

MWM used the DSS Model to perform a saturation analysis for toilets, urinals, showerheads, faucets, and clothes washers. The process included a review of age of buildings from census data, number of rebates per device, and assumed natural replacement rates. MWM presumed the fixtures that were nearing saturation and worth analysis would include residential toilets and residential clothes washers, as both have been included in recommended conservation practices for over two decades.

In 2016, the Water Research Foundation updated its 1999 Residential End Uses of Water Study (REUWS). Water utilities, industry regulators, and government planning agencies consider it the industry benchmark for single family home indoor water use. This Plan incorporates recent study results which reflect the change to the profile of water use in residential homes including adoption of more water efficient fixtures over the 15 years that transpired from 1999 to 2016. REUWS results were combined with City historical rebate and billing data to enhance and verify assumptions made for all customer accounts, including saturation levels on the above-mentioned plumbing fixtures.

The DSS Model presents the estimated current and projected proportions of these fixtures by efficiency level within the City’s service area. These proportions were calculated by:

- Using standards in place at the time of building construction.
- Taking the initial proportions of homes by age (corresponding to fixture efficiency levels).
- Adding the net change due to natural replacement.
- Adding the change due to rebate measure minus the “free rider effect.”²

Further adjustments were made to initial proportions to account for the reduction in fixture use due to lower occupancy and based on field observations. The projected fixture proportions do **not** include any future active conservation measures implemented by the City. More information about the development of initial and projected fixture proportions can be found in the DSS Model “Codes and Standards” section.

The DSS Model is capable of modeling multiple types of fixtures, including fixtures with different designs. For example, currently toilets can be purchased that flush at a rate of 0.8 gallons per flush (gpf), 1.0 gpf or 1.28 gpf. The 1.6 gpf and higher toilets still exist but can no longer be purchased in California. Therefore, they cannot be used for replacement or new installation of a toilet. So, the DSS Model utilizes fixture replacement rates to determine what type of fixture should be used for a new construction installation or replacement. The replacement of the fixtures is listed as a percentage within the DSS Model. A value of 100% would indicate that all the toilets installed would be of one particular flush volume. A value of 75% means that three out of every four toilets installed would be of that particular flush volume. All the fixture model information and assumptions were carefully reviewed and accepted by City staff.

The DSS Model provides inputs and analysis of the number, type, and replacement rates of fixtures for each customer category (e.g., single family toilets, commercial toilets, residential clothes washing machines). For example, the DSS Model incorporates the effects of the 1992 Federal Energy Policy Act and AB 715 on toilet fixtures. A DSS Model feature determines the “saturation” of 1.6 gpf toilets as the 1992 Federal Energy Policy Act was in effect from 1992-2014 for 1.6 gpf toilet replacements. AB 715 now applies for the replacement of toilets at 1.28 gpf. Further consideration and adjustments have been made to replacement rates to account for the reduction in fixture use and fixture wear, based on field observations.

² It is important to note that in water conservation program management the “free rider effect” occurs when a customer applies for and receives a rebate on a targeted high efficiency fixture that they would have purchased even without a rebate. In this case, the rebate was not the incentive for their purchase but a “bonus.” Rebate measures are designed to target customers needing financial incentive to install the more efficient fixture.

Appendix D – DSS Model Measure Analysis, Methodology, Perspectives, and Assumptions

Throughout the planning process, the City of Santa Barbara and MWM conducted multiple meetings, primarily in an effort to complete the DSS Model, which is robust for each of the 18 measures modeled. In the model, the City identified fixture costs, applicable customer classes, time period of implementation, measure life, administrative costs, end uses, end-use savings per replacement, and a target number or percentage of accounts per program year. The robust analysis is planned to be used in further Santa Barbara planning documents such as the 2025 City of Santa Barbara Urban Water Management Plan.

D.1 Water Reduction Methodology

Each conservation measure targets a particular water use, such as indoor single family water use. Targeted water uses are categorized by water user group and by end use. Targeted water user groups include single family residential; multifamily residential; commercial, industrial, and institutional; and so forth. Measures may apply to more than one water user group. Targeted end uses include indoor and outdoor use. The targeted water use is important to identify because the water savings are generated from reductions in water use for the targeted end use. For example, a residential retrofit conservation measure targets single family and multifamily residential indoor use, and in some cases specifically shower use. When considering the water savings potential generated by a residential retrofit, one considers the water saved by installing low-flow showerheads in single family and multifamily homes.

The market penetration goal for a measure is the extent to which the product or service related to the conservation measure occupies the potential market. Essentially, the market penetration goal identifies how many fixtures, rebates, surveys, and so forth that the wholesale customer would have to offer or conduct over time to reach its water savings goal for that conservation measure. This is often expressed in terms of the number of fixtures, rebates, or surveys offered or conducted per year.

The potential for error in market penetration goal estimates for each measure can be significant because the estimates are based on previous experience, chosen implementation methods, projected utility effort, and funds allocated to implement the measure. The potential error can be corrected through reevaluation of the measure as the implementation of the measure progresses. For example, if the market penetration required to achieve specific water savings turns out to be different than predicted, adjustments to the implementation efforts can be made. Larger rebates or additional promotions are often used to increase the market penetration. The process is iterative to reflect actual conditions and helps to ensure that market penetration and needed savings are achieved regardless of future variances between estimates and actual conditions.

In contrast, market penetration for mandatory ordinances can be more predictable with the greatest potential for error occurring in implementing the ordinance change. For example, requiring dedicated irrigation meters for new accounts through an ordinance can ensure an almost 100% market penetration for affected properties.

The City is constantly examining when a measure might reach saturation. Baseline surveys are the best approach to having the most accurate information on market saturation. This was considered when analyzing individual conservation measures where best estimates were made. A market saturation study conducted in 2010 by MWM was taken into consideration to establish initial proportions and replacement rates as a more recent saturation study was not available, and discussions were held with the City regarding what the saturation best estimates were within its service area.

D.2 Present Value Analysis and Perspectives on Benefits and Costs

The determination of the economic feasibility of water conservation programs involves comparing the costs of the programs to the benefits provided using the DSS Model, which calculates the cost effectiveness of conservation measure savings at the end-use level. For example, the model determines the amount of water a toilet rebate program saves in daily toilet use for each single family account.

Present value analysis using present day dollars and a real discount rate of 3% is used to discount costs and benefits to the base year. From this analysis, benefit-cost ratios of each measure are computed. When measures are put together in programs, the model is set up to avoid double counting savings from multiple measures that act on the same end use of water. For example, multiple measures in a program may target toilet replacements. The model includes assumptions to apportion water savings between the multiple measures.

Economic analysis can be performed from several different perspectives, based on which party is affected. For planning water use efficiency programs for utilities, perspectives most commonly used for benefit-cost analyses are the “utility” perspective and the “community” perspective. The “utility” benefit-cost analysis is based on the benefits and costs to the water provider. The “community” benefit-cost analysis includes the utility benefit and costs together with account owner/customer benefits and costs. These include customer energy and other capital or operating cost benefits plus costs of implementing the measure beyond what the utility pays.

The utility perspective offers two advantages. First, it considers only the program costs that will be directly borne by the utility. This enables the utility to fairly compare potential investments for saving versus supplying increased quantities of water. Second, revenue shifts are treated as transfer payments, which means program participants will have lower water bills and non-participants will have slightly higher water bills so that the utility’s revenue needs continue to be met. Therefore, the analysis is not complicated with uncertainties associated with long-term rate projections and retail rate design assumptions. It should be noted that there is a significant difference between the utility’s savings from the avoided cost of procurement and delivery of water and the reduction in retail revenue that results from reduced water sales due to water use efficiency. This budget impact occurs slowly and can be accounted for in water rate planning. Because it is the water provider’s role in developing a water use efficiency plan that is vital in this study, the utility perspective was primarily used to evaluate elements of this report.

The community perspective is defined to include the utility and the customer costs and benefits. Costs incurred by customers striving to save water while participating in water use efficiency programs are considered, as well as benefits received in terms of reduced energy bills (from water heating costs) and wastewater savings, among others. Water bill savings are not a customer benefit in aggregate for reasons described previously. Other factors external to the utility, such as environmental effects, are often difficult to quantify or are not necessarily under the control of the utility. They are therefore frequently excluded from economic analyses, including this one.

The time value of money is explicitly considered. Typically, the costs to save water occur early in the planning period whereas the benefits usually extend to the end of the planning period. A long planning period of over 30 years is often used because costs and benefits that occur beyond these 30 years (beyond the year 2050 in this Plan) have very little influence on the total present value of the costs and benefits. The value of all future costs and benefits is discounted to the first year in the DSS Model (the base year) at the real interest rate of 3.01%. The DSS Model calculates this real interest rate, adjusting the current nominal interest rate (assumed to be approximately 6.1%) by the assumed rate of inflation (3.0%).

The formula to calculate the real interest rate is shown in Figure D-1 below. Cash flows discounted in this manner are herein referred to as “Present Value” sums.

Figure D-1. Interest Rate Formula

$$(nominal\ interest\ rate - assumed\ rate\ of\ inflation) / (1 + assumed\ rate\ of\ inflation)$$

D.3 Measure Cost and Water Savings Assumptions

Appendix E presents more detail on the assumptions and inputs used in the City's DSS Model to evaluate each water conservation measure. Assumptions regarding the following variables were made for each measure:

- **Targeted Water User Group End Use** – Water user group (e.g., single family residential) and end use (e.g., indoor or outdoor water use).
- **Utility Unit Cost** – Cost of rebates, incentives, and contractors hired to implement measures. The assumed dollar values for the measure unit costs were closely reviewed by staff and are found to be adequate for each individual measure. The values in most cases are in the range of what is currently offered by other water utilities in the region.
- **Retail Customer Unit Cost** – Cost for implementing measures that is paid by retail customers (i.e., the remainder of a measure's cost that is not covered by a utility rebate or incentive).
- **Utility Administration and Marketing Cost** – The cost to the utility for administering the measure, including consultant contract administration, marketing, and participant tracking. The mark-up is sufficient (in total) to cover conservation staff time, general expenses, and overhead.

Costs are determined for each of the measures based on industry knowledge, past experience, and data provided by the City. Costs may include incentive costs, usually determined on a per-participant basis; fixed costs, such as marketing; variable costs, such as the cost to staff the measures and to obtain and maintain equipment; and a one-time set-up cost. The set-up cost is for measure design by staff or consultants, any required pilot testing, and preparation of materials that are used in marketing the measure. Measure costs are estimated each year through 2050. Costs are spread over the time period depending on the length of the implementation period for the measure and estimated voluntary customer participation levels.

Lost revenue due to reduced water sales is not included as a cost because the water use conservation measures evaluated herein generally take effect over a long span of time. This span is sufficient to enable timely rate adjustments, if necessary, to meet fixed cost obligations and savings on variable costs such as energy and chemicals.

The unit costs vary according to the type of customer account and implementation method being addressed. For example, a measure might cost a different amount for a residential single family account than for a residential multifamily account, and for a rebate versus an ordinance requirement or a direct installation implementation method. Typically, water utilities have found there are increased costs associated with achieving higher market saturation, such as more surveys per year. The DSS Model calculates the annual costs based on the number of participants each year. The general formula for calculating annual utility costs is:

- **Annual Utility Cost** – Annual market penetration rate x total accounts in category x unit cost per account x (1+administration and marketing markup percentage)
- **Annual Customer Cost** – Annual number of participants x unit customer cost
- **Annual Community Cost** – Annual utility cost + annual customer cost

Data necessary to forecast water savings of measures include specifics on water use, demographics, market penetration, and unit water savings. Savings normally develop at a measured and predetermined pace, reaching full maturity after full market penetration is achieved. This may occur 3–10 years after the start of implementation, depending upon the implementation schedule.

For every water use efficiency activity or replacement with more efficient devices, there is a useful life. The useful life is called the "Measure Life" and is defined to be how long water use conservation measures stay in place and continue to save water. It is assumed that measures implemented because of codes, standards, or ordinances (e.g., toilets) would be "permanent" and not revert to an old inefficient level of water use if the device needed to be replaced. However, some measures that are primarily behavior-based, such as residential surveys, are assumed to need to be repeated on an ongoing basis to retain the water savings (e.g., homeowners move away, and the new homeowners may have less efficient water using practices). Surveys typically have a measure life on the order of five years.

Appendix E – Individual Conservation Measure Design Inputs and Results

Overview				Customer Classes							Results																																																																																																																																																																																																																																																																																																																																																																																															
Name AMI Customer Portal and Leak Alerts Abbr AMI Category Default Measure Type Standard Measure				<table border="1"> <tr> <th>Units</th> <th>SF</th> <th>MF</th> <th>COM</th> <th>IND</th> <th>IRR</th> <th>ADUSF</th> <th>Total</th> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </table>							Units	SF	MF	COM	IND	IRR	ADUSF	Total									Units a/y Average Water Savings (a/y) 315,242503 Lifetime Savings - Present Value (\$) Utility 56,202,262 Community 58,356,308 Lifetime Costs - Present Value (\$) Utility 52,347,215 Community 532,450,004 Benefit to Cost Ratio Utility 2.64 Community 0.26 Cost of Savings per Unit Volume (\$/af) Utility \$286																																																																																																																																																																																																																																																																																																																																																																															
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Description This measure includes the AMI Customer Portal and the Leak Alert system. Leak Alerts are automated and sent by WaterSmart via email, text, or print. This measure includes staff time to respond to calls and emails about Leak Alerts as well as to discuss water use with customers (i.e. conduct Virtual Water Checks).				Costs <table border="1"> <tr> <th>Year</th> <th>Fixture Costs</th> <th>Admin Costs</th> <th>Util Total</th> </tr> <tr> <td>2025</td> <td>\$73,027</td> <td>\$51,119</td> <td>\$124,147</td> </tr> <tr> <td>2026</td> <td>\$73,299</td> <td>\$51,309</td> <td>\$124,609</td> </tr> <tr> <td>2027</td> <td>\$73,562</td> <td>\$51,494</td> <td>\$125,056</td> </tr> <tr> <td>2028</td> <td>\$73,825</td> <td>\$51,678</td> <td>\$125,503</td> </tr> <tr> <td>2029</td> <td>\$74,089</td> <td>\$51,862</td> <td>\$125,951</td> </tr> <tr> <td>2030</td> <td>\$74,352</td> <td>\$52,047</td> <td>\$126,399</td> </tr> <tr> <td>2031</td> <td>\$74,616</td> <td>\$52,231</td> <td>\$126,847</td> </tr> <tr> <td>2032</td> <td>\$74,880</td> <td>\$52,416</td> <td>\$127,296</td> </tr> <tr> <td>2033</td> <td>\$74,998</td> <td>\$52,498</td> <td>\$127,496</td> </tr> <tr> <td>2034</td> <td>\$75,116</td> <td>\$52,581</td> <td>\$127,697</td> </tr> <tr> <td>2035</td> <td>\$75,234</td> <td>\$52,664</td> <td>\$127,898</td> </tr> <tr> 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<td>\$53,511</td> <td>\$129,955</td> </tr> <tr> <td>2049</td> <td>\$76,522</td> <td>\$53,565</td> <td>\$130,087</td> </tr> <tr> <td>2050</td> <td>\$76,600</td> <td>\$53,620</td> <td>\$130,219</td> </tr> </table>							Year	Fixture Costs	Admin Costs	Util Total	2025	\$73,027	\$51,119	\$124,147	2026	\$73,299	\$51,309	\$124,609	2027	\$73,562	\$51,494	\$125,056	2028	\$73,825	\$51,678	\$125,503	2029	\$74,089	\$51,862	\$125,951	2030	\$74,352	\$52,047	\$126,399	2031	\$74,616	\$52,231	\$126,847	2032	\$74,880	\$52,416	\$127,296	2033	\$74,998	\$52,498	\$127,496	2034	\$75,116	\$52,581	\$127,697	2035	\$75,234	\$52,664	\$127,898	2036	\$75,352	\$52,747	\$128,099	2037	\$75,471	\$52,830	\$128,301	2038	\$75,591	\$52,914	\$128,505	2039	\$75,712	\$52,998	\$128,710	2040	\$75,833	\$53,083	\$128,915	2041	\$75,903	\$53,132	\$129,035	2042	\$75,979	\$53,185	\$129,164	2043	\$76,056	\$53,239	\$129,295	2044	\$76,134	\$53,294	\$129,427	2045	\$76,211	\$53,348	\$129,559	2046	\$76,289	\$53,402	\$129,691	2047	\$76,366	\$53,456	\$129,823	2048	\$76,444	\$53,511	\$129,955	2049	\$76,522	\$53,565	\$130,087	2050	\$76,600	\$53,620	\$130,219	Targets <table border="1"> <tr> <th>Year</th> <th>SF</th> <th>MF</th> <th>COM</th> <th>IND</th> <th>IRR</th> <th>ADUSF</th> <th>Total</th> </tr> <tr> <td>2025</td> <td>12,868</td> <td>5,183</td> <td>2,114</td> <td>39</td> <td>693</td> <td>332</td> <td>21,229</td> </tr> <tr> <td>2026</td> <td>12,826</td> <td>5,202</td> <td>2,170</td> <td>40</td> <td>696</td> <td>374</td> <td>21,308</td> </tr> <tr> <td>2027</td> <td>12,783</td> <td>5,222</td> <td>2,226</td> <td>41</td> <td>696</td> <td>417</td> <td>21,384</td> </tr> <tr> <td>2028</td> <td>12,741</td> <td>5,241</td> <td>2,282</td> <td>43</td> <td>696</td> <td>459</td> <td>21,461</td> </tr> <tr> <td>2029</td> <td>12,698</td> <td>5,260</td> <td>2,338</td> <td>44</td> <td>696</td> <td>502</td> <td>21,537</td> </tr> <tr> <td>2030</td> <td>12,655</td> <td>5,280</td> <td>2,394</td> <td>45</td> <td>696</td> <td>545</td> <td>21,614</td> </tr> <tr> <td>2031</td> <td>12,612</td> <td>5,299</td> <td>2,450</td> <td>46</td> <td>696</td> <td>588</td> <td>21,691</td> </tr> <tr> <td>2032</td> <td>12,569</td> <td>5,319</td> <td>2,506</td> <td>47</td> <td>696</td> <td>631</td> <td>21,767</td> </tr> <tr> <td>2033</td> <td>12,526</td> <td>5,339</td> <td>2,520</td> <td>47</td> <td>696</td> <td>674</td> <td>21,802</td> </tr> <tr> <td>2034</td> <td>12,482</td> <td>5,358</td> <td>2,534</td> <td>48</td> <td>696</td> <td>718</td> <td>21,836</td> </tr> <tr> <td>2035</td> <td>12,439</td> <td>5,378</td> <td>2,549</td> <td>48</td> <td>696</td> <td>761</td> <td>21,870</td> </tr> <tr> <td>2036</td> <td>12,395</td> <td>5,398</td> <td>2,563</td> <td>48</td> <td>696</td> <td>805</td> <td>21,905</td> </tr> <tr> <td>2037</td> <td>12,352</td> <td>5,418</td> <td>2,577</td> <td>48</td> <td>696</td> <td>848</td> <td>21,939</td> </tr> <tr> <td>2038</td> <td>12,308</td> <td>5,438</td> <td>2,592</td> <td>49</td> <td>696</td> <td>892</td> <td>21,974</td> </tr> <tr> <td>2039</td> <td>12,264</td> <td>5,458</td> <td>2,607</td> <td>49</td> <td>696</td> <td>936</td> <td>22,009</td> </tr> <tr> <td>2040</td> <td>12,220</td> <td>5,478</td> <td>2,622</td> <td>49</td> <td>696</td> <td>980</td> <td>22,044</td> </tr> <tr> <td>2041</td> <td>12,204</td> <td>5,485</td> <td>2,636</td> <td>50</td> <td>694</td> <td>996</td> <td>22,065</td> </tr> <tr> <td>2042</td> <td>12,189</td> <td>5,492</td> <td>2,651</td> <td>50</td> <td>694</td> <td>1,011</td> <td>22,087</td> </tr> <tr> <td>2043</td> <td>12,174</td> <td>5,499</td> <td>2,666</td> <td>50</td> <td>694</td> <td>1,027</td> <td>22,109</td> </tr> <tr> <td>2044</td> <td>12,158</td> <td>5,506</td> <td>2,681</td> <td>50</td> <td>694</td> <td>1,042</td> <td>22,132</td> </tr> <tr> <td>2045</td> <td>12,143</td> <td>5,513</td> <td>2,697</td> <td>51</td> <td>694</td> <td>1,058</td> <td>22,154</td> </tr> <tr> <td>2046</td> <td>12,127</td> <td>5,520</td> <td>2,712</td> <td>51</td> <td>694</td> <td>1,073</td> <td>22,177</td> </tr> <tr> <td>2047</td> <td>12,111</td> <td>5,527</td> <td>2,727</td> <td>51</td> <td>694</td> <td>1,089</td> <td>22,200</td> </tr> <tr> <td>2048</td> <td>12,096</td> <td>5,534</td> <td>2,742</td> <td>52</td> <td>694</td> <td>1,104</td> <td>22,222</td> </tr> <tr> <td>2049</td> <td>12,080</td> <td>5,541</td> <td>2,757</td> <td>52</td> <td>694</td> <td>1,120</td> <td>22,245</td> </tr> <tr> <td>2050</td> <td>12,065</td> <td>5,549</td> <td>2,772</td> <td>52</td> <td>694</td> <td>1,136</td> <td>22,267</td> </tr> </table>			Year	SF	MF	COM	IND	IRR	ADUSF	Total	2025	12,868	5,183	2,114	39	693	332	21,229	2026	12,826	5,202	2,170	40	696	374	21,308	2027	12,783	5,222	2,226	41	696	417	21,384	2028	12,741	5,241	2,282	43	696	459	21,461	2029	12,698	5,260	2,338	44	696	502	21,537	2030	12,655	5,280	2,394	45	696	545	21,614	2031	12,612	5,299	2,450	46	696	588	21,691	2032	12,569	5,319	2,506	47	696	631	21,767	2033	12,526	5,339	2,520	47	696	674	21,802	2034	12,482	5,358	2,534	48	696	718	21,836	2035	12,439	5,378	2,549	48	696	761	21,870	2036	12,395	5,398	2,563	48	696	805	21,905	2037	12,352	5,418	2,577	48	696	848	21,939	2038	12,308	5,438	2,592	49	696	892	21,974	2039	12,264	5,458	2,607	49	696	936	22,009	2040	12,220	5,478	2,622	49	696	980	22,044	2041	12,204	5,485	2,636	50	694	996	22,065	2042	12,189	5,492	2,651	50	694	1,011	22,087	2043	12,174	5,499	2,666	50	694	1,027	22,109	2044	12,158	5,506	2,681	50	694	1,042	22,132	2045	12,143	5,513	2,697	51	694	1,058	22,154	2046	12,127	5,520	2,712	51	694	1,073	22,177	2047	12,111	5,527	2,727	51	694	1,089	22,200	2048	12,096	5,534	2,742	52	694	1,104	22,222	2049	12,080	5,541	2,757	52	694	1,120	22,245	2050	12,065	5,549	2,772	52	694	1,136	22,267	Water Savings <table border="1"> <tr> <th>Year</th> <th>Total Savings (a/y)</th> </tr> <tr> <td>2025</td> <td>289,580048</td> </tr> <tr> <td>2026</td> <td>292,835118</td> </tr> <tr> <td>2027</td> <td>296,040643</td> </tr> <tr> <td>2028</td> <td>299,244020</td> </tr> <tr> <td>2029</td> <td>302,451269</td> </tr> <tr> <td>2030</td> <td>305,659385</td> </tr> <tr> <td>2031</td> <td>308,865360</td> </tr> <tr> <td>2032</td> <td>312,075216</td> </tr> <tr> <td>2033</td> <td>313,132150</td> </tr> <tr> <td>2034</td> <td>314,186951</td> </tr> <tr> <td>2035</td> <td>315,245640</td> </tr> <tr> <td>2036</td> <td>316,302202</td> </tr> <tr> <td>2037</td> <td>317,362657</td> </tr> <tr> <td>2038</td> <td>318,445495</td> </tr> <tr> <td>2039</td> <td>319,529223</td> </tr> <tr> <td>2040</td> <td>320,610834</td> </tr> <tr> <td>2041</td> <td>321,453495</td> </tr> <tr> <td>2042</td> <td>322,328714</td> </tr> <tr> <td>2043</td> <td>323,226256</td> </tr> <tr> <td>2044</td> <td>324,123982</td> </tr> <tr> <td>2045</td> <td>325,021890</td> </tr> <tr> <td>2046</td> <td>325,919983</td> </tr> <tr> <td>2047</td> <td>326,818259</td> </tr> <tr> <td>2048</td> <td>327,716721</td> </tr> <tr> <td>2049</td> <td>328,615369</td> </tr> <tr> <td>2050</td> <td>329,514203</td> </tr> </table>			Year	Total Savings (a/y)	2025	289,580048	2026	292,835118	2027	296,040643	2028	299,244020	2029	302,451269	2030	305,659385	2031	308,865360	2032	312,075216	2033	313,132150	2034	314,186951	2035	315,245640	2036	316,302202	2037	317,362657	2038	318,445495	2039	319,529223	2040	320,610834	2041	321,453495	2042	322,328714	2043	323,226256	2044	324,123982	2045	325,021890	2046	325,919983	2047	326,818259	2048	327,716721	2049	328,615369	2050	329,514203
Year	Fixture Costs	Admin Costs	Util Total																																																																																																																																																																																																																																																																																																																																																																																																							
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2027	\$73,562	\$51,494	\$125,056																																																																																																																																																																																																																																																																																																																																																																																																							
2028	\$73,825	\$51,678	\$125,503																																																																																																																																																																																																																																																																																																																																																																																																							
2029	\$74,089	\$51,862	\$125,951																																																																																																																																																																																																																																																																																																																																																																																																							
2030	\$74,352	\$52,047	\$126,399																																																																																																																																																																																																																																																																																																																																																																																																							
2031	\$74,616	\$52,231	\$126,847																																																																																																																																																																																																																																																																																																																																																																																																							
2032	\$74,880	\$52,416	\$127,296																																																																																																																																																																																																																																																																																																																																																																																																							
2033	\$74,998	\$52,498	\$127,496																																																																																																																																																																																																																																																																																																																																																																																																							
2034	\$75,116	\$52,581	\$127,697																																																																																																																																																																																																																																																																																																																																																																																																							
2035	\$75,234	\$52,664	\$127,898																																																																																																																																																																																																																																																																																																																																																																																																							
2036	\$75,352	\$52,747	\$128,099																																																																																																																																																																																																																																																																																																																																																																																																							
2037	\$75,471	\$52,830	\$128,301																																																																																																																																																																																																																																																																																																																																																																																																							
2038	\$75,591	\$52,914	\$128,505																																																																																																																																																																																																																																																																																																																																																																																																							
2039	\$75,712	\$52,998	\$128,710																																																																																																																																																																																																																																																																																																																																																																																																							
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2041	\$75,903	\$53,132	\$129,035																																																																																																																																																																																																																																																																																																																																																																																																							
2042	\$75,979	\$53,185	\$129,164																																																																																																																																																																																																																																																																																																																																																																																																							
2043	\$76,056	\$53,239	\$129,295																																																																																																																																																																																																																																																																																																																																																																																																							
2044	\$76,134	\$53,294	\$129,427																																																																																																																																																																																																																																																																																																																																																																																																							
2045	\$76,211	\$53,348	\$129,559																																																																																																																																																																																																																																																																																																																																																																																																							
2046	\$76,289	\$53,402	\$129,691																																																																																																																																																																																																																																																																																																																																																																																																							
2047	\$76,366	\$53,456	\$129,823																																																																																																																																																																																																																																																																																																																																																																																																							
2048	\$76,444	\$53,511	\$129,955																																																																																																																																																																																																																																																																																																																																																																																																							
2049	\$76,522	\$53,565	\$130,087																																																																																																																																																																																																																																																																																																																																																																																																							
2050	\$76,600	\$53,620	\$130,219																																																																																																																																																																																																																																																																																																																																																																																																							
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2025	12,868	5,183	2,114	39	693	332	21,229																																																																																																																																																																																																																																																																																																																																																																																																			
2026	12,826	5,202	2,170	40	696	374	21,308																																																																																																																																																																																																																																																																																																																																																																																																			
2027	12,783	5,222	2,226	41	696	417	21,384																																																																																																																																																																																																																																																																																																																																																																																																			
2028	12,741	5,241	2,282	43	696	459	21,461																																																																																																																																																																																																																																																																																																																																																																																																			
2029	12,698	5,260	2,338	44	696	502	21,537																																																																																																																																																																																																																																																																																																																																																																																																			
2030	12,655	5,280	2,394	45	696	545	21,614																																																																																																																																																																																																																																																																																																																																																																																																			
2031	12,612	5,299	2,450	46	696	588	21,691																																																																																																																																																																																																																																																																																																																																																																																																			
2032	12,569	5,319	2,506	47	696	631	21,767																																																																																																																																																																																																																																																																																																																																																																																																			
2033	12,526	5,339	2,520	47	696	674	21,802																																																																																																																																																																																																																																																																																																																																																																																																			
2034	12,482	5,358	2,534	48	696	718	21,836																																																																																																																																																																																																																																																																																																																																																																																																			
2035	12,439	5,378	2,549	48	696	761	21,870																																																																																																																																																																																																																																																																																																																																																																																																			
2036	12,395	5,398	2,563	48	696	805	21,905																																																																																																																																																																																																																																																																																																																																																																																																			
2037	12,352	5,418	2,577	48	696	848	21,939																																																																																																																																																																																																																																																																																																																																																																																																			
2038	12,308	5,438	2,592	49	696	892	21,974																																																																																																																																																																																																																																																																																																																																																																																																			
2039	12,264	5,458	2,607	49	696	936	22,009																																																																																																																																																																																																																																																																																																																																																																																																			
2040	12,220	5,478	2,622	49	696	980	22,044																																																																																																																																																																																																																																																																																																																																																																																																			
2041	12,204	5,485	2,636	50	694	996	22,065																																																																																																																																																																																																																																																																																																																																																																																																			
2042	12,189	5,492	2,651	50	694	1,011	22,087																																																																																																																																																																																																																																																																																																																																																																																																			
2043	12,174	5,499	2,666	50	694	1,027	22,109																																																																																																																																																																																																																																																																																																																																																																																																			
2044	12,158	5,506	2,681	50	694	1,042	22,132																																																																																																																																																																																																																																																																																																																																																																																																			
2045	12,143	5,513	2,697	51	694	1,058	22,154																																																																																																																																																																																																																																																																																																																																																																																																			
2046	12,127	5,520	2,712	51	694	1,073	22,177																																																																																																																																																																																																																																																																																																																																																																																																			
2047	12,111	5,527	2,727	51	694	1,089	22,200																																																																																																																																																																																																																																																																																																																																																																																																			
2048	12,096	5,534	2,742	52	694	1,104	22,222																																																																																																																																																																																																																																																																																																																																																																																																			
2049	12,080	5,541	2,757	52	694	1,120	22,245																																																																																																																																																																																																																																																																																																																																																																																																			
2050	12,065	5,549	2,772	52	694	1,136	22,267																																																																																																																																																																																																																																																																																																																																																																																																			
Year	Total Savings (a/y)																																																																																																																																																																																																																																																																																																																																																																																																									
2025	289,580048																																																																																																																																																																																																																																																																																																																																																																																																									
2026	292,835118																																																																																																																																																																																																																																																																																																																																																																																																									
2027	296,040643																																																																																																																																																																																																																																																																																																																																																																																																									
2028	299,244020																																																																																																																																																																																																																																																																																																																																																																																																									
2029	302,451269																																																																																																																																																																																																																																																																																																																																																																																																									
2030	305,659385																																																																																																																																																																																																																																																																																																																																																																																																									
2031	308,865360																																																																																																																																																																																																																																																																																																																																																																																																									
2032	312,075216																																																																																																																																																																																																																																																																																																																																																																																																									
2033	313,132150																																																																																																																																																																																																																																																																																																																																																																																																									
2034	314,186951																																																																																																																																																																																																																																																																																																																																																																																																									
2035	315,245640																																																																																																																																																																																																																																																																																																																																																																																																									
2036	316,302202																																																																																																																																																																																																																																																																																																																																																																																																									
2037	317,362657																																																																																																																																																																																																																																																																																																																																																																																																									
2038	318,445495																																																																																																																																																																																																																																																																																																																																																																																																									
2039	319,529223																																																																																																																																																																																																																																																																																																																																																																																																									
2040	320,610834																																																																																																																																																																																																																																																																																																																																																																																																									
2041	321,453495																																																																																																																																																																																																																																																																																																																																																																																																									
2042	322,328714																																																																																																																																																																																																																																																																																																																																																																																																									
2043	323,226256																																																																																																																																																																																																																																																																																																																																																																																																									
2044	324,123982																																																																																																																																																																																																																																																																																																																																																																																																									
2045	325,021890																																																																																																																																																																																																																																																																																																																																																																																																									
2046	325,919983																																																																																																																																																																																																																																																																																																																																																																																																									
2047	326,818259																																																																																																																																																																																																																																																																																																																																																																																																									
2048	327,716721																																																																																																																																																																																																																																																																																																																																																																																																									
2049	328,615369																																																																																																																																																																																																																																																																																																																																																																																																									
2050	329,514203																																																																																																																																																																																																																																																																																																																																																																																																									



Plumber Initiated High Efficiency Toilet

Overview	
Name	Plumber Initiated High Efficiency Toilet Retrofit Program
Abbr	UHET
Category	Default
Measure Type	Standard Measure

Time Period		Measure Life	
First Year	2030	Permanent	<input checked="" type="checkbox"/>
Last Year	2040		
Measure Length	11		

Fixture Cost per Device			
	Utility	Customer	Fix/Acct
SF	\$550.00	\$0.00	1
MF	\$550.00	\$0.00	1

Administration Costs	
Method:	Percent
Markup Percentage	4%

Description
 Utility would subsidize installation cost of a new HET purchased in bulk by the utility to replace 3.5 GPF toilets with 0.8 GPF toilets. Licensed plumbers, pre-qualified by the Utility would solicit customers directly. Customers would get a new HET installed at no cost or a discounted price. May focus efforts on income-qualified account holders in SFR and MFR and partner with gas company for economies of scale as their contractors are already direct-installing energy saving fixtures in homes.

Customer Classes						
	SF	MF	COM	IND	IRR	ADJUSE
	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

End Uses						
	SF	MF	COM	IND	IRR	ADJUSE
Toilets	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Urinals	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Lavatory Faucets	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Showers	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Dishwashers	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Clothes Washers	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Process	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Kitchen Spray Rinse	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Internal Leakage	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Baths	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Irrigation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Pools	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Wash Down	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Car Washing	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
External Leakage	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Outdoor Other	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Story/Kitchen Faucets	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Cooling	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Comments
 > Utility Cost: Cost includes burdened cost to buy toilet, remove old, install new, and dispose of old, plus admin cost (as might be incurred for a regional partner to administer this measure).
 > Customer Cost: Assumes minimal costs incurred by customer, as SB is purchasing the fixture and paying for installation.
 > Admin Cost: Assumes 15 minutes of supervisory time per rebate awarded (at \$84/hr for the fully burdened rate of the Analyst II position) to oversee the general management of this measure.
 > End Use Savings: Switching from a 3.5gpf toilet to a 0.8gpf toilet presents about 77% savings, assuming that only 1 toilet is replaced per account and dividing by the number of toilets estimated to be present per account results in 35% savings for SF and 20% savings for MF.
 > Targets: SB estimates that a pilot program might start with a budget of \$20,000, targets have been set to start at this approximate cost (including utility and admin costs).

Results	
Units	AF
Average Water Savings (afy)	
	2.077917
Lifetime Savings - Present Value (\$)	
Utility	\$35,534
Community	\$35,534
Lifetime Costs - Present Value (\$)	
Utility	\$163,124
Community	\$163,124
Benefit to Cost Ratio	
Utility	0.22
Community	0.22
Cost of Savings per Unit Volume (\$/af)	
Utility	\$3,019

End Use Savings Per Replacement		
Method:	Percent	
	% Savings/Acct	Avg GPD/Acct
SF Toilets	35.0%	20.1
MF Toilets	20.0%	65.1

Targets	
Target Method:	Percentage
% of Accts Targeted / yr	0.150%
Only Effects New Accts	<input type="checkbox"/>

Costs			
View:	Utility Details		
	Fixture Costs	Admin Costs	Util Total
2025	\$0	\$0	\$0
2026	\$0	\$0	\$0
2027	\$0	\$0	\$0
2028	\$0	\$0	\$0
2029	\$0	\$0	\$0
2030	\$19,216	\$769	\$19,985
2031	\$19,191	\$768	\$19,959
2032	\$19,166	\$767	\$19,932
2033	\$19,141	\$766	\$19,906
2034	\$19,115	\$765	\$19,880
2035	\$19,090	\$764	\$19,853
2036	\$19,064	\$763	\$19,827
2037	\$19,039	\$762	\$19,800
2038	\$19,013	\$761	\$19,774
2039	\$18,988	\$760	\$19,747
2040	\$18,962	\$758	\$19,720
2041	\$0	\$0	\$0
2042	\$0	\$0	\$0
2043	\$0	\$0	\$0
2044	\$0	\$0	\$0
2045	\$0	\$0	\$0
2046	\$0	\$0	\$0
2047	\$0	\$0	\$0
2048	\$0	\$0	\$0
2049	\$0	\$0	\$0
2050	\$0	\$0	\$0

Targets			
View:	Accounts		
	SF	MF	Total
2025	0	0	0
2026	0	0	0
2027	0	0	0
2028	0	0	0
2029	0	0	0
2030	25	10	35
2031	25	10	35
2032	24	10	35
2033	24	10	35
2034	24	10	35
2035	24	10	35
2036	24	11	35
2037	24	11	35
2038	24	11	35
2039	24	11	35
2040	24	11	34
2041	0	0	0
2042	0	0	0
2043	0	0	0
2044	0	0	0
2045	0	0	0
2046	0	0	0
2047	0	0	0
2048	0	0	0
2049	0	0	0
2050	0	0	0

Water Savings	
Units	afy
	Total Savings (afy)
2025	0.000000
2026	0.000000
2027	0.000000
2028	0.000000
2029	0.000000
2030	0.329218
2031	0.653366
2032	0.972965
2033	1.288476
2034	1.600314
2035	1.908846
2036	2.214401
2037	2.517274
2038	2.817728
2039	3.116001
2040	3.412304
2041	3.393199
2042	3.374952
2043	3.357498
2044	3.340778
2045	3.324740
2046	3.309334
2047	3.294516
2048	3.280245
2049	3.266484
2050	3.253199



Leak Detection Device Rebate

Overview	
Name	Leak Detection Device Rebate
Abbr	LEAK
Category	Default
Measure Type	Standard Measure

Time Period		Measure Life	
First Year	2025	Permanent	<input type="checkbox"/>
Last Year	2050	Years	5
Measure Length	25	Repeat	<input type="checkbox"/>

Fixture Cost per Device			
	Utility	Customer	Fix/Acct
SF	\$100.00	\$140.00	1
MF	\$100.00	\$140.00	1
COM	\$100.00	\$140.00	1
IND	\$100.00	\$140.00	1
IRR	\$100.00	\$140.00	1
ADUSF	\$100.00	\$140.00	1

Administration Costs	
Method:	Percent
Markup Percentage	14%

Description
 This measure models the CalWEP direct-distribution program for Flume rebates. Customers order leak detection devices directly through the Santa Barbara website and the rebate is built into reduced cost.

Customer Classes						
	SF	MF	COM	IND	IRR	ADUSF
Toilets	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Urinals	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Lavatory Faucets	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Showers	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Dishwashers	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Clothes Washers	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Process	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Kitchen Spray Rinse	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Internal Leakage	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Baths	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Other	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Irrigation	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Pools	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Wash Down	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Car Washing	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
External Leakage	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Outdoor Other	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Laundry/Kitchen Faucets	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Cooling	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

End Uses						
	SF	MF	COM	IND	IRR	ADUSF
Toilets	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Urinals	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Lavatory Faucets	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Showers	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Dishwashers	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Clothes Washers	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Process	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Kitchen Spray Rinse	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Internal Leakage	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Baths	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Other	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Irrigation	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Pools	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Wash Down	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Car Washing	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
External Leakage	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Outdoor Other	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Laundry/Kitchen Faucets	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Cooling	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

Comments
 > Utility Cost: Rebate paid by SB per device.
 > Customer Cost: Remaining cost for purchase of device and shipping.
 > Admin Cost: 4 hours of Admin Analyst II per year (at the fully burdened rate of \$84/hr) and 10 hours of Ops Assistant per year (at the fully burdened rate of \$49/hour), as much of the logistical and administrative processes are foregone through the set up of this measure (customer purchases device online with rebate applied).
 > End Use Savings: Assumes similar savings as expected from AMI installation, with an additional 5% savings for irrigation savings from more granular water use data. SFPUC case study per Julie Ortiz ppt at 2019 Peer-to-Peer "AMI: Everything you need to know to run a successful program." Savings are estimated to be 20%-50% on leakage (internal and external). Assume higher end of this range as participants incur costs for device and assume they are more invested in tracking and managing their water use.
 > Targets: Derived using historical data provided by SB for 2024.

Results	
Units	af
Average Water Savings (afy)	
6.780824	
Lifetime Savings - Present Value (\$)	
Utility	\$129,739
Community	\$179,718
Lifetime Costs - Present Value (\$)	
Utility	\$118,847
Community	\$264,800
Benefit to Cost Ratio	
Utility	1.09
Community	0.68
Cost of Savings per Unit Volume (\$/af)	
Utility	\$674

End Use Savings Per Replacement			
Method:	Percent	% Savings/Acct	Avg GPD/Acct
SF Internal Leakag	50.0%	16.6	
SF Irrigation	10.0%	73.6	
F External Leakag	50.0%	6.2	
MF Internal Leakag	50.0%	34.2	
MF Irrigation	10.0%	44.9	
F External Leakag	50.0%	3.8	
COM Process	5.0%	81.3	
COM Internal Leakag	50.0%	40.7	
COM Irrigation	5.0%	128.8	
DM External Leakag	50.0%	9.2	
IND Process	5.0%	495.6	
ND Internal Leakag	50.0%	165.2	
ND External Leakag	50.0%	63.2	
IND Irrigation	5.0%	758.0	
IRR Irrigation	5.0%	525.3	
IR External Leakag	50.0%	27.6	
USF Internal Leakag	50.0%	23.2	
ADUSF Irrigation	5.0%	101.6	
JSF External Leakag	50.0%	8.6	
COM Pools	10.0%	12.9	
Kitchen Spray Rin	5.0%	0.0	

Targets	
Target Method:	Percentage
% of Accts Targeted / yr	0.200%
Only Effects New Accts	<input type="checkbox"/>

Costs			
View:	Utility Details		
	Fixture Costs	Admin Costs	Util Total
2025	\$5,514	\$772	\$6,286
2026	\$5,535	\$775	\$6,309
2027	\$5,554	\$778	\$6,332
2028	\$5,574	\$780	\$6,355
2029	\$5,594	\$783	\$6,377
2030	\$5,614	\$786	\$6,400
2031	\$5,634	\$789	\$6,423
2032	\$5,654	\$792	\$6,445
2033	\$5,663	\$793	\$6,456
2034	\$5,672	\$794	\$6,466
2035	\$5,681	\$795	\$6,476
2036	\$5,690	\$797	\$6,486
2037	\$5,699	\$798	\$6,496
2038	\$5,708	\$799	\$6,507
2039	\$5,717	\$800	\$6,517
2040	\$5,726	\$802	\$6,527
2041	\$5,731	\$802	\$6,533
2042	\$5,737	\$803	\$6,540
2043	\$5,743	\$804	\$6,547
2044	\$5,749	\$805	\$6,553
2045	\$5,754	\$806	\$6,560
2046	\$5,760	\$806	\$6,567
2047	\$5,766	\$807	\$6,573
2048	\$5,772	\$808	\$6,580
2049	\$5,778	\$809	\$6,587
2050	\$5,784	\$810	\$6,593

Targets							
View:	Accounts						
	SF	MF	COM	IND	IRR	ADUSF	Total
2025	33	13	5	0	2	1	55
2026	33	14	6	0	2	1	55
2027	33	14	6	0	2	1	56
2028	33	14	6	0	2	1	56
2029	33	14	6	0	2	1	56
2030	33	14	6	0	2	1	56
2031	33	14	6	0	2	2	56
2032	33	14	7	0	2	2	57
2033	33	14	7	0	2	2	57
2034	32	14	7	0	2	2	57
2035	32	14	7	0	2	2	57
2036	32	14	7	0	2	2	57
2037	32	14	7	0	2	2	57
2038	32	14	7	0	2	2	57
2039	32	14	7	0	2	2	57
2040	32	14	7	0	2	3	57
2041	32	14	7	0	2	3	57
2042	32	14	7	0	2	3	57
2043	32	14	7	0	2	3	57
2044	32	14	7	0	2	3	57
2045	32	14	7	0	2	3	58
2046	31	14	7	0	2	3	58
2047	31	14	7	0	2	3	58
2048	31	14	7	0	2	3	58
2049	31	14	7	0	2	3	58
2050	31	14	7	0	2	3	58

Water Savings	
Units	afy
	Total Savings (afy)
2025	1.403844
2026	2.816147
2027	4.236612
2028	5.665225
2029	7.102009
2030	7.143125
2031	7.183942
2032	7.224782
2033	7.260783
2034	7.291908
2035	7.318175
2036	7.339585
2037	7.356137
2038	7.372757
2039	7.389466
2040	7.406224
2041	7.421795
2042	7.436349
2043	7.449885
2044	7.462398
2045	7.473905
2046	7.485657
2047	7.497461
2048	7.509270
2049	7.521083
2050	7.532901



General Public Education

Overview	
Name	General Public Education
Abbr	EDU
Category	Default
Measure Type	Standard Measure

Time Period		Measure Life	
First Year	2025	Permanent	<input type="checkbox"/>
Last Year	2050	Years	1
Measure Length	26	Repeat	<input type="checkbox"/>

Fixture Cost per Device			
	Utility	Customer	Fix/Acct
SF	\$5.80	\$1.00	1
MF	\$5.80	\$1.00	1
COM	\$5.80	\$2.00	1
IND	\$5.80	\$2.00	1
IRR	\$5.80	\$2.00	1
ADUSF	\$5.80	\$1.00	1

Administration Costs	
Method:	Percent
Markup Percentage	77%

Description

This measure describes and captures the varied outreach activities conducted and for consideration by the City that would continue indefinitely.

- > Use a range of printed materials to raise awareness of conservation measures available to customers. This can include newsletters, bill stuffers, brochures, working with local newspapers, signage at retailers, and/or signs on public buses.
- > Regional participation and development would be considered where applicable to help assure consistent message.
- > Provide variety of conservation information on city or utility web site, distribution of videos. Other activities would include conducting presentations at various venues, from radio and TV to service organizations and focused groups, booths at relevant community events, etc.
- > City would develop branded/targeted messaging with focused action like: "Take Control of your Controllor" Campaign.
- > This measure also captures efforts including poster contests, speakers to community groups, conservation hotline, website, radio and television time, demonstration gardens, and sponsoring series of educational workshops or other means for educating homeowners, landscapers and contractors in efficient landscaping and irrigation principles or other water conservation topics, utilizing guest speakers, and incentives, such as a nursery plant coupons.

Customer Classes						
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

End Uses						
Toilets	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Urinals	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Lavatory Faucets	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Showers	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Dishwashers	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Clothes Washers	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Process	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Kitchen Spray Rinse	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Internal Leakage	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Baths	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Irrigation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Pools	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Wash Down	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Car Washing	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
External Leakage	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Outdoor Other	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Non-Lavatory/Kitchen Faucets	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Cooling	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Comments

- > Utility Cost: Advertising costs incurred by SB annually.
- > Customer Cost: Assume minimal costs for customers to change behaviors or for small fixture upgrades (average customer cost is low to reflect that many customers will not purchase fixtures or upgrade equipment).
- > Admin Cost: Assumes 1/3 of the annual time for the Analyst II position is required to oversee public education efforts, at the fully burdened rate of \$84/hour.
- > End Use Savings: Public info water savings range is 0.1%-0.5% on each end use. Assumed average savings of 0.3%.
- > Targets: Assume target 50% of customers annually, so that every 2 years all customers have been reached through some form of outreach effort conducted by the City.

Results	
Units	AF
Average Water Savings (afy)	
	13.079044
Lifetime Savings - Present Value (\$)	
Utility	\$258,840
Community	\$258,840
Lifetime Costs - Present Value (\$)	
Utility	\$2,675,630
Community	\$2,975,012
Benefit to Cost Ratio	
Utility	0.10
Community	0.09
Cost of Savings per Unit Volume (\$/af)	
Utility	\$7,868

End Use Savings Per Replacement		
Method:	Percent	
	% Savings/Acct	Avg GPD/Acct
COM Toilets	0.3%	61.0
IND Toilets	0.3%	247.8
COM Urinals	0.3%	16.3
IND Urinals	0.3%	99.1
COM Lavatory Faucets	0.3%	20.3
IND Lavatory Faucets	0.3%	124.9
COM Showers	0.3%	36.6
IND Showers	0.3%	49.6
COM Dishwashers	0.3%	24.4
IND Dishwashers	0.3%	66.1
COM Clothes Washers	0.3%	61.0
IND Clothes Washers	0.3%	132.1
COM Kitchen Spray Rinse	0.3%	20.3
COM Internal Leakage	0.3%	40.7
IND Internal Leakage	0.3%	165.2
COM Irrigation	0.3%	128.8
IND Irrigation	0.3%	758.0
IRR Irrigation	0.3%	525.3
COM External Leakage	0.3%	9.2
IND External Leakage	0.3%	63.2
IRR External Leakage	0.3%	27.6
COM Other	0.3%	24.4
IND Other	0.3%	165.2
COM Non-Lavatory/Kitchen Faucets	0.3%	20.3
IND Non-Lavatory/Kitchen Faucets	0.3%	106.4
SF Toilets	0.3%	20.1
MF Toilets	0.3%	65.1
SF Lavatory Faucets	0.3%	7.8
MF Lavatory Faucets	0.3%	17.8
SF Showers	0.3%	27.2
MF Showers	0.3%	56.0
SF Dishwashers	0.3%	2.4
MF Dishwashers	0.3%	4.8
SF Clothes Washers	0.3%	17.8
MF Clothes Washers	0.3%	44.4
SF Internal Leakage	0.3%	16.6
MF Internal Leakage	0.3%	34.2
SF Baths	0.3%	3.6
MF Baths	0.3%	5.9
SF Other	0.3%	7.6
MF Other	0.3%	8.1
SF Irrigation	0.3%	73.6
MF Irrigation	0.3%	44.9
SF Pools	0.3%	1.8
MF Pools	0.3%	1.1

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MF Pools	0.3%	1.1
SF Wash Down	0.3%	3.5
MF Wash Down	0.3%	2.2
SF Car Washing	0.3%	3.5
MF Car Washing	0.3%	2.2
SF External Leakage	0.3%	6.2
MF External Leakage	0.3%	3.8
SF Non-Lavatory/Kitchen Faucets	0.3%	15.4
MF Non-Lavatory/Kitchen Faucets	0.3%	32.8
ADUSF Toilets	0.3%	41.8
ADUSF Lavatory Faucets	0.3%	11.4
ADUSF Showers	0.3%	32.7
ADUSF Dishwashers	0.3%	2.1
ADUSF Clothes Washers	0.3%	28.2
ADUSF Internal Leakage	0.3%	23.2
ADUSF Baths	0.3%	4.4
ADUSF Other	0.3%	7.4
ADUSF Irrigation	0.3%	101.6
ADUSF Pools	0.3%	2.4
ADUSF Wash Down	0.3%	4.9
ADUSF Car Washing	0.3%	4.9
ADUSF External Leakage	0.3%	8.6
ADUSF Non-Lavatory/Kitchen Faucets	0.3%	21.2

Targets		
Target Method:	Percentage	
	% of Accts Targeted / yr	50.000%
	Only Effects New Accts	<input type="checkbox"/>

Costs				Targets								Water Savings	
View:	Utility Details			View:	Accounts							Units:	afy
	Fixture Costs	Admin Costs	Utili Total		SF	MF	COM	IND	IRR	ADUSF	Total		Total Savings (afy)
2025	\$79,953	\$61,564	\$141,517	2025	8,356	3,366	1,373	26	450	216	13,785	2025	12.833130
2026	\$80,251	\$61,793	\$142,043	2026	8,328	3,378	1,409	26	452	243	13,836	2026	12.855026
2027	\$80,539	\$62,015	\$142,553	2027	8,301	3,391	1,445	27	452	271	13,886	2027	12.878167
2028	\$80,827	\$62,236	\$143,063	2028	8,273	3,403	1,482	28	452	298	13,936	2028	12.904975
2029	\$81,115	\$62,459	\$143,573	2029	8,245	3,416	1,518	28	452	326	13,985	2029	12.935361
2030	\$81,404	\$62,681	\$144,084	2030	8,218	3,428	1,554	29	452	354	14,035	2030	12.971110
2031	\$81,692	\$62,903	\$144,595	2031	8,190	3,441	1,591	30	452	382	14,085	2031	13.011693
2032	\$81,981	\$63,126	\$145,107	2032	8,162	3,454	1,627	31	452	410	14,135	2032	13.057115
2033	\$82,110	\$63,225	\$145,335	2033	8,134	3,467	1,636	31	452	438	14,157	2033	13.061003
2034	\$82,239	\$63,324	\$145,564	2034	8,106	3,479	1,646	31	452	466	14,179	2034	13.067620
2035	\$82,369	\$63,424	\$145,793	2035	8,077	3,492	1,655	31	452	494	14,202	2035	13.077927
2036	\$82,499	\$63,524	\$146,022	2036	8,049	3,505	1,664	31	452	523	14,224	2036	13.090168
2037	\$82,628	\$63,624	\$146,252	2037	8,021	3,518	1,674	31	452	551	14,246	2037	13.104475
2038	\$82,760	\$63,725	\$146,486	2038	7,992	3,531	1,683	32	452	579	14,269	2038	13.119854
2039	\$82,892	\$63,827	\$146,719	2039	7,964	3,544	1,693	32	452	608	14,292	2039	13.137275
2040	\$83,024	\$63,929	\$146,953	2040	7,935	3,557	1,702	32	452	636	14,315	2040	13.156617
2041	\$83,101	\$63,988	\$147,089	2041	7,925	3,562	1,712	32	451	647	14,328	2041	13.154386
2042	\$83,184	\$64,052	\$147,236	2042	7,915	3,566	1,721	32	451	657	14,342	2042	13.155869
2043	\$83,269	\$64,117	\$147,386	2043	7,905	3,571	1,731	33	451	667	14,357	2043	13.159408
2044	\$83,354	\$64,182	\$147,536	2044	7,895	3,575	1,741	33	451	677	14,371	2044	13.164401
2045	\$83,439	\$64,248	\$147,687	2045	7,885	3,580	1,751	33	451	687	14,386	2045	13.170734
2046	\$83,524	\$64,313	\$147,837	2046	7,875	3,585	1,761	33	451	697	14,401	2046	13.178304
2047	\$83,609	\$64,379	\$147,987	2047	7,865	3,589	1,771	33	451	707	14,415	2047	13.187017
2048	\$83,694	\$64,444	\$148,138	2048	7,854	3,594	1,781	34	451	717	14,430	2048	13.196786
2049	\$83,779	\$64,510	\$148,288	2049	7,844	3,598	1,790	34	451	727	14,445	2049	13.207533
2050	\$83,864	\$64,575	\$148,439	2050	7,834	3,603	1,800	34	451	737	14,459	2050	13.219184



Overview

Name: Water Efficient Landscape Standards
 Abbr: WEL
 Category: Default
 Measure Type: Standard Measure

Time Period
 First Year: 2025
 Last Year: 2050
 Measure Length: 26

Measure Life
 Permanent

Fixture Cost per Device

	Utility	Customer	Fix/Acct
SF	\$70.00	\$15.00	1
MF	\$70.00	\$15.00	1
COM	\$70.00	\$15.00	1
ND	\$70.00	\$15.00	1
IRR	\$70.00	\$15.00	1
ADUSF	\$70.00	\$15.00	1

Administration Costs

Method: Percent
 Markup Percentage: 6%

Description

Compliance with the City's WELS is mandatory whenever a landscaping or irrigation plan is required by any Chapter or Section of the City Municipal Code or by any city design review or land use review body (SBMC § 14.23.005, Ordinance 6101, and Council Resolution No. 23-007). The Standards are intended to promote water conservation while allowing flexibility in designing attractive and cost effective water-wise landscapes. Standards specify that development projects subject to design review are landscaped according to climate appropriate principals, with appropriate plant selection, efficient irrigation systems and smart irrigation controllers. Some accounts transition from mixed meters to irrigation meters. As part of this measure, staff perform plan reviews and final inspections for compliance.

Customer Classes

	SP	MF	COM	ND	IRR	ADUSF

End Uses

	SP	MF	COM	ND	IRR	ADUSF
Toilets						
Urinals						
Lavatory Faucets						
Showers						
Dishwashers						
Clothes Washers						
Process						
Kitchen Spray Rinse						
Internal Leakage						
Baths						
Other						
Irrigation						
Pools						
Wash Down						
Car Washing						
External Leakage						
Outdoor Other						
Non-Lavatory/Kitchen Faucets						
Cooling						

Comments

> Utility Cost: Utility cost here is the admin cost to review plans and perform inspections. Plan reviews take ~0.75hours of the Water Resources Specialist position at the rate of \$70/hour. 16% of plans that are reviewed prompt an inspection, which takes 1.5 hours, at the fully burdened rate of \$70/hour.

> Customer Cost: Assume minimal additional costs are incurred from compliance, as installation and maintenance of acceptable landscape is not necessarily more expensive than alternatives.

> Admin Cost: Assumes admin cost is for general administration of this program by the Analyst II position, assume minimal supervisory time is required per rebate, at the fully burdened rate of \$84/hour, for a 6% markup on the utility cost.

> End Use Savings: Native plants save 60-80% of water use compared to grass, assume half of these savings are achieved from compliance with WEL Standards as not all sites will be converting from high water using plants. Assumes small savings from reducing leakage when landscape is changed.

> Targets: Based on historical data received, about 250 plan reviews are conducted annually and about 40 inspections are conducted, resulting in a target of 0.14% of accounts completing their compliant WELS landscape each year.

Results

Units: sf

Average Water Savings (sf)
16.251129

Lifetime Savings - Present Value (\$)

Utility	\$282,278
Community	\$282,278

Lifetime Costs - Present Value (\$)

Utility	\$54,046
Community	\$64,993

Benefit to Cost Ratio

Utility	5.22
Community	4.34

Cost of Savings per Unit Volume (\$/sf)

Utility	\$128
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End Use Savings Per Replacement

Method	Percent	% Savings/Acct	Avg GPD/Acct
COM Irrigation	30.0%	128.8	
COM External Leakage	5.0%	9.2	
ND Irrigation	30.0%	758.0	
ND External Leakage	5.0%	63.2	
SF Irrigation	30.0%	73.6	
MF Irrigation	30.0%	44.9	
IRR Irrigation	30.0%	525.3	
SF External Leakage	5.0%	6.2	
MF External Leakage	5.0%	3.8	
IRR External Leakage	5.0%	27.6	
ADUSF Irrigation	30.0%	101.6	
ADUSF External Leakage	5.0%	8.6	
ND Kitchen Spray Rinse	0.0%	0.0	
COM Pools	0.0%	12.9	

Targets

Target Method: Percentage
 % of Accts Targeted / yr: 0.140%

Costs

Year	Fixture Costs	Admin Costs	Utili Total
2025	\$2,702	\$157	\$2,859
2026	\$2,712	\$157	\$2,869
2027	\$2,722	\$158	\$2,880
2028	\$2,731	\$158	\$2,890
2029	\$2,741	\$159	\$2,900
2030	\$2,751	\$160	\$2,910
2031	\$2,761	\$160	\$2,921
2032	\$2,770	\$161	\$2,931
2033	\$2,775	\$161	\$2,936
2034	\$2,779	\$161	\$2,940
2035	\$2,784	\$161	\$2,945
2036	\$2,788	\$162	\$2,950
2037	\$2,792	\$162	\$2,954
2038	\$2,797	\$162	\$2,959
2039	\$2,801	\$162	\$2,964
2040	\$2,806	\$163	\$2,968
2041	\$2,808	\$163	\$2,971
2042	\$2,811	\$163	\$2,974
2043	\$2,814	\$163	\$2,977
2044	\$2,817	\$163	\$2,980
2045	\$2,820	\$164	\$2,983
2046	\$2,823	\$164	\$2,986
2047	\$2,825	\$164	\$2,989
2048	\$2,828	\$164	\$2,992
2049	\$2,831	\$164	\$2,995
2050	\$2,834	\$164	\$2,998

Targets

Year	SF	MF	COM	ND	IRR	ADUSF	Total
2025	23	9	4	0	1	1	39
2026	23	9	4	0	1	1	39
2027	23	9	4	0	1	1	39
2028	23	10	4	0	1	1	39
2029	23	10	4	0	1	1	39
2030	23	10	4	0	1	1	39
2031	23	10	4	0	1	1	39
2032	23	10	5	0	1	1	40
2033	23	10	5	0	1	1	40
2034	23	10	5	0	1	1	40
2035	23	10	5	0	1	1	40
2036	23	10	5	0	1	1	40
2037	22	10	5	0	1	2	40
2038	22	10	5	0	1	2	40
2039	22	10	5	0	1	2	40
2040	22	10	5	0	1	2	40
2041	22	10	5	0	1	2	40
2042	22	10	5	0	1	2	40
2043	22	10	5	0	1	2	40
2044	22	10	5	0	1	2	40
2045	22	10	5	0	1	2	40
2046	22	10	5	0	1	2	40
2047	22	10	5	0	1	2	40
2048	22	10	5	0	1	2	40
2049	22	10	5	0	1	2	40
2050	22	10	5	0	1	2	40

Water Savings

Units	Total Savings (sf)
2025	1,163,327
2026	2,333,749
2027	3,510,433
2028	4,693,367
2029	5,882,570
2030	7,078,047
2031	8,279,783
2032	9,487,800
2033	10,698,394
2034	11,911,552
2035	13,127,294
2036	14,345,608
2037	15,565,514
2038	16,790,050
2039	18,016,219
2040	19,245,008
2041	20,475,038
2042	21,706,846
2043	22,940,468
2044	24,175,906
2045	25,413,160
2046	26,652,230
2047	27,893,118
2048	29,135,824
2049	30,380,349
2050	31,626,694

Overview				Customer Classes										Results																																																																																																																																																																																																									
Name: Smart Sprinkler Timer Rebate				<table border="1"> <tr><th>Class</th><th>SF</th><th>MF</th><th>COM</th><th>IND</th><th>RR</th><th>ADUSF</th><th>Percent</th></tr> <tr><td>TOILETS</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td>URINALS</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td>LAUNDRY FAUCETS</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td>SHOWERS</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td>DISHWASHERS</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td>CLOTHES WASHERS</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td>PROCESS</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td>KITCHEN SPRAY RINSE</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td>INTERNAL LEAKAGE</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td>BATHS</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td>OTHER</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td>IRRIGATION</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td>WASH DOWN</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td>CAR WASHING</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td>EXTERNAL LEAKAGE</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td>OUTDOOR OTHER</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td>NON-LAUNDRY/KITCHEN FAUCETS</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td>COOLING</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> </table>										Class	SF	MF	COM	IND	RR	ADUSF	Percent	TOILETS								URINALS								LAUNDRY FAUCETS								SHOWERS								DISHWASHERS								CLOTHES WASHERS								PROCESS								KITCHEN SPRAY RINSE								INTERNAL LEAKAGE								BATHS								OTHER								IRRIGATION								WASH DOWN								CAR WASHING								EXTERNAL LEAKAGE								OUTDOOR OTHER								NON-LAUNDRY/KITCHEN FAUCETS								COOLING								Units: af Average Water Savings (afy) 2.638121 Lifetime Savings - Present Value (\$) Utility: \$50,633 Community: \$50,633 Lifetime Costs - Present Value (\$) Utility: \$43,056 Community: \$131,670 Benefit to Cost Ratio Utility: 1.18 Community: 0.38 Cost of Savings per Unit Volume (\$/af) Utility: \$628																																																	
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Administration Costs Method: Percent Markup Percentage: 18%				Comments <ul style="list-style-type: none"> > Utility Cost: Rebate amount offered by the City, assumes average device cost is approximately \$140, and City is rebating 50%. > Customer Cost: Remaining costs to purchase device, assumes installation cost of on average \$200 and that half of rebate participants hire a contractor for installation. > Admin Cost: Estimated staff time required is 0.25hours of the Operations Assistant position, at the fully burdened rate of \$49/hour, or approximately a 18% markup on utility cost per rebate. > End Use Savings: EPA estimates annual water savings of 7,600 for the average home from installation of a smart irrigation controller. Converted this estimate into percentages based on the average irrigation use of different customer categories. > Targets: Based on historical data, ~10 rebates have been offered, assume participation increases to ~30 participants in following years as the program becomes more known through outreach efforts. 										Targets Target Method: Percentage % of Accts Targeted / Yr: 0.100% Only Effects New Accts																																																																																																																																																																																																									
Description Provide a rebate for the purchase of a weather-based/smart irrigation controller. Smart irrigation controllers can be programmed to give plants the right amount of water for the type of plant, soil, time of year, and weather - often with a smartphone. Eligible materials include: smart controller or weather sensor add-on for existing controller. Does not include labor or tax.				Costs <table border="1"> <tr><th>Year</th><th>Fixt</th><th>Admin</th><th>Utl</th><th>Total</th></tr> <tr><td>2025</td><td>\$1,930</td><td>\$347</td><td></td><td>\$2,277</td></tr> <tr><td>2026</td><td>\$1,937</td><td>\$349</td><td></td><td>\$2,286</td></tr> <tr><td>2027</td><td>\$1,944</td><td>\$350</td><td></td><td>\$2,294</td></tr> <tr><td>2028</td><td>\$1,951</td><td>\$351</td><td></td><td>\$2,302</td></tr> <tr><td>2029</td><td>\$1,958</td><td>\$352</td><td></td><td>\$2,310</td></tr> <tr><td>2030</td><td>\$1,965</td><td>\$354</td><td></td><td>\$2,319</td></tr> <tr><td>2031</td><td>\$1,972</td><td>\$355</td><td></td><td>\$2,327</td></tr> <tr><td>2032</td><td>\$1,979</td><td>\$356</td><td></td><td>\$2,335</td></tr> <tr><td>2033</td><td>\$1,982</td><td>\$357</td><td></td><td>\$2,339</td></tr> <tr><td>2034</td><td>\$1,985</td><td>\$357</td><td></td><td>\$2,342</td></tr> <tr><td>2035</td><td>\$1,988</td><td>\$358</td><td></td><td>\$2,346</td></tr> <tr><td>2036</td><td>\$1,991</td><td>\$358</td><td></td><td>\$2,350</td></tr> <tr><td>2037</td><td>\$1,994</td><td>\$359</td><td></td><td>\$2,353</td></tr> <tr><td>2038</td><td>\$1,998</td><td>\$360</td><td></td><td>\$2,357</td></tr> <tr><td>2039</td><td>\$2,001</td><td>\$360</td><td></td><td>\$2,361</td></tr> <tr><td>2040</td><td>\$2,004</td><td>\$361</td><td></td><td>\$2,365</td></tr> <tr><td>2041</td><td>\$2,006</td><td>\$361</td><td></td><td>\$2,367</td></tr> <tr><td>2042</td><td>\$2,008</td><td>\$361</td><td></td><td>\$2,369</td></tr> <tr><td>2043</td><td>\$2,010</td><td>\$362</td><td></td><td>\$2,372</td></tr> <tr><td>2044</td><td>\$2,012</td><td>\$362</td><td></td><td>\$2,374</td></tr> <tr><td>2045</td><td>\$2,014</td><td>\$363</td><td></td><td>\$2,377</td></tr> <tr><td>2046</td><td>\$2,016</td><td>\$363</td><td></td><td>\$2,379</td></tr> <tr><td>2047</td><td>\$2,018</td><td>\$363</td><td></td><td>\$2,381</td></tr> <tr><td>2048</td><td>\$2,020</td><td>\$364</td><td></td><td>\$2,384</td></tr> <tr><td>2049</td><td>\$2,022</td><td>\$364</td><td></td><td>\$2,386</td></tr> <tr><td>2050</td><td>\$2,024</td><td>\$364</td><td></td><td>\$2,389</td></tr> </table>										Year	Fixt	Admin	Utl	Total	2025	\$1,930	\$347		\$2,277	2026	\$1,937	\$349		\$2,286	2027	\$1,944	\$350		\$2,294	2028	\$1,951	\$351		\$2,302	2029	\$1,958	\$352		\$2,310	2030	\$1,965	\$354		\$2,319	2031	\$1,972	\$355		\$2,327	2032	\$1,979	\$356		\$2,335	2033	\$1,982	\$357		\$2,339	2034	\$1,985	\$357		\$2,342	2035	\$1,988	\$358		\$2,346	2036	\$1,991	\$358		\$2,350	2037	\$1,994	\$359		\$2,353	2038	\$1,998	\$360		\$2,357	2039	\$2,001	\$360		\$2,361	2040	\$2,004	\$361		\$2,365	2041	\$2,006	\$361		\$2,367	2042	\$2,008	\$361		\$2,369	2043	\$2,010	\$362		\$2,372	2044	\$2,012	\$362		\$2,374	2045	\$2,014	\$363		\$2,377	2046	\$2,016	\$363		\$2,379	2047	\$2,018	\$363		\$2,381	2048	\$2,020	\$364		\$2,384	2049	\$2,022	\$364		\$2,386	2050	\$2,024	\$364		\$2,389	Water Savings Units: afy Total Savings (afy) 2025: 0.563811 2026: 1.128933 2027: 1.695286 2028: 2.262867 2029: 2.831678 2030: 2.837906 2031: 2.844048 2032: 2.850185 2033: 2.855118 2034: 2.858845 2035: 2.861366 2036: 2.862683 2037: 2.862795 2038: 2.862914 2039: 2.863040 2040: 2.863172 2041: 2.863519 2042: 2.864131 2043: 2.865009 2044: 2.866155 2045: 2.867570 2046: 2.869048 2047: 2.870537 2048: 2.872024 2049: 2.873511 2050: 2.874996																																																																		
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Overview			
Name	Green Gardener Program		
Abbr	GGP		
Category	Default		
Measure Type	Standard Measure		
Time Period		Measure Life	
First Year	2025	Permanent	<input type="checkbox"/>
Last Year	2050	Years	2
Measure Length	26	Repeat	<input type="checkbox"/>
Fixture Cost per Device			
	Utility	Customer	Fix/Acct
SF	\$0.00	\$15.00	1
MF	\$0.00	\$15.00	1
COM	\$0.00	\$15.00	1
IND	\$0.00	\$15.00	1
IRR	\$0.00	\$15.00	1
ADUSF	\$0.00	\$15.00	1

Administration Costs	
Method:	Fixed
Annual Admin Costs	\$2,400

Description
 15 week bilingual course taught through Santa Barbara City College's School of Extended Learning. The class covers topics on resource-efficient and pollution prevention landscape maintenance practices. After completion of the course and a final test, gardeners are placed on the Green Gardener list which is promoted to the public. Green Gardener recertification issued annually with completion of 2 hours continuing education.

Customer Classes											
	SF	MF	COM	IND	IRR	ADUSF					
Toilets											
Urinals											
Lavatory Faucets											
Shower											
Dishwashers											
Clothes Washers											
Process											
Kitchen Spray Rinse											
Internal Leakage											
Baths											
Other											
Irrigation											
Pools											
Wash Down											
Car Washing											
External Leakage											
Outdoor Other											
Non-Lavatory/Kitchen Faucets											
Cooling											

End Uses											
	SF	MF	COM	IND	IRR	ADUSF					
Toilets											
Urinals											
Lavatory Faucets											
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External Leakage											
Outdoor Other											
Non-Lavatory/Kitchen Faucets											
Cooling											

Comments
 > Utility Cost: Utility cost is included in admin costs, the annual utility cost for this program is \$1500.
 > Customer Cost: Assume minimal customer costs are incurred, as participants are performing behavioral changes (proper irrigation scheduling) and small fixture upgrades from irrigation leak corrections.
 > Admin Cost: Costs for Analyst II position staff time to oversee the general administration of this program, approximately 10 hours of staff time are required per year, at the fully burdened rate of \$84/hour. This administration fixed costs includes utility costs.
 > End Use Savings: Assume 10% irrigation savings from proper irrigation scheduling, and small savings from leak corrections (not captured through AMI or flume) to not overlap with other measures offered.
 > Targets: Based on SB participation data, ~140 gardeners that participate are from the service area and professional gardeners (and work on ~5 sites per gardener), so targeting 700 accounts. SB surveys indicate that average number of sites affected per gardener that participates in the program is ~7, but not all sites are in the SB service area.

Results	
Units	af
Average Water Savings (afy)	
14,552,161	
Lifetime Savings - Present Value (\$)	
Utility	\$285,017
Community	\$285,017
Lifetime Costs - Present Value (\$)	
Utility	\$44,146
Community	\$239,619
Benefit to Cost Ratio	
Utility	6.46
Community	1.19
Cost of Savings per Unit Volume (\$/af)	
Utility	\$117

End Use Savings Per Replacement		
Method:	Percent	
	% Savings/Acct	Avg GPD/Acct
SF Irrigation	10.0%	73.6
MF Irrigation	10.0%	44.9
COM Irrigation	10.0%	128.8
IND Irrigation	10.0%	758.0
IRR Irrigation	10.0%	525.3
SF External Leakage	5.0%	6.2
MF External Leakage	5.0%	3.8
COM External Leakage	5.0%	9.2
IND External Leakage	5.0%	63.2
IRR External Leakage	5.0%	27.6
ADUSF Irrigation	10.0%	101.6
ADUSF External Leakage	5.0%	8.6

Targets	
Target Method:	Percentage
% of Accts Targeted / yr	2.500%
Only Effects New Accts	

Costs			
View:	Utility Details		
	Fixture Costs	Admin Costs	Utili Total
2025	\$0	\$2,400	\$2,400
2026	\$0	\$2,400	\$2,400
2027	\$0	\$2,400	\$2,400
2028	\$0	\$2,400	\$2,400
2029	\$0	\$2,400	\$2,400
2030	\$0	\$2,400	\$2,400
2031	\$0	\$2,400	\$2,400
2032	\$0	\$2,400	\$2,400
2033	\$0	\$2,400	\$2,400
2034	\$0	\$2,400	\$2,400
2035	\$0	\$2,400	\$2,400
2036	\$0	\$2,400	\$2,400
2037	\$0	\$2,400	\$2,400
2038	\$0	\$2,400	\$2,400
2039	\$0	\$2,400	\$2,400
2040	\$0	\$2,400	\$2,400
2041	\$0	\$2,400	\$2,400
2042	\$0	\$2,400	\$2,400
2043	\$0	\$2,400	\$2,400
2044	\$0	\$2,400	\$2,400
2045	\$0	\$2,400	\$2,400
2046	\$0	\$2,400	\$2,400
2047	\$0	\$2,400	\$2,400
2048	\$0	\$2,400	\$2,400
2049	\$0	\$2,400	\$2,400
2050	\$0	\$2,400	\$2,400

Targets							
View:	Accounts						
	SF	MF	COM	IND	IRR	ADUSF	Total
2025	418	168	69	1	23	11	689
2026	418	169	70	1	23	12	692
2027	415	170	72	1	23	14	694
2028	414	170	74	1	23	15	697
2029	412	171	76	1	23	16	699
2030	411	171	78	1	23	18	702
2031	409	172	80	1	23	19	704
2032	408	173	81	2	23	20	707
2033	407	173	82	2	23	22	708
2034	405	174	82	2	23	23	709
2035	404	175	83	2	23	25	710
2036	402	175	83	2	23	26	711
2037	401	176	84	2	23	28	712
2038	400	177	84	2	23	29	713
2039	398	177	85	2	23	30	715
2040	397	178	85	2	23	32	716
2041	396	178	86	2	23	32	716
2042	396	178	86	2	23	33	717
2043	395	179	87	2	23	33	718
2044	395	179	87	2	23	34	719
2045	394	179	88	2	23	34	719
2046	394	179	88	2	23	35	720
2047	393	179	89	2	23	35	721
2048	393	180	89	2	23	36	721
2049	392	180	90	2	23	36	722
2050	392	180	90	2	23	37	723

Water Savings	
Units	afy
Total Savings (afy)	
2025	7,098,485
2026	14,240,213
2027	14,321,654
2028	14,397,967
2029	14,474,323
2030	14,550,829
2031	14,627,273
2032	14,703,759
2033	14,757,807
2034	14,789,201
2035	14,820,640
2036	14,852,123
2037	14,883,650
2038	14,915,137
2039	14,947,677
2040	14,979,755
2041	15,003,344
2042	15,027,185
2043	15,043,705
2044	15,065,848
2045	15,088,000
2046	15,110,161
2047	15,132,332
2048	15,154,512
2049	15,176,701
2050	15,198,900

Overview				Customer Classes							Results																																																																																																																																																																																																																																																		
Name	Mulch Delivery Rebate			<table border="1"> <tr> <td>SF</td> <td>MF</td> <td>COM</td> <td>IND</td> <td>IRR</td> <td>ADUSF</td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </table>							SF	MF	COM	IND	IRR	ADUSF							<table border="1"> <tr> <td>Units</td> <td>af</td> <td></td> </tr> <tr> <td colspan="3">Average Water Savings (afy)</td> </tr> <tr> <td colspan="3">0.831301</td> </tr> <tr> <td colspan="3">Lifetime Savings - Present Value (\$)</td> </tr> <tr> <td>Utility</td> <td></td> <td>\$16,413</td> </tr> <tr> <td>Community</td> <td></td> <td>\$16,413</td> </tr> <tr> <td colspan="3">Lifetime Costs - Present Value (\$)</td> </tr> <tr> <td>Utility</td> <td></td> <td>\$86,746</td> </tr> <tr> <td>Community</td> <td></td> <td>\$116,867</td> </tr> <tr> <td colspan="3">Benefit to Cost Ratio</td> </tr> <tr> <td>Utility</td> <td></td> <td>0.19</td> </tr> <tr> <td>Community</td> <td></td> <td>0.14</td> </tr> <tr> <td colspan="3">Cost of Savings per Unit Volume (\$/af)</td> </tr> <tr> <td>Utility</td> <td></td> <td>\$4,013</td> </tr> </table>			Units	af		Average Water Savings (afy)			0.831301			Lifetime Savings - Present Value (\$)			Utility		\$16,413	Community		\$16,413	Lifetime Costs - Present Value (\$)			Utility		\$86,746	Community		\$116,867	Benefit to Cost Ratio			Utility		0.19	Community		0.14	Cost of Savings per Unit Volume (\$/af)			Utility		\$4,013																																																																																																																																																																																										
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2032		0.825556																																																																																																																																																																																																																																																											
2033		0.827319																																																																																																																																																																																																																																																											
2034		0.829072																																																																																																																																																																																																																																																											
2035		0.830840																																																																																																																																																																																																																																																											
2036		0.832598																																																																																																																																																																																																																																																											
2037		0.834371																																																																																																																																																																																																																																																											
2038		0.836169																																																																																																																																																																																																																																																											
2039		0.837970																																																																																																																																																																																																																																																											
2040		0.839762																																																																																																																																																																																																																																																											
2041		0.840612																																																																																																																																																																																																																																																											
2042		0.841828																																																																																																																																																																																																																																																											
2043		0.843067																																																																																																																																																																																																																																																											
2044		0.844308																																																																																																																																																																																																																																																											
2045		0.845548																																																																																																																																																																																																																																																											
2046		0.846790																																																																																																																																																																																																																																																											
2047		0.848032																																																																																																																																																																																																																																																											
2048		0.849274																																																																																																																																																																																																																																																											
2049		0.850517																																																																																																																																																																																																																																																											
2050		0.851760																																																																																																																																																																																																																																																											



Leak Repair Rebate

Overview	
Name	Leak Repair Rebate
Abbr	LK_REP
Category	Default
Measure Type	Standard Measure

Time Period		Measure Life	
First Year	2032	Permanent	<input type="checkbox"/>
Last Year	2050	Years	5
Measure Length	19	Repeat	<input type="checkbox"/>

Fixture Cost per Device			
	Utility	Customer	Fix/Acct
SF	\$500.00	\$300.00	1
MF	\$500.00	\$300.00	1

Administration Costs	
Method:	Percent
Markup Percentage	12%

Description
 Customer leaks can go uncorrected at properties where owners are least able to pay costs of repair. This measure will provide a rebate to cover part of the cost, with a higher rebate amount for income-qualified account holders.

Customer Classes						
	SF	MF	COM	IND	IRR	ADJUS
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

End Uses						
	SF	MF	COM	IND	IRR	ADJUS
Toilets	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Urinals	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Lavatory Faucets	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Showers	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Dishwashers	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Clothes Washers	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Process	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Kitchen Spray Rinse	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Internal Leakage	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Baths	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Irrigation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Pools	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Wash Down	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Car Washing	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
External Leakage	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Outdoor Other	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Non-Lavatory/Kitchen Faucets	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Cooling	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Results	
Units	af
Average Water Savings (afy)	
11.639262	
Lifetime Savings - Present Value (\$)	
Utility	\$199,259
Community	\$324,553
Lifetime Costs - Present Value (\$)	
Utility	\$347,090
Community	\$533,031
Benefit to Cost Ratio	
Utility	0.57
Community	0.61
Cost of Savings per Unit Volume (\$/af)	
Utility	\$1,147

End Use Savings Per Replacement		
Method:	Percent	
	% Savings/Acct	Avg GPD/Acct
SF Internal Leakage	210.0%	16.6
SF External Leakage	210.0%	6.2
MF Internal Leakage	210.0%	34.2
MF External Leakage	210.0%	3.8

Targets	
Target Method:	Detailed
Enter Annual Targets Below	

Comments

- > Utility Cost: City is offering a maximum rebate of \$500.
- > Customer Cost: Income qualifying customers receive up to the maximum rebate. Costs will vary depending on the severity of the leak, assume since targeting high users that customer costs will range from \$100-\$500 in addition to the rebate awarded. Use an average customer cost of \$300.
- > Admin Cost: Estimate that 0.5 hours of the Operations Assistant time and 0.4 hours of the Analyst II position are required per rebate to run this measure, at their respective fully burdened rates of \$49/hour and \$84/hour, this is a cost of \$60/rebate, or a 12% markup on the utility cost.
- > End Use Savings: Assume target high users where available, to achieve savings on users with 2-3x the average GPDA. Assume savings on leaks is 70% at properties that participate, and therefore ~210% for high user accounts. Although leak fixes are permanent for leaks resolved through this program, other leaks may arise (savings life is ~5 years on these significant leaks for which significant costs are incurred).
- > Targets: Assume ~50 rebates awarded per year, approximately, and that approximately 20 of these are for MF.

Costs			
View:	Utility Details		
	Fixture Costs	Admin Costs	Util Total
2025	\$0	\$0	\$0
2026	\$0	\$0	\$0
2027	\$0	\$0	\$0
2028	\$0	\$0	\$0
2029	\$0	\$0	\$0
2030	\$0	\$0	\$0
2031	\$0	\$0	\$0
2032	\$25,207	\$3,025	\$28,232
2033	\$25,247	\$3,030	\$28,276
2034	\$25,286	\$3,034	\$28,321
2035	\$25,826	\$3,099	\$28,925
2036	\$25,866	\$3,104	\$28,970
2037	\$25,906	\$3,109	\$29,015
2038	\$25,946	\$3,114	\$29,060
2039	\$25,987	\$3,118	\$29,105
2040	\$26,027	\$3,123	\$29,150
2041	\$26,041	\$3,125	\$29,166
2042	\$26,055	\$3,127	\$29,182
2043	\$26,069	\$3,128	\$29,198
2044	\$26,084	\$3,130	\$29,214
2045	\$26,098	\$3,132	\$29,230
2046	\$26,112	\$3,133	\$29,246
2047	\$26,126	\$3,135	\$29,262
2048	\$26,141	\$3,137	\$29,278
2049	\$26,155	\$3,139	\$29,294
2050	\$26,169	\$3,140	\$29,310

Targets			
View:	Accounts		
	SF	MF	Total
2025	0	0	0
2026	0	0	0
2027	0	0	0
2028	0	0	0
2029	0	0	0
2030	0	0	0
2031	0	0	0
2032	29	21	50
2033	29	21	50
2034	29	22	51
2035	30	22	52
2036	30	22	52
2037	30	22	52
2038	30	22	52
2039	30	22	52
2040	30	22	52
2041	30	22	52
2042	30	22	52
2043	30	22	52
2044	30	22	52
2045	30	22	52
2046	30	22	52
2047	30	22	52
2048	30	22	52
2049	30	22	52
2050	30	22	52

Water Savings	
Units	afy
	Total Savings (afy)
2025	0.000000
2026	0.000000
2027	0.000000
2028	0.000000
2029	0.000000
2030	0.000000
2031	0.000000
2032	3.468589
2033	6.944253
2034	10.427013
2035	13.970509
2036	17.521139
2037	17.610335
2038	17.699630
2039	17.789024
2040	17.824897
2041	17.856160
2042	17.882798
2043	17.904795
2044	17.922135
2045	17.934802
2046	17.947489
2047	17.960197
2048	17.972926
2049	17.985675
2050	17.998445



Residential Washer Rebate

Overview	
Name	Residential Washer Rebate
Abbr	HECW
Category	Default
Measure Type	Standard Measure

Time Period		Measure Life	
First Year	2025	Permanent	<input type="checkbox"/>
Last Year	2029	Years	12
Measure Length	5	Repeat	<input type="checkbox"/>

Fixture Cost per Device			
	Utility	Customer	Fix/Acct
SF	\$190.00	\$1,000.00	1
MF	\$190.00	\$1,000.00	1

Administration Costs	
Method:	Percent
Markup Percentage	0%

Description
 Offer a rebate for a high efficiency clothes washer. Only applicable on eligible models and for replacing an existing high-water using washer (with an integrated water factor of 6.5 or greater).

Customer Classes						
	SF	MF	COM	IND	IRR	ADJUS
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

End Uses						
	SF	MF	COM	IND	IRR	ADJUS
Toilets	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Urinals	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Lavatory Faucets	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Showers	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Dishwashers	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Clothes Washers	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Process	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Kitchen Spray Rinse	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Internal Leakage	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Baths	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Irrigation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Pools	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Wash Down	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Car Washing	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
External Leakage	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Outdoor Other	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Non-Lavatory/Kitchen Faucets	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Cooling	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Comments
 > Utility Cost: The City administers this rebate through CalWEP, total costs are approximately \$190/rebate, and include admin time by CalWEP staff to run this measure.
 > Customer Cost: Based on historical data, remaining cost to customer for purchase and installation is approximately \$1,000 on average per rebate.
 > Admin Cost: No admin time is required from the City, as CalWEP manages the program.
 > End Use Savings: Switching from a washing machines with a medium efficiency level (integrated water factor of 9.5 or greater) to a high efficiency washing machine (IWF of 3.7 or less) represents approximately 35% of water savings for this end use. For MF, there are 3 clothes washers per account (per WUDS), savings are divided by 3 to get savings for replacing 1 clothes washer (11% for MF).
 > Targets: Based on historical data, targeting approximately 50 accounts per year (offering 1 rebate per account).

Costs			
View:	Utility Details		
	Fixture Costs	Admin Costs	Util Total
2025	\$8,908	\$0	\$8,908
2026	\$8,897	\$0	\$8,897
2027	\$8,886	\$0	\$8,886
2028	\$8,874	\$0	\$8,874
2029	\$8,863	\$0	\$8,863
2030	\$0	\$0	\$0
2031	\$0	\$0	\$0
2032	\$0	\$0	\$0
2033	\$0	\$0	\$0
2034	\$0	\$0	\$0
2035	\$0	\$0	\$0
2036	\$0	\$0	\$0
2037	\$0	\$0	\$0
2038	\$0	\$0	\$0
2039	\$0	\$0	\$0
2040	\$0	\$0	\$0
2041	\$0	\$0	\$0
2042	\$0	\$0	\$0
2043	\$0	\$0	\$0
2044	\$0	\$0	\$0
2045	\$0	\$0	\$0
2046	\$0	\$0	\$0
2047	\$0	\$0	\$0
2048	\$0	\$0	\$0
2049	\$0	\$0	\$0
2050	\$0	\$0	\$0

Targets			
View	Accounts		
	SF	MF	Total
2025	33	13	47
2026	33	14	47
2027	33	14	47
2028	33	14	47
2029	33	14	47
2030	0	0	0
2031	0	0	0
2032	0	0	0
2033	0	0	0
2034	0	0	0
2035	0	0	0
2036	0	0	0
2037	0	0	0
2038	0	0	0
2039	0	0	0
2040	0	0	0
2041	0	0	0
2042	0	0	0
2043	0	0	0
2044	0	0	0
2045	0	0	0
2046	0	0	0
2047	0	0	0
2048	0	0	0
2049	0	0	0
2050	0	0	0

Results	
Units	AF
Average Water Savings (afy)	
	0.635263
Lifetime Savings - Present Value (\$)	
Utility	\$14,416
Community	\$56,038
Lifetime Costs - Present Value (\$)	
Utility	\$41,909
Community	\$262,484
Benefit to Cost Ratio	
Utility	0.34
Community	0.21
Cost of Savings per Unit Volume (\$/af)	
Utility	\$2,537

End Use Savings Per Replacement		
Method:	Percent	
	% Savings/Acct	Avg GPD/Acct
SF Clothes Washers	35.0%	17.8
MF Clothes Washers	11.0%	44.4

Targets		
Target Method:	Percentage	
	% of Accts Targeted / yr	0.200%
	Only Effects New Accts	<input type="checkbox"/>

Water Savings	
Units	afy
Total Savings (afy)	
2025	0.306587
2026	0.603215
2027	0.890029
2028	1.167160
2029	1.434725
2030	1.413443
2031	1.393804
2032	1.375690
2033	1.358992
2034	1.343607
2035	1.329442
2036	1.316408
2037	1.042730
2038	0.774849
2039	0.512138
2040	0.254027
2041	0.000000
2042	0.000000
2043	0.000000
2044	0.000000
2045	0.000000
2046	0.000000
2047	0.000000
2048	0.000000
2049	0.000000
2050	0.000000



Schools Education

Overview			
Name	Schools Education		
Abbr	SCHOOL		
Category	Default		
Measure Type	Standard Measure		
Time Period			
First Year	2025		
Last Year	2050		
Measure Length	26		
Measure Life			
Permanent	<input type="checkbox"/>		
Years	3		
Repeat	<input type="checkbox"/>		
Fixture Cost per Device			
	Utility	Customer	Fix/Acct
SF	\$21.00	\$0.50	1
MF	\$21.00	\$0.50	1

Administration Costs	
Method:	Fixed
Annual Admin Costs	\$3,660

Description
 This measure includes the City's school education initiatives: 1) The LivingWise Program wherein 6th grade students receive a kit containing high-efficiency water and energy fixtures to install within their homes. 2) Musical assemblies for K-6 grade students to promote water efficiency and conservation. 3) In-class presentations to K-6 grade students about where our water comes from and how to conserve it. In addition, this measure includes the WaterWise High School Video Contest.

Customer Classes						
	SF	MF	COM	IND	IRR	ADUSF
	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

End Uses						
	SF	MF	COM	IND	IRR	ADUSF
Toilets	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Urinals	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Lavatory Faucets	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Showers	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Dishwashers	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Clothes Washers	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Process	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Kitchen Spray Rinse	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Internal Leakage	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Baths	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Irrigation	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Pools	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Wash Down	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Car Washing	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
External Leakage	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Outdoor Other	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Non-Lavatory/Kitchen Faucets	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Cooling	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Comments
 > Utility Cost: Reflects costs per student for in-class presentation, assembly, and LivingWise kit.
 > Customer Cost: Minimal customer costs as savings expected to be from behavioral changes a fixture upgrades from fixtures included in the kit (free to the customer).
 > Admin Cost: Fixed cost of \$3,660, or 40 hours of staff time from the Analyst II position at the fully burdened rate of \$84/hour.
 > End Use Savings: Assume savings similar to public education, with a focus on savings on end uses with higher user dependence that are more impacted by behavioral changes (2% savings). Assume small additional savings (1%) since school assembly participants might be higher than 6th grade targets for the LivingWise kit and in-class presentations, and since targets for presentations is ~1,000 according to SB. Total savings is ~3%. However, estimate at 1% for MF units since there are 3 dwelling units per account and only targeting 1.
 > Targets: 1,800 students per year for all activities.

Results	
Units	AF
Average Water Savings (afy)	29.573106
Lifetime Savings - Present Value (\$)	
Utility	\$580,794
Community	\$1,146,427
Lifetime Costs - Present Value (\$)	
Utility	\$764,615
Community	\$781,217
Benefit to Cost Ratio	
Utility	0.76
Community	1.47
Cost of Savings per Unit Volume (\$/af)	
Utility	\$994

End Use Savings Per Replacement		
Method:	Percent	
	% Savings/Acct	Avg GPD/Acct
MF Toilets	1.0%	65.1
MF Lavatory Faucets	1.0%	17.8
MF Showers	1.0%	56.0
MF Dishwashers	1.0%	4.8
MF Clothes Washers	1.0%	44.4
MF Internal Leakage	1.0%	34.2
MF Baths	1.0%	5.9
MF Other	1.0%	8.1
MF Irrigation	1.0%	44.9
MF Pools	1.0%	1.1
MF Wash Down	1.0%	2.2
MF Car Washing	1.0%	2.2
MF External Leakage	1.0%	3.8
MF Non-Lavatory/Kitchen Faucets	1.0%	32.8
SF Toilets	3.0%	20.1
SF Lavatory Faucets	3.0%	7.8
SF Showers	3.0%	27.2
SF Dishwashers	3.0%	2.4
SF Clothes Washers	3.0%	17.8
SF Internal Leakage	3.0%	16.6
SF Baths	3.0%	3.6
SF Other	3.0%	7.6
SF Irrigation	3.0%	73.6
SF Pools	3.0%	1.8
SF Wash Down	3.0%	3.5
SF Car Washing	3.0%	3.5
SF External Leakage	3.0%	6.2
SF Non-Lavatory/Kitchen Faucets	3.0%	15.4

Targets	
Target Method:	Percentage
% of Accts Targeted / yr	7.800%
Only Effects New Accts	<input type="checkbox"/>

Costs			
View:	Utility Details		
	Fixture Costs	Admin Costs	Util Total
2025	\$38,400	\$3,660	\$42,060
2026	\$38,350	\$3,660	\$42,010
2027	\$38,301	\$3,660	\$41,961
2028	\$38,252	\$3,660	\$41,912
2029	\$38,202	\$3,660	\$41,862
2030	\$38,153	\$3,660	\$41,813
2031	\$38,103	\$3,660	\$41,763
2032	\$38,053	\$3,660	\$41,713
2033	\$38,003	\$3,660	\$41,663
2034	\$37,952	\$3,660	\$41,612
2035	\$37,902	\$3,660	\$41,562
2036	\$37,852	\$3,660	\$41,512
2037	\$37,801	\$3,660	\$41,461
2038	\$37,750	\$3,660	\$41,410
2039	\$37,699	\$3,660	\$41,359
2040	\$37,648	\$3,660	\$41,308
2041	\$37,630	\$3,660	\$41,290
2042	\$37,612	\$3,660	\$41,272
2043	\$37,594	\$3,660	\$41,254
2044	\$37,576	\$3,660	\$41,236
2045	\$37,558	\$3,660	\$41,218
2046	\$37,540	\$3,660	\$41,200
2047	\$37,522	\$3,660	\$41,182
2048	\$37,504	\$3,660	\$41,164
2049	\$37,486	\$3,660	\$41,146
2050	\$37,468	\$3,660	\$41,128

Targets			
View:	Accounts		
	SF	MF	Total
2025	1,304	525	1,829
2026	1,299	527	1,826
2027	1,295	529	1,824
2028	1,291	531	1,822
2029	1,286	533	1,819
2030	1,282	535	1,817
2031	1,278	537	1,814
2032	1,273	539	1,812
2033	1,269	541	1,810
2034	1,264	543	1,807
2035	1,260	545	1,805
2036	1,256	547	1,802
2037	1,251	549	1,800
2038	1,247	551	1,798
2039	1,242	553	1,795
2040	1,238	555	1,793
2041	1,236	556	1,792
2042	1,235	556	1,791
2043	1,233	557	1,790
2044	1,232	558	1,789
2045	1,230	558	1,788
2046	1,228	559	1,788
2047	1,227	560	1,787
2048	1,225	561	1,786
2049	1,224	561	1,785
2050	1,222	562	1,784

Water Savings	
Units	afy
Total Savings (afy)	
2025	10.976472
2026	21.801142
2027	32.486388
2028	32.248492
2029	32.020943
2030	31.809535
2031	31.613069
2032	31.430511
2033	31.260995
2034	31.103812
2035	30.958410
2036	30.819966
2037	30.687849
2038	30.553393
2039	30.423678
2040	30.299177
2041	30.182907
2042	30.085752
2043	30.007300
2044	29.932575
2045	29.861259
2046	29.793065
2047	29.727731
2048	29.665018
2049	29.604708
2050	29.546602



CII Water Survey

Overview	
Name	CII Water Survey
Abbr	CII_SUR
Category	Default
Measure Type	Standard Measure

Time Period		Measure Life	
First Year	2025	Permanent	<input type="checkbox"/>
Last Year	2050	Years	7
Measure Length	26	Repeat	<input type="checkbox"/>

Fixture Cost per Device			
	Utility	Customer	Fix/Acct
COM	\$250.00	\$100.00	1
IND	\$250.00	\$100.00	1

Administration Costs	
Method:	Fixed
Annual Admin Costs	\$7,000

Description
 City staff will conduct a comprehensive water survey of fixtures and appliances and provide recommendations as to how the customer can become more water efficient and save money. Participation in the survey is a requirement for eligibility in the Customized CII Incentive measure.

Customer Classes						
	SF	MF	COM	IND	IRR	ADUSF
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

End Uses						
	SF	MF	COM	IND	IRR	ADUSF
Toilets	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Urinals	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Lavatory Faucets	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Showers	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Dishwashers	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Clothes Washers	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Process	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Kitchen Spray Rinse	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Internal Leakage	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Baths	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Irrigation	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Pools	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Wash Down	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Car Washing	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
External Leakage	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Outdoor Other	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Non-Lavatory/Kitchen Faucets	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Cooling	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Comments
 > Utility Cost: Assume \$5,000 for MWM support. If there are approximately 20 participants, this is about a \$250 cost per participant.
 > Customer Cost: Assume costs are for fixture upgrades or to repair small leaks, average at \$100.
 > Admin Cost: This measure takes about 5 hours of WR Specialist time (including one hour to coordinate with participants), this is approximately \$350 at the fully burdened rate of \$70/hour. Fixed annual cost is for approximately 20 rebates per year.
 > End Use Savings: Assume savings are from small fixture upgrades on average (5%), irrigation savings from identification of wasteful practices (5%), correction of leaks (5%) and that some customers will achieve higher savings from larger fixture upgrades or optimization of their commercial practices (5%). However, assume these are high user accounts with water use 3-5x the average GPDA, therefore savings are ~20% on indoor end uses, 5% savings for irrigation, and 5% savings for process use.
 > Targets: Based on historical data, there has not been much participation in this measure, assuming additional efforts are undertaken to identify and recruit participants.

Costs			
View:	Utility Details	Admin Costs	Util Total
2025	\$2,377	\$7,000	\$9,377
2026	\$2,440	\$7,000	\$9,440
2027	\$2,503	\$7,000	\$9,503
2028	\$2,566	\$7,000	\$9,566
2029	\$2,629	\$7,000	\$9,629
2030	\$2,692	\$7,000	\$9,692
2031	\$2,755	\$7,000	\$9,755
2032	\$2,818	\$7,000	\$9,818
2033	\$2,881	\$7,000	\$9,881
2034	\$2,944	\$7,000	\$9,944
2035	\$3,007	\$7,000	\$10,007
2036	\$3,070	\$7,000	\$10,070
2037	\$3,133	\$7,000	\$10,133
2038	\$3,196	\$7,000	\$10,196
2039	\$3,259	\$7,000	\$10,259
2040	\$3,322	\$7,000	\$10,322
2041	\$3,385	\$7,000	\$10,385
2042	\$3,448	\$7,000	\$10,448
2043	\$3,511	\$7,000	\$10,511
2044	\$3,574	\$7,000	\$10,574
2045	\$3,637	\$7,000	\$10,637
2046	\$3,700	\$7,000	\$10,700
2047	\$3,763	\$7,000	\$10,763
2048	\$3,826	\$7,000	\$10,826
2049	\$3,889	\$7,000	\$10,889
2050	\$3,952	\$7,000	\$10,952

Targets				
View	Accounts	COM	IND	Total
2025	9	0	0	10
2026	10	0	0	10
2027	10	0	0	10
2028	10	0	0	10
2029	10	0	0	11
2030	11	0	0	11
2031	11	0	0	11
2032	11	0	0	11
2033	11	0	0	11
2034	11	0	0	11
2035	11	0	0	11
2036	11	0	0	12
2037	11	0	0	12
2038	11	0	0	12
2039	12	0	0	12
2040	12	0	0	12
2041	12	0	0	12
2042	12	0	0	12
2043	12	0	0	12
2044	12	0	0	12
2045	12	0	0	12
2046	12	0	0	12
2047	12	0	0	12
2048	12	0	0	12
2049	12	0	0	12
2050	12	0	0	12

Results	
Units	af
Average Water Savings (afy)	3.644430
Lifetime Savings - Present Value (\$)	
Utility	\$68,174
Community	\$215,445
Lifetime Costs - Present Value (\$)	
Utility	\$180,527
Community	\$201,234
Benefit to Cost Ratio	
Utility	0.38
Community	1.07
Cost of Savings per Unit Volume (\$/af)	
Utility	\$1,905

End Use Savings Per Replacement		
Method:	Percent	
	% Savings/Acct	Avg GPD/Acct
COM Lavatory Faucets	20.0%	20.3
IND Lavatory Faucets	20.0%	124.9
COM Showers	20.0%	36.6
IND Showers	20.0%	49.6
COM Dishwashers	20.0%	24.4
IND Dishwashers	20.0%	66.1
COM Process	5.0%	81.3
IND Process	5.0%	495.6
COM Kitchen Spray Rinse	20.0%	20.3
COM Internal Leakage	20.0%	40.7
IND Internal Leakage	20.0%	165.2
COM Irrigation	5.0%	128.8
IND Irrigation	5.0%	758.0
COM External Leakage	20.0%	9.2
IND External Leakage	20.0%	63.2
COM Non-Lavatory/Kitchen Faucets	20.0%	20.3
IND Non-Lavatory/Kitchen Faucets	20.0%	106.4
IND Kitchen Spray Rinse	20.0%	0.0

Targets	
Target Method:	Percentage
% of Accts Targeted / yr	0.340%
Only Effects New Accts	<input type="checkbox"/>

Water Savings	
Units	afy
Total Savings (afy)	
2025	0.504116
2026	1.019353
2027	1.545953
2028	2.084114
2029	2.634083
2030	3.196065
2031	3.770217
2032	3.858564
2033	3.935050
2034	4.001910
2035	4.059247
2036	4.107027
2037	4.145308
2038	4.174260
2039	4.193841
2040	4.213794
2041	4.233960
2042	4.254499
2043	4.275551
2044	4.297039
2045	4.318856
2046	4.340989
2047	4.363456
2048	4.386215
2049	4.409252
2050	4.432463



Overview	
Name	Irrigation Evaluation
Abbr	IRR_EVAL
Category	Default
Measure Type	Standard Measure

Time Period	Measure Life
First Year	2030
Last Year	2050
Measure Length	21
	Permanent <input type="checkbox"/>
	Years 7
	Repeat <input type="checkbox"/>

Fixture Cost per Device			
	Utility	Customer	Fix/Acct
SF	\$800.00	\$250.00	1
MF	\$800.00	\$250.00	1
COM	\$800.00	\$250.00	1
IND	\$800.00	\$250.00	1
IRR	\$800.00	\$250.00	1

Administration Costs	
Method:	Fixed
Annual Admin Costs	\$2,555

Description
All public and private irrigators of large landscapes would be eligible for free landscape water surveys upon request. Normally those with high water use would be targeted and provided a customized report.

Customer Classes					
	SF	MF	COM	IND	IRR
	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

End Uses					
	SF	MF	COM	IND	IRR
Toilets	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Urinals	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Lavatory Faucets	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Showers	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Dishwashers	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Clothes Washers	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Process	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Kitchen Spray Rinse	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Internal Leakage	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Baths	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Other	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Irrigation	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Pools	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Wash Down	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Car Washing	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Outdoor Other	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
External Leakage	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Non-Lavatory/Kitchen Faucets	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Cooling	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

Comments
> Utility Cost: Costs assume program is contracted through a regional partner and includes costs for inspection and administrative time to run the measure (charged by the contractor).
> Admin Cost: Admin costs to run the measure are included in the Utility cost. This admin cost represents the estimate of overall supervisory/management time for the Analyst II position (~20 hours per year at the fully burdened rate of \$84/hour) in addition to 0.25 hours/survey from the WR Specialist position (at the fully burdened rate of \$70/hour)
> End Use Savings: Assume savings are for irrigation and leak corrections, savings range for irrigation upgrades, i.e. for nozzle rebate and drip irrigation rebate are ~15%, with 5% savings for leak corrections. However, assume accounts targeted have water use 3-5x the average GPDA, so savings are ~45% on irrigation and ~15% on leaks.
> Targets: Assume target approximately 50 accounts per year.

Results	
Units	af
Average Water Savings (afy)	
11.053243	
Lifetime Savings - Present Value (\$)	
Utility	\$192,939
Community	\$192,939
Lifetime Costs - Present Value (\$)	
Utility	\$574,646
Community	\$743,302
Benefit to Cost Ratio	
Utility	0.34
Community	0.26
Cost of Savings per Unit Volume (\$/af)	
Utility	\$2,000

End Use Savings Per Replacement		
Method:	Percent	
	% Savings/Acct	Avg GPDA/Acct
SF Irrigation	45.0%	73.6
MF Irrigation	45.0%	44.9
COM Irrigation	45.0%	128.8
IND Irrigation	45.0%	758.0
IRR Irrigation	45.0%	525.3
SF External Leakage	15.0%	6.2
MF External Leakage	15.0%	3.8
COM External Leakage	15.0%	9.2
IND External Leakage	15.0%	63.2
IRR External Leakage	15.0%	27.6

Targets	
Target Method:	Percentage
% of Accts Targeted / yr	0.180%
Only Effects New Accts	<input type="checkbox"/>

Costs			
View:	Utility Details		
	Fixture Costs	Admin Costs	Util Total
2025	\$0	\$0	\$0
2026	\$0	\$0	\$0
2027	\$0	\$0	\$0
2028	\$0	\$0	\$0
2029	\$0	\$0	\$0
2030	\$39,402	\$2,555	\$41,957
2031	\$39,465	\$2,555	\$42,020
2032	\$39,528	\$2,555	\$42,083
2033	\$39,511	\$2,555	\$42,066
2034	\$39,494	\$2,555	\$42,049
2035	\$39,477	\$2,555	\$42,032
2036	\$39,460	\$2,555	\$42,015
2037	\$39,443	\$2,555	\$41,998
2038	\$39,426	\$2,555	\$41,981
2039	\$39,410	\$2,555	\$41,965
2040	\$39,393	\$2,555	\$41,948
2041	\$39,402	\$2,555	\$41,957
2042	\$39,414	\$2,555	\$41,969
2043	\$39,428	\$2,555	\$41,983
2044	\$39,441	\$2,555	\$41,996
2045	\$39,454	\$2,555	\$42,009
2046	\$39,467	\$2,555	\$42,022
2047	\$39,480	\$2,555	\$42,035
2048	\$39,493	\$2,555	\$42,048
2049	\$39,506	\$2,555	\$42,061
2050	\$39,519	\$2,555	\$42,074

Targets							
View	Accounts	SF	MF	COM	IND	IRR	Total
2025	0	0	0	0	0	0	0
2026	0	0	0	0	0	0	0
2027	0	0	0	0	0	0	0
2028	0	0	0	0	0	0	0
2029	0	0	0	0	0	0	0
2030	30	12	6	0	2	49	49
2031	29	12	6	0	2	49	49
2032	29	12	6	0	2	49	49
2033	29	12	6	0	2	49	49
2034	29	13	6	0	2	49	49
2035	29	13	6	0	2	49	49
2036	29	13	6	0	2	49	49
2037	29	13	6	0	2	49	49
2038	29	13	6	0	2	49	49
2039	29	13	6	0	2	49	49
2040	29	13	6	0	2	49	49
2041	29	13	6	0	2	49	49
2042	28	13	6	0	2	49	49
2043	28	13	6	0	2	49	49
2044	28	13	6	0	2	49	49
2045	28	13	6	0	2	49	49
2046	28	13	6	0	2	49	49
2047	28	13	6	0	2	49	49
2048	28	13	6	0	2	49	49
2049	28	13	6	0	2	49	49
2050	28	13	6	0	2	49	49

Water Savings	
Units	afy
Total Savings (afy)	
2025	0.000000
2026	0.000000
2027	0.000000
2028	0.000000
2029	0.000000
2030	2.267382
2031	4.541693
2032	6.822958
2033	9.103955
2034	11.384585
2035	13.664932
2036	15.944934
2037	18.225237
2038	20.505335
2039	22.785247
2040	25.065120
2041	27.3456848
2042	29.6257449
2043	31.9056031
2044	34.1852566
2045	36.4647095
2046	38.7439323
2047	41.0229590
2048	43.3019660
2049	45.5808387
2050	47.8595803



Customized CII Incentive

Overview	
Name	Customized CII Incentive
Abbr	CII_IN
Category	Default
Measure Type	Standard Measure

Time Period		Measure Life	
First Year	2025	Permanent	<input type="checkbox"/>
Last Year	2050	Years	15
Measure Length	26	Repeat	<input type="checkbox"/>

Fixture Cost per Device			
	Utility	Customer	Fix/Acct
COM	\$11,000.00	\$22,000.00	1
IND	\$11,000.00	\$22,000.00	1

Administration Costs	
Method:	Percent
Markup Percentage	1%

Description
 This measure models an incentive program for CII users that will be conducted after analyzing the recommendations on the findings report that is provided through the CII Water Survey measure. The City will review the survey report and determine if the site qualifies for a rebate. Financial incentives will be provided after analyzing the cost benefit ratio of each proposed project. Rebates are tailored to each individual site as each site has varying water savings potential.

Customer Classes						
	SF	MF	COM	IND	IRR	ADUSE
	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

End Uses						
	SF	MF	COM	IND	IRR	ADUSE
Toilets			<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		
Urinals			<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		
Lavatory Faucets			<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		
Showers			<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		
Dishwashers			<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		
Clothes Washers			<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		
Process			<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		
Kitchen Spray Rinse			<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		
Internal Leakage			<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		
Baths						
Other						
Irrigation			<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		
Pools						
Wash Down						
Car Washing						
External Leakage			<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		
Outdoor Other						
Non-Lavatory/Kitchen Faucets			<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		
Cooling						

Comments
 > Utility Cost: Assume average rebate amount is \$11,000 (maximum rebate is \$15,000).
 > Admin Cost: Estimate staff time to run this measure is 1.5 hours of WR Specialist time (at the fully burdened rate of \$70/hour). This is approximately 0.6% of the utility cost.
 > End Use Savings: Assume conservative savings on process use (10%) and 10% savings on other end uses (faucets, irrigation, toilets, urinals, dishwashers). However, assume rebate is only available to very high users with water use 5-10x the average GPDA (such as SB College). Savings are multiplied by 8 to reflect savings for high users.
 > Targets: Assume target approximately 3-5 accounts per year.

Costs			
View:	Utility Details	Admin Costs	Util Total
2025	\$30,756	\$185	\$30,941
2026	\$31,572	\$189	\$31,761
2027	\$32,388	\$194	\$32,582
2028	\$33,204	\$199	\$33,403
2029	\$34,020	\$204	\$34,224
2030	\$34,836	\$209	\$35,045
2031	\$35,651	\$214	\$35,865
2032	\$36,467	\$219	\$36,686
2033	\$36,676	\$220	\$36,896
2034	\$36,884	\$221	\$37,106
2035	\$37,093	\$223	\$37,316
2036	\$37,301	\$224	\$37,525
2037	\$37,510	\$225	\$37,735
2038	\$37,725	\$226	\$37,951
2039	\$37,940	\$228	\$38,167
2040	\$38,154	\$229	\$38,383
2041	\$38,369	\$230	\$38,599
2042	\$38,584	\$232	\$38,815
2043	\$38,805	\$233	\$39,038
2044	\$39,026	\$234	\$39,260
2045	\$39,247	\$235	\$39,482
2046	\$39,468	\$237	\$39,705
2047	\$39,689	\$238	\$39,927
2048	\$39,910	\$239	\$40,150
2049	\$40,132	\$241	\$40,372
2050	\$40,353	\$242	\$40,595

Targets				
View:	Accounts	COM	IND	Total
2025	3	0	0	3
2026	3	0	0	3
2027	3	0	0	3
2028	3	0	0	3
2029	3	0	0	3
2030	3	0	0	3
2031	3	0	0	3
2032	3	0	0	3
2033	3	0	0	3
2034	3	0	0	3
2035	3	0	0	3
2036	3	0	0	3
2037	3	0	0	3
2038	3	0	0	3
2039	3	0	0	3
2040	3	0	0	3
2041	3	0	0	3
2042	3	0	0	4
2043	3	0	0	4
2044	3	0	0	4
2045	4	0	0	4
2046	4	0	0	4
2047	4	0	0	4
2048	4	0	0	4
2049	4	0	0	4
2050	4	0	0	4

Results	
Units	af
Average Water Savings (afy)	14.923864
Lifetime Savings - Present Value (\$)	
Utility	\$266,431
Community	\$665,563
Lifetime Costs - Present Value (\$)	
Utility	\$673,947
Community	\$2,013,801
Benefit to Cost Ratio	
Utility	0.40
Community	0.33
Cost of Savings per Unit Volume (\$/af)	
Utility	\$1,737

End Use Savings Per Replacement		
Method:	Percent	
	% Savings/Acct	Avg GPD/Acct
COM Toilets	80.0%	61.0
IND Toilets	80.0%	247.8
COM Urinals	80.0%	16.3
IND Urinals	80.0%	99.1
COM Lavatory Faucets	80.0%	20.3
IND Lavatory Faucets	80.0%	124.9
COM Showers	80.0%	36.6
IND Showers	80.0%	49.6
COM Dishwashers	80.0%	24.4
IND Dishwashers	80.0%	66.1
COM Clothes Washers	80.0%	61.0
IND Clothes Washers	80.0%	132.1
COM Process	10.0%	81.3
IND Process	10.0%	495.6
COM Kitchen Spray Rinse	80.0%	20.3
COM Internal Leakage	80.0%	40.7
IND Internal Leakage	80.0%	165.2
COM Irrigation	80.0%	128.8
IND Irrigation	80.0%	758.0
COM External Leakage	80.0%	9.2
IND External Leakage	80.0%	63.2
COM Non-Lavatory/Kitchen Faucets	80.0%	20.3
IND Non-Lavatory/Kitchen Faucets	80.0%	106.4

Targets	
Target Method:	Percentage
% of Accts Targeted / yr	0.100%
Only Effects New Accts	<input type="checkbox"/>

Water Savings	
Units	afy
	Total Savings (afy)
2025	1.191291
2026	2.408930
2027	3.653553
2028	4.925339
2029	6.224515
2030	7.551482
2031	8.906442
2032	10.289745
2033	11.674684
2034	13.057340
2035	14.440407
2036	15.827328
2037	17.218665
2038	18.615324
2039	20.017407
2040	20.265927
2041	20.490237
2042	20.693161
2043	20.875413
2044	21.036606
2045	21.176771
2046	21.296010
2047	21.394256
2048	21.494248
2049	21.596003
2050	21.699382



**Restaurant
Spray Nozzles**

Overview	
Name	Restaurant Spray Nozzles
Abbr	SPRY_NOZ
Category	Default
Measure Type	Standard Measure

Time Period		Measure Life	
First Year	2032	Permanent	<input type="checkbox"/>
Last Year	2050	Years	5
Measure Length	19	Repeat	<input type="checkbox"/>

Fixture Cost per Device			
	Utility	Customer	Fix/Acct
COM	\$20.00	\$5.00	2

Administration Costs	
Method:	Fixed
Annual Admin Costs	\$2,930

Description
 Rebate 1.15 gpm (or lower) spray nozzles for the rinse and clean operation in restaurants and other commercial kitchens. Stack with existing SoCalGas rebate
<https://www.socalgas.com/business/savings/equipment-rebates>

Customer Classes						
	SF	MF	COM	IND	IRR	ADUSF
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

End Uses						
	SF	MF	COM	IND	IRR	ADUSF
Toilets	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Urinals	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Lavatory Faucets	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Showers	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Dishwashers	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Clothes Washers	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Process	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Kitchen Spray Rinse	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Internal Leakage	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Baths	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Irrigation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Pools	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Wash Down	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Car Washing	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
External Leakage	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Outdoor Other	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Non-Lavatory/Kitchen Faucets	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Cooling	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Results	
Units	MG
Average Water Savings (mgd)	0.002039
Lifetime Savings - Present Value (\$)	
Utility	\$39,024
Community	\$301,506
Lifetime Costs - Present Value (\$)	
Utility	\$84,090
Community	\$96,337
Benefit to Cost Ratio	
Utility	0.46
Community	3.13
Cost of Savings per Unit Volume (\$/mg)	
Utility	\$4,344

End Use Savings Per Replacement		
Method:	Percent	
	% Savings/Acct	Avg GPD/Acct
COM Kitchen Spray Rinse	30.0%	20.3

Targets		
Target Method:	Percentage	
	% of Accts Targeted / yr	3.000%
Only Effects New Accts	<input type="checkbox"/>	

Comments
 > Utility Cost: City plans to provide \$20 rebate in addition to the Socalgas rebate.
 > Admin Cost: Admin cost is approximately \$12.5/rebate at the fully burdened rate of \$49/hour. An additional \$17/rebate are from overall staff time required from the Analyst II position to oversee the design and implementation of the program. Total costs are ~\$2,930 for the targets.
 > End Use Savings: Assume replacing 1.6gpm or greater spray valve with 1.15gpm or lower spray valve.
 > Targets: Target approximately ~100 accounts per year.

Costs			
View:	Summary		
	Utility	Customer	Total
2025	\$0	\$0	\$0
2026	\$0	\$0	\$0
2027	\$0	\$0	\$0
2028	\$0	\$0	\$0
2029	\$0	\$0	\$0
2030	\$0	\$0	\$0
2031	\$0	\$0	\$0
2032	\$6,835	\$976	\$7,811
2033	\$6,857	\$982	\$7,839
2034	\$6,880	\$987	\$7,867
2035	\$6,902	\$993	\$7,895
2036	\$6,924	\$999	\$7,923
2037	\$6,947	\$1,004	\$7,951
2038	\$6,970	\$1,010	\$7,979
2039	\$6,992	\$1,016	\$8,008
2040	\$7,015	\$1,021	\$8,037
2041	\$7,038	\$1,027	\$8,066
2042	\$7,061	\$1,033	\$8,094
2043	\$7,085	\$1,039	\$8,124
2044	\$7,109	\$1,045	\$8,153
2045	\$7,132	\$1,051	\$8,183
2046	\$7,156	\$1,057	\$8,213
2047	\$7,180	\$1,062	\$8,242
2048	\$7,203	\$1,068	\$8,272
2049	\$7,227	\$1,074	\$8,301
2050	\$7,251	\$1,080	\$8,331

Targets		
View	Accounts	
	COM	Total
2025	0	0
2026	0	0
2027	0	0
2028	0	0
2029	0	0
2030	0	0
2031	0	0
2032	98	98
2033	98	98
2034	99	99
2035	99	99
2036	100	100
2037	100	100
2038	101	101
2039	102	102
2040	102	102
2041	103	103
2042	103	103
2043	104	104
2044	104	104
2045	105	105
2046	106	106
2047	106	106
2048	107	107
2049	107	107
2050	108	108

Water Savings	
Units	mgd
	Total Savings (mgd)
2025	0.000000
2026	0.000000
2027	0.000000
2028	0.000000
2029	0.000000
2030	0.000000
2031	0.000000
2032	0.000596
2033	0.001195
2034	0.001797
2035	0.002403
2036	0.003012
2037	0.003029
2038	0.003046
2039	0.003063
2040	0.003081
2041	0.003098
2042	0.003116
2043	0.003133
2044	0.003151
2045	0.003169
2046	0.003187
2047	0.003205
2048	0.003223
2049	0.003241
2050	0.003259



Regulation Requirements

Overview	
Name	Regulation Requirements
Abbr	REQ
Category	Default
Measure Type	Standard Measure

Time Period		Measure Life	
First Year	2025	Permanent	<input type="checkbox"/>
Last Year	2050	Years	1
Measure Length	26	Repeat	<input type="checkbox"/>

Fixture Cost per Device			
	Utility	Customer	Fix/Acct
SF	\$84.00	\$0.00	1

Administration Costs	
Method:	Percent
Markup Percentage	0%

Description
 This measure captures the staff time requirements to comply with reporting and administration of the Making Conservation a California Way of Life Regulation, SAFER reporting, and AB 1572. No savings are assumed for this measure. Targets reflect staff time hours estimated to complete compliance work on an annual basis.

Customer Classes						
	SF	MF	COM	IND	IRR	ADUSF
	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

End Uses						
	SF	MF	COM	IND	IRR	ADUSF
Toilets	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Urinals	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Lavatory Faucets	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Showers	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Dishwashers	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Clothes Washers	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Process	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Kitchen Spray Rinse	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Internal Leakage	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Baths	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Irrigation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Pools	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Wash Down	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Car Washing	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
External Leakage	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Outdoor Other	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Non-Lavatory/Kitchen Faucets	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Cooling	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Comments
 > Utility cost: this cost reflects the fully burdened rate of the Analyst position, as it is expected this position will be completing the compliance activities captured in this measure.
 > Targets: these estimates reflect the total hours annually for compliance activities (as needed for reporting and administration).

Results	
Units	MG
Average Water Savings (mgd)	
	0.000000
Lifetime Savings - Present Value (\$)	
Utility	\$0
Community	\$0
Lifetime Costs - Present Value (\$)	
Utility	\$444,988
Community	\$444,988
Benefit to Cost Ratio	
Utility	0.00
Community	0.00
Cost of Savings per Unit Volume (\$/mg)	
Utility	\$0

End Use Savings Per Replacement		
Method:	Percent	
	% Savings/Acct	Avg GPD/Acct
SF Other	0.0%	7.6

Targets
 Target Method: Detailed
 Enter Annual Targets Below

Costs			
View:	Summary		
	Utility	Customer	Total
2025	\$23,688	\$0	\$23,688
2026	\$29,568	\$0	\$29,568
2027	\$24,696	\$0	\$24,696
2028	\$23,856	\$0	\$23,856
2029	\$23,856	\$0	\$23,856
2030	\$23,856	\$0	\$23,856
2031	\$23,856	\$0	\$23,856
2032	\$23,856	\$0	\$23,856
2033	\$23,856	\$0	\$23,856
2034	\$23,856	\$0	\$23,856
2035	\$23,856	\$0	\$23,856
2036	\$23,856	\$0	\$23,856
2037	\$23,856	\$0	\$23,856
2038	\$23,856	\$0	\$23,856
2039	\$23,856	\$0	\$23,856
2040	\$23,856	\$0	\$23,856
2041	\$23,856	\$0	\$23,856
2042	\$23,856	\$0	\$23,856
2043	\$23,856	\$0	\$23,856
2044	\$23,856	\$0	\$23,856
2045	\$23,856	\$0	\$23,856
2046	\$23,856	\$0	\$23,856
2047	\$23,856	\$0	\$23,856
2048	\$23,856	\$0	\$23,856
2049	\$23,856	\$0	\$23,856
2050	\$23,856	\$0	\$23,856

Targets		
View	Accounts	
	SF	Total
2025	282	282
2026	352	352
2027	294	294
2028	284	284
2029	284	284
2030	284	284
2031	284	284
2032	284	284
2033	284	284
2034	284	284
2035	284	284
2036	284	284
2037	284	284
2038	284	284
2039	284	284
2040	284	284
2041	284	284
2042	284	284
2043	284	284
2044	284	284
2045	284	284
2046	284	284
2047	284	284
2048	284	284
2049	284	284
2050	284	284

Water Savings	
Units	mgd
	Total Savings (mgd)
2025	0.000000
2026	0.000000
2027	0.000000
2028	0.000000
2029	0.000000
2030	0.000000
2031	0.000000
2032	0.000000
2033	0.000000
2034	0.000000
2035	0.000000
2036	0.000000
2037	0.000000
2038	0.000000
2039	0.000000
2040	0.000000
2041	0.000000
2042	0.000000
2043	0.000000
2044	0.000000
2045	0.000000
2046	0.000000
2047	0.000000
2048	0.000000
2049	0.000000
2050	0.000000

Appendix F – Conservation Analysis Results

This appendix presents benefit and cost analysis results for individual conservation measure and overall conservation programs. Table F-1 presents how much water the measures will save through 2050, how much they will cost, and the cost of saved water per unit volume *if the measures were to be implemented on a stand-alone basis (i.e., without interaction or overlap from other measures that might address the same end use or uses)*. Savings from measures which address the same end use(s) are not additive; the model uses impact factors to avoid double counting in estimating the water savings from programs of measures.¹ This is why a measure like Public Education may show a distorted cost in comparison to water saved. Most, if not all, measures rely on public awareness. However, it is important to note that water savings are more directly attributable to an “active” measure, like a toilet rebate, than the less “active” public education/awareness measure that informs the community of the active measure.

Since interaction between measures has not been accounted for in Table F-1, it is not appropriate to include totals at the bottom of the table. However, the table is useful to give a close approximation of the cost effectiveness of each measure.

Cost categories are defined as follows:

- **Utility Costs** – Costs the City will incur, as a water utility, to operate measure, including administrative costs.
- **Utility Benefits** – The avoided cost of producing water at the identified rate \$1,078/AF. More information about the source of this value can be found in Section 4.3.
- **Customer (Community) Costs** – Those costs customers will incur to implement a measure in the City’s conservation program and maintain its effectiveness over the life of the measure.
- **Customer (Community) Benefits** – The additional savings, such as energy savings resulting from reduced use of hot water. These savings are additional as customers also would have reduced water bills (since the Utility Costs and Benefits transfer to the customers).
- **Community Costs** – Includes Utility Costs plus Customer Costs.
- **Community Benefits** – Includes Utility Benefits plus Customer Benefits.

The column headings in Table F-1 are defined as follows:

- **Present Value (PV) of Utility and Community Costs and Benefits (\$)** – the present value of the 31-year time stream of annual costs or benefits, discounted to the base year.
- **Utility Benefit to Cost Ratio** – PV of Utility Costs divided by PV of Utility Benefits over 26 years.
- **Community Benefit to Cost Ratio** – (PV of Utility Benefits plus PV of customer energy savings) divided by (PV of Utility Costs plus PV of Customer Costs), over 26 years.
- **Five Years of Water Utility Costs (\$)** – sum of annual Utility Costs for 2026-2030. Measures start in the years as specified for each measure shown in Appendix E. Utility costs include administrative costs and staff labor.
- **Water Savings in 2030 (AFY)** – water saved in acre-feet per year.
- **Cost of Savings per Unit Volume (\$/AF)** – PV of Utility Costs over 26 years divided by the 26-year water savings. The analysis period is 2025–2050. This value is compared to the utility’s avoided cost of water as one indicator of the cost effectiveness of conservation efforts. Note that this value somewhat minimizes the cost of savings because program costs are discounted to present value, but water benefits are not.

¹ For example, if two measures are planned to address the same end use and both save 10% of the prior water use, then the net effect is not the simple sum of 20%. Rather, it is the cumulative impact of the first measure reducing the use to 90% of what it was originally, without the first measure in place. Then, the revised use of 90% is reduced by another 10% (10% x 90% = 9%) to result in the use being 81% (90% - 9% = 81%). In this example, the net savings is 19%, not 20%. Using impact factors, the model computes the reduction as follows, $0.9 \times 0.9 = 0.81$ or 19% water savings.

Table F-1. Estimated Conservation Measure Costs and Savings

Measure Name	Present Value of Water Utility Benefits	Present Value of Community Benefits	Present Value of Water Utility Costs	Present Value of Community Costs	Water Utility Benefit to Cost Ratio	Community Benefit to Cost Ratio	Five Years of Water Utility Costs (2026-2030)	Water Savings in 2030 (AFY)	Cost of Savings per Unit Volume (\$/AF)
Commercial									
CII Water Survey	\$68,174	\$215,445	\$180,527	\$201,234	0.38	1.07	\$47,829	3.20	\$1,905
Customized CII Incentive	\$266,431	\$665,563	\$673,947	\$2,013,801	0.40	0.33	\$167,015	7.55	\$1,737
Restaurant Spray Nozzles Rebate	\$39,024	\$301,506	\$84,090	\$96,337	0.46	3.13	0	0.00	\$1,415
Irrigation									
Irrigation Evaluation	\$192,939	\$192,939	\$574,646	\$743,302	0.34	0.26	\$41,957	2.27	\$2,000
Sprinkler to Drip Irrigation Retrofit	\$18,646	\$18,646	\$32,579	\$110,768	0.57	0.17	\$8,710	1.04	\$1,289
Sustainable Lawn Replacement Rebate	\$320,237	\$320,237	\$571,765	\$2,612,430	0.56	0.12	\$276,501	13.56	\$1,249
Spray Sprinklers to Low-Precipitation Sprinklers Retrofit	\$18,906	\$18,906	\$17,918	\$63,555	1.06	0.30	\$4,790	1.06	\$700
Smart Sprinkler Timer Rebate	\$50,633	\$50,633	\$43,056	\$131,670	1.18	0.38	\$11,511	2.84	\$628
Water Efficient Landscape Standards	\$282,278	\$282,278	\$54,046	\$64,993	5.22	4.34	\$14,449	7.08	\$128
Mulch Delivery Rebate	\$16,413	\$16,413	\$86,746	\$116,867	0.19	0.14	\$23,204	0.82	\$4,013
Residential									
Residential Rebates for HECW	\$14,416	\$56,038	\$41,909	\$262,484	0.34	0.21	\$35,519	1.41	\$2,537
Plumber Initiated High Efficiency Toilet Retrofit Program ^E	\$35,534	\$35,534	\$163,124	\$163,124	0.22	0.22	\$19,985	0.33	\$3,019

Measure Name	Present Value of Water Utility Benefits	Present Value of Community Benefits	Present Value of Water Utility Costs	Present Value of Community Costs	Water Utility Benefit to Cost Ratio	Community Benefit to Cost Ratio	Five Years of Water Utility Costs (2026-2030)	Water Savings in 2030 (AFY)	Cost of Savings per Unit Volume (\$/AF)
Community & Education									
School Education	\$580,794	\$1,146,427	\$764,615	\$781,217	0.76	1.47	\$209,558	31.81	\$994
General Public Education	\$258,840	\$258,840	\$2,675,630	\$2,975,012	0.10	0.09	\$715,317	12.97	\$7,868
Green Gardener Program	\$285,017	\$285,017	\$44,146	\$239,619	6.46	1.19	\$12,000	14.55	\$117
Leak Assistance									
AMI Customer Portal and Leak Alerts	\$6,202,262	\$8,356,308	\$2,347,215	\$32,450,004	2.64	0.26	\$627,517	305.66	\$286
Leak Detection Device Rebate	\$129,739	\$179,718	\$118,847	\$264,800	1.09	0.68	\$31,773	7.14	\$674
Leak Repair Rebate ^F	\$199,259	\$324,553	\$347,090	\$533,031	0.57	0.61	\$0	0.00	\$1,147

Additional information about the water reduction methodology, perspectives on benefits and costs, and assumptions about present value parameters and measure costs/savings can be found earlier in this Plan in Appendix D.

The following table shows each conservation program's present value of water savings and utility costs, as well as cost of water saved. See Appendix D for a more detailed explanation of present value.

Table F-2. Comparison of Program Estimated Costs and Water Savings

Conservation Program	Water Utility Present Value of Water Savings	Water Utility Present Value of Utility Costs	Water Utility Cost of Water Saved (\$/AF)
Program A with Plumbing Code	\$8,293,612	\$7,652,947	\$691
Program B with Plumbing Code	\$8,479,360	\$8,163,161	\$719
Program C with Plumbing Code	\$8,695,636	\$8,821,897	\$756

Note: Costs presented in the table above are directly attributable to the City's conservation program only. Present value costs and savings are rounded to the nearest \$1,000.

Appendix G – Regional Water Efficiency Program (RWEF) Annual Report FY2023-2024

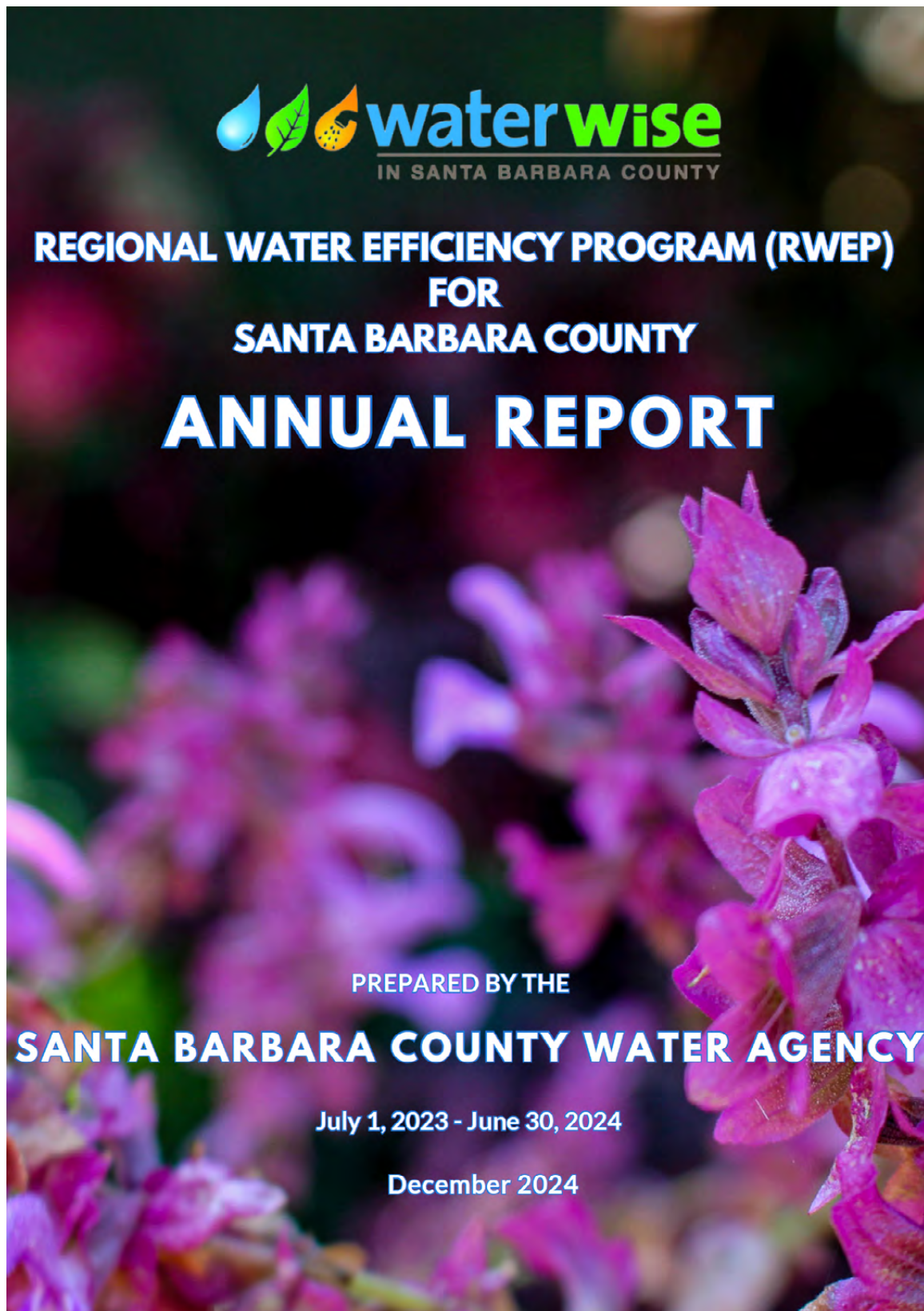


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A photograph of purple flowers with green leaves, serving as a background for the title. The title text is white with a black outline and is centered over the image.

REGIONAL WATER EFFICIENCY PROGRAM OVERVIEW

The Santa Barbara County Water Agency established the Regional Water Efficiency Program (RWEF) of Santa Barbara County in December 1990 in partnership with local water purveyors. RWEF promotes the countywide efficient use of urban and agricultural water supplies, and provides information and assistance to the eighteen local water purveyors within the county, as listed on page 3. Through the RWEF, the Santa Barbara County Water Agency coordinates a collaborative water conservation partnership among purveyors, co-funds projects and programs, acts as a clearing house for information on water use efficiency, manages specific projects and programs, and monitors local, state, and national legislation related to efficient water use.

This annual report provides information on the accomplishments of the RWEF as coordinated by the County. This report does not capture all water conservation activities or accomplishments of each individual water purveyor across the County.

Some local water purveyors, along with the County Water Agency, are required to implement certain Best Management Practices (BMPs) identified by the U.S. Bureau of Reclamation (USBR). This report identifies which RWEF accomplishments relate to specific BMPs that satisfy the USBR's requirement for the County Water Agency, as USBR master contractor for the Cachuma Project, to have a regional water conservation plan as a supplement to individual water purveyors' water conservation and supply plans.

For information on water conservation in Santa Barbara County, please visit the RWEF's website at www.WaterWiseSB.org.

WATER PURVEYORS IN SANTA BARBARA COUNTY

Below is a list of the 18 water purveyors in Santa Barbara County:

BUELLTON, CITY OF
CARPINTERIA VALLEY WATER DISTRICT
CASMALIA COMMUNITY SERVICES DISTRICT*
CUYAMA COMMUNITY SERVICES DISTRICT
GOLETA WATER DISTRICT
GOLDEN STATE WATER COMPANY, ORCUTT
GUADALUPE, CITY OF*
LA CUMBRE MUTUAL WATER COMPANY
LOMPOC, CITY OF*
LOS ALAMOS COMMUNITY SERVICES DISTRICT
MISSION HILLS COMMUNITY SERVICES DISTRICT*
MONTECITO WATER DISTRICT
SANTA BARBARA, CITY OF
SANTA MARIA, CITY OF
SANTA YNEZ RIVER CONSERVATION DISTRICT, ID # 1
SOLVANG, CITY OF
VANDENBERG AIR FORCE BASE*
VANDENBERG VILLAGE COMMUNITY SERVICES DISTRICT

**Not a FY2023-24 RWEF Member*

PUBLIC INFORMATION PROGRAMS

Supporting USBR's Public Information Program BMP #2.1

Continued to promote the WaterWiseSB brand and logo

- Seasonal media campaigns featured our brand (WaterWise in Santa Barbara County), our logo (see cover of this report), and our tagline (Let's Save Together).
- Included the brand/logo on items such as water bottles given to students participating in the High School Video Contest, clipboards and hats given to graduates of the Green Gardener Program, and on all outreach material available to the public.

Informed the Public Through Marketing Campaigns

- WA placed advertisements through TV, digital (including Facebook), streaming, and radio.
- Seasonal Media Campaigns and Ad Placements (both English and Spanish metrics):
 - Summer 2023 media campaign consisted of:
 - TV: "2023 HSVC Winners"
 - June 2023 – September 2023: 7 Stations; 1795 spots
 - Digital and Streaming: "2023 HSVC Winners"
 - July 2023 – September 2023: 1,464 Spots; 58,952 impressions
 - Theatres: "2023 HSVC Winners"
 - August 2023 - September 2023: 7 theatres; 49 screens; 229,985 impressions
 - Fall 2023 - Winter 2024 media campaign consisted of:
 - TV: "Fall Baby Plants"
 - October 2023 – December 2023: 7 Stations; 1565 Spots.
 - Digital and Streaming: "Fall Baby Plants"
 - November 2023 - December 2023: 7 spots; 1,017,862 Impressions
 - Theater: "Fall Baby Plants"
 - December 2023 – January 2024: 9 theaters; 25 screens; 114,504 Impressions
 - Radio: "Fall Baby Plants"
 - November 2023 - December 2023: 3 stations; 244 spots
 - Spring 2024 media campaign consisted of:
 - TV: "It's 4am"
 - May 2024 - June 2024: 6 Stations; 1894 Spots.
 - Digital & Streaming: "It's 4am"
 - May 2024 – June 2024: 1,546 Spots; 87,006 impressions.
 - Radio: "It's 4am"
 - May 2024 – June 2024: 3 Stations; 137 Spots.

PUBLIC INFORMATION PROGRAMS

- Green Gardener Program Ad Placements:
 - 862 Green Gardener radio ads were placed across 6 radio stations in English and Spanish to advertise 4 classes in fall, spring, and summer. Said radio ads also included advertisements that promote the Public List of certified Green Gardeners on GreenGardener.org.
 - A \$150 Facebook ad was also included that had 142 link clicks.
- Media ads were co-funded by most water providers across the County. See list of funding agencies at the end of this report.



A media campaign sample.

Informed Public Through Water Conservation Website: WaterWiseSB.org

- County staff maintained the website to be current and used as a resource to help promote and expand outreach for member agencies. Continually, staff posted needed changes and updates, countywide calendar events, new information, resources, and links.
- Unfortunately, the analytics for the website have still not been working since the GA4 transition. However, there have been several major updates to the website including:
 - A new Videos and Brochures page where all resource materials on the website can be found. Many lead back to a Google Drive that serves as a central place to store materials.
 - (Separate) Consolidation of information on the Sustainable Landscape, Water Facts, Water Supply, and Home Water Efficiency subpages into one page with tabs for easier access to information.
 - Updates to the demonstration garden, field trip, and CRCD pages. Updated the Water % Adjust formula to account for a more accurate county-wide calculation.
 - Creation of a Local Programs and Rebates page and a Water Wise Landscape Transformation Rebate page.
 - Updates to the home page are in progress.

PUBLIC INFORMATION PROGRAMS

Participated in Public Events

- The Santa Barbara Earth Day Festival in Alameda Park in April 2024. The County Water Agency had a booth with resources on WaterWiseSB with a groundwater demonstration, and a native plant/rain barrel raffle.
- In support of Water Awareness Month in May, SBCWA prepared a resolution that the County Board of Supervisors passed on May 2, 2023. Annually, the County WA coordinates a public display in North and South County. This year, the North County location was Joseph Centeno Betteravia Government Administrative Building. The South County display was at the County's Admin Building.
- Provided educational water conservation brochures and handouts for free.
- Provided materials for members to distribute at local community events year-round.

Updated Water Conservation Outreach Material and Brochures

- Distributed brochures and other materials to RWEF partners for distribution to their retail customers.
- New mood pencils, tote bags, and water bottles have been purchased to replace the declining supply.

PUBLIC INFORMATION PROGRAMS

Issued Press Releases

- Periodically issued 5 press releases (5 of the 5 also had Spanish translations) County-wide for RWEPP program announcements:
 - “Carpinteria Resident Wins the WaterWise Garden Recognition Contest” (September 13, 2024).
 - “Video Contest Challenges County High School Students” (December 05, 2023).
 - “Applications are open for 2024 WaterWise Garden Recognition Contest” (March 7, 2024).
 - “Your Vote Counts in the WaterWise High School Video Contest ” (April 19, 2024).
 - “Dos Pueblos High School Wins the 2024 WaterWise High School Video Contest” (May 22, 2024).



Poster board display for Earth Day

LANDSCAPE WATER USE PROGRAMS

Supporting USBR's Landscape BMP #5; and Residential BMP #3.2 for Landscape Water Survey.

Administered USBR Water and Energy Efficiency Grant Project for Regional Landscape Rebate Program

- The SBCWA, on behalf of 7 participating RWEF members, applied for and was awarded a grant from the USBR for a “WaterWise Landscape Rebate Program” in April 2023.
- WA is the lead administrator of the 2-year USBR grant-funded Water-Wise Landscape Rebate program with support from participating RWEF members.
- The project will increase funding to offer rebates to participating water customers who meet eligibility requirements for successful landscape transformations that improve water efficiency and sustainability.
- The SBCWA submitted the first USBR report for the July 2022 - March 2024. This report also included rebates from the application period (July 2022) to when the funds were awarded.

Table 1. Overview of Rebates from July 2022 - March 2024

Districts/ Agency	Number of Rebates	Irrigation Retrofit	Lawn Replacement Sq Ft	Water Wise Plants
Montecito	8	5	20,852	7
Solvang	21	9	46,198	12
Goleta	22	16	29,968	19

LANDSCAPE WATER USE PROGRAMS

Supporting USBR's Landscape BMP #5; and Residential BMP #3.2 for Landscape Water Survey.



A sample of the previous Water-wise Landscape Rebate Program with before and after photos

LANDSCAPE WATER USE PROGRAMS

Garden Recognition Contest

- Six agencies participated in the program this year, including the Montecito Water District, Carpinteria Valley Water District, Santa Ynez River Water, Conservation Improvement District #1, Vandenberg Village Community Services District, and the Cities of Santa Barbara and Buellton.
- WA received a total of 12 applications. One winner from each district was selected. One County winner was selected out of the district winners. The winners for the contest this year were:
 - Natasha Lohmus, Carpinteria Valley Water District, who was awarded the Countywide Grand Prize Winner
 - Barbara and Victor Bartolome, City of Santa Barbara
 - Dale Zurawski, Montecito Water District
 - Len Fleckenstein, City of Buellton
- Winners were presented with an engraved Garden Award boulder to showcase in their garden.
- The County WA promoted the program by creating and distributing a flyer to participating agencies and at public events.
- A Press Release to announce the winners was Issued In September 2024.



Countywide Garden Recognition Contest winner Natasha Lohmus

LANDSCAPE WATER USE PROGRAMS

Water Wise Landscape Maintenance Guidebook

- The County WA in coordination with RWEPP members established a contract with CalWEP as the Project Manager of the Guidebook. WA helped CalWEP select a design consultant to complete the project and coordinated printing shipments to RWEPP members.
- The development and printing of the Guidebook was funded by previous FY Landscape Education program funds already paid by members.
- County WA is working with CalWEP to make a digital copy available online on the website. CalWEP will revisit this topic in early 2025.

Green Gardener Certification Program

- Students received training and certification in sustainable landscaping by completing a 50-hour course at Santa Barbara City College (SBCC) or Allan Hancock College (AHC).
- At SBCC, basic classes in English and Spanish were held during fall, spring, and summer sessions. The Advanced class was held in spring. A vocational ESL class was offered for students to develop English communication skills. In total, there were 63 graduates (8 were advanced graduates).
- The County WA is still working with AHC and local RWEPP members to secure an instructor to teach the class at AHC.
- The Green Gardener Public List of Santa Barbara County was updated and published in September 2023, February 2024, and June 2024 on [GreenGardener.org](https://www.GreenGardener.org). Each updated list was shared with RWEPP members.
- County WA finalized a new and updated curriculum for the Basic and Advanced Student Manuals in English and Spanish. Coordinated peer review of curriculum updates with interested RWEPP members, and related public agencies and industry professionals.
- Presented at Green Gardener class graduations. Organized and delivered student materials and graduation swag.
- WA updated the general flyer design and created four class flyers to share with RWEPP for outreach. They were posted on the website, social media channels, and at local nurseries and irrigation stores.
- Secured an additional \$2,500 from 8 private partner sponsorships from non-RWEPP member sponsors, including the Santa Barbara County Resource Recovery & Waste Management Division, Santa Barbara County Air Pollution Control District, City of Santa Barbara Creeks Division, and Ewing Irrigation.



LANDSCAPE WATER USE PROGRAMS

Produced and Aired Additional Episodes for Garden Wise TV Show

- 1 new episode aired during FY23-24.
 - Episode 28: A Fresh Approach to Front Yards
- Santa Barbara City TV filmed all shows; Aired on County GATV20, SB City TV18, Comcast 23, and Santa Maria public access TV. Episodes are also available for viewing online at WaterWiseSB's YouTube page.
- Co-funded by County, City of Santa Barbara, Goleta WD, and other water providers.



Video still from Garden Wise Episode: "A Fresh Approach to Front Yards"

Website for "Water Wise Gardening for Santa Barbara County"

- Similar to the WaterWiseSB.org website, the data from the WaterWise Gardening Website is limited because of the transition to GA4. Google Analytics transitioned their software to GA4 to capture analytics from real people only and crack down on "robots, spiders, etc.", but the software has had several issues with accurately separating analytics for specific pages.
- Website received 36,477 sessions. The average page views per session was 5 pages, which shows that people are taking time to read through the website. 5 page views per session is considered very good by modern website standards.

Updated Weekly Watering % Adjust

- County WA staff updated the website weekly using data from five out of nine California Irrigation Management Information System (CIMIS) stations across SB County. Due to drought conditions, several CIMIS stations have stopped collecting data over the last few years.
- The Watering % Adjust was updated to be off after significant (>0.25" in 24 hours) rain events.

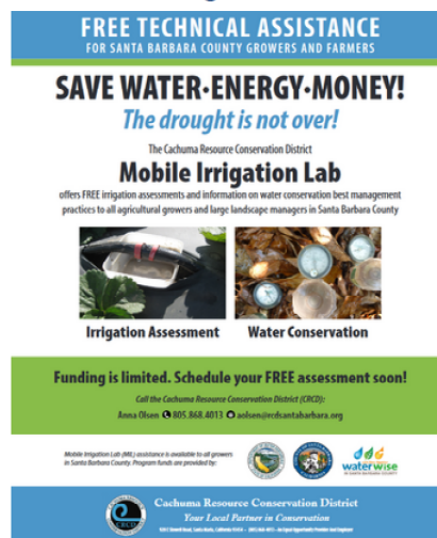
LANDSCAPE WATER USE PROGRAMS

Bilingual Landscaper Text Alerts Program

- Sent weekly messages in English and Spanish including the Watering % Adjust, upcoming events, and other landscaping-related alerts via short message service (SMS) to subscribers.
- Maintained a list of 318 subscribers (228 English and 90 Spanish) and sent 17,960 messages.

Large Landscape Evaluations

- The County WA provided \$100,000 in funding to the Cachuma Resource Conservation District (CRCD) for their Mobile Irrigation Lab Program, which offers free irrigation system audits to local farmers and turf irrigators.
- This year, CRCD conducted 13 irrigation system evaluations covering 218 irrigated acres. Areas impacted by irrigation evaluations include Buellton, Cuyama, Lompoc, Los Alamos, Los Olivos, Santa Marla, Sisquoc, and Solvang.
- DU values ranged from 0.64 (below average for agricultural systems) to 0.95 (above average for agricultural systems); the average DU was 0.83 with the industry standard of 0.85.
- Performed field visits for over 155 hours of field visits and 78 hours of irrigation auditing. Individual growers for one-on-one training with an emphasis on nitrate leaching and the importance of irrigation management. One-on-one trainings were conducted in Spanish. The CRCD gave a radio interview on irrigation management on a Spanish-language radio station.
- Implemented improvements could have potentially saved 47.85 ac-in/ac annually with an average percent water saving of 12.6%.



A sample flyer for the CRCD Mobile Irrigation Lab services

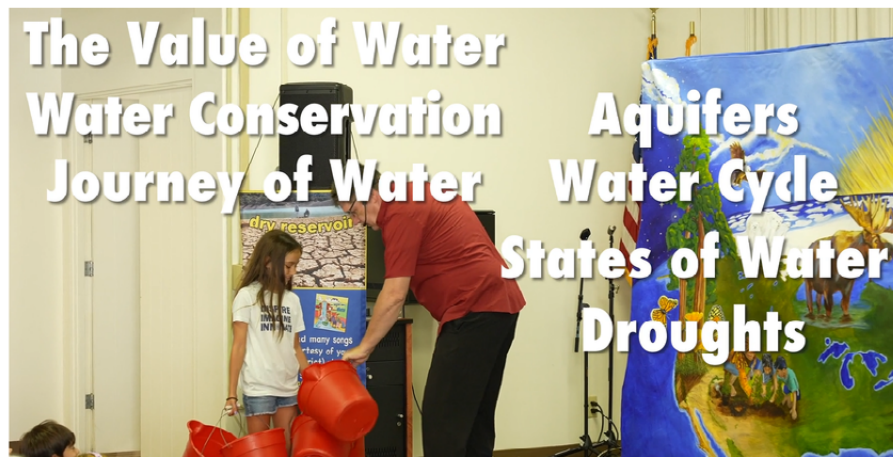
LANDSCAPE WATER USE PROGRAMS

A Summary of Agricultural Irrigation Evaluations Conducted in Santa Barbara County			
July 1, 2023 through June 30, 2024			
Area	Crop	DU - System	Acres
Buellton	Vineyard	0.75,0.85,0.85 - drip	29
Lompoc	Vineyard	0.92,0.0.72 - drip	53
Santa Ynez	Vineyard	0.74 - drip	8
Buellton	Vineyard	0.88,0.79,0.90 - drip	18
Santa Maria	Peppers	0.81 - drip	4.5
Santa Maria	Strawberries	0.83 - drip	2
Los Alamos	Vineyard	0.78 - drip	13
Santa Maria	Vineyard	0.93, 0.95 - drip	5.5
Santa Maria	Vineyard	0.77 - drip	20
Sisquoc	Vineyard	0.91 - drip	22
Cuyama	Vineyard	0.83 - drip	24.54
Solvang	Vineyard	0.74 - drip	1.5
Santa Maria	Sweet Peas	0.64 - drip	17

YOUTH EDUCATION PROGRAMS

School Assembly Presentations on Water Conservation

- The County WA partnered with local water purveyors to co-fund water education assembly-style presentations at elementary schools.
- The County WA issued a contract (with "Shows That Teach") for an engaging musical-comedy-educational show about the value of water & water conservation. Both virtual and in-person performances are available.
- In total, 6 water purveyors participated in Shows That Teach performances. Performances were given at 13 schools and reached 3262 students.
- The County WA also coordinated a weekend Earth Day Festival performance sponsored by the County WA, Goleta Water District, City of Santa Barbara, and Montecito Water District.



Shot from "H2O, Where Did You Go?" Performance

High Schools Competed in the 2023 WaterWise High School Video Contest

- The County WA updated the contest flyer, emailed flyers to schools, and digitized student contest materials that were posted on the website.
- The contest received 14 video submissions by 32 students from 4 different schools countywide for potential use as 30-second Public Service Announcements on water conservation.
- The County WA secured \$1,900 of in-kind donations from 5 sponsors for student prizes. The featured prizes donated by the private sector companies were provided to the student-winning teams:
 - First Place, "An Animated Journey for a WaterWise Garden" by Dos Pueblos High School. The school received \$1,000, students won a \$500 prize provided by Carollo Engineers.
 - First Place (Spanish), "Ahorra el Agua en tu Jardín" by San Marcos High School. The school received \$1,000, and the students won a \$500 prize provided by La Buena - 105.1 FM.

YOUTH EDUCATION PROGRAMS

- Second Place, “3 Tips for a Water Wise Garden” by Santa Barbara Senior High School. The school received \$500, and the students received a \$250 prize provided by Geosyntec consultants.
- Third Place, “Corra the Cactus” by Santa Ynez Valley Union High School. The school received \$300, and students received a \$150 prize provided by Ewing Irrigation.
- People’s Choice Award: “Be a Water Wise Gardener” by Dos Pueblos High School received 180 likes on the WaterWiseSB YouTube channel. The school received \$500, and the students received a \$500 prize provided by Dudek.
- Students and schools received awarded trophies and certificates. The schools included: Dos Pueblos High School, Santa Barbara Senior High School, Santa Ynez Valley Union High School, and San Marcos High School.
- The student video submissions were posted on the WaterWiseSB [YouTube](#) Channel and on www.WaterWiseSB.org.
- The Teacher Questionnaire was updated and sent out to teachers who participated in this contest and to teachers who participated previously.



*Video still from 2024 High School Video Contest
First Place video "An Animated Journey for a WaterWise Garden"*

YOUTH EDUCATION PROGRAMS



Photo collage of video stills from 2024 High School Video Contest Submissions

COMMERCIAL AND INSTITUTIONAL PROGRAMS

Supporting USBR's Commercial, Industrial, and Institutional BMP #4

Participated in the County's Green Business Program

- The County WA served as a representative on the GBP Steering Committee and attended 6 bi-monthly meetings.
- Though the staff usually assists with the program's Green Business Network Celebration, due to a loss of state funding, the GBP program was on hiatus for part of FY23-24 and the networking event did not happen. The event and program are expected to continue uninterrupted in future years.
- For FY23-24, there was a total of 33 certified Green Businesses, 22 new certifications, 9 recertified, and 4 businesses at the Innovator level.
- County WA and RRWMD are currently recertified, both reaching innovator status. County WA is also assisting with efforts to certify additional county buildings.



County WA Table stationed at the Green Business Program Celebration Event

INFORMATION ON UTILITY OPERATIONS

Supporting USBR's Utility Operations BMP #1.3 for metering rates; and BMP #1.4 for retail conservation pricing

Reported on Regional Water Rates

- The County WA compiled water rate information from 18 local water purveyors across Santa Barbara County and produced a 2024 *Water Rates Summary Report*.
- The report was shared amongst purveyors countywide and posted online under "About Us" at www.WaterWiseSB.org.
- All local purveyors cooperated; staffed and created by County WA.

Compiled Regional Water Production Data

- The County WA compiled local water purveyors' annual water production data for 2023 and produced a 2023 *Water Use in Santa Barbara County Report*.
- The Report was shared amongst purveyors countywide and posted online under "About Us" at www.WaterWiseSB.org.
- All local purveyors cooperated; staffed and managed by County WA.
- County WA recently included energy tracking within the survey to collect information on local water system intensity for regional climate sustainability planning and future grant opportunities.

Water Use in Santa Barbara County 2023 Report														
Agency	Population Served*	Types of Metered Water Deliveries				Per-Capita Water Use*** Gallons/Person/Day		Number of Connections by Type						
		Agriculture (AFY)	Recycled Water (AFY)	Wholesale (AFY)	M&I** Water (AFY)	(a) Based on Total M&I	(b) Based only on Residential Water	Single Family	Multi-Residential	Commercial Institutional	Industrial	Landscape	Agriculture	Other (ie. Fire, Hydrant Meters, Recycled Water, etc.)
City of Buellton	5,140	0	0	0	955	166	94	1,162	412	187	47	24	0	0
Carpinteria Valley WD	15,996	1,622	0	21	1,616	90	62	3,275	359	289	58	67	383	134
Casmalia CSD	150	0	0	0	9	53	45	52	0	4	0	0	0	0
Cuyama CSD	763	0	0	0	143	168	100	212	0	22	0	20	0	0
Golden State Water Co.	34,102	0	0	0	4,693	123	101	11,402	160	362	4	74	0	82
Goleta Water District	84,462	1,822	620	189	6,866	73	50	13,359	1,875	962	0	307	166	435
City of Guadalupe	8,897	0	0	0	853	86	48	2,285	11	112	0	44	0	7
La Cumbre Mutual WC	4,900	0	0	0	871	159	159	1,429	30	0	0	0	0	10
City of Lompoc	40,473	0	0	0	3,348	74	52	8,222	753	720	5	142	0	46
Los Alamos CSD	1,464	0	0	0	238	145	110	466	88	32	0	17	0	12
Mission Hills CSD	3,600	0	0	0	447	111	100	1,299	0	11	0	2	0	0
Montecito Water Dist	11,962	205	0	0	3,193	238	198	4,282	66	263	0	0	42	0
City of Santa Barbara	98,872	81	627	1,409	8,444	76	55	16,732	7,121	2,733	51	830	68	124
City of Santa Maria	109,910	0	0	1,138	10,818	88	55	19,207	870	1,858	95	634	0	324
Santa Ynez RWCD-ID#1	7,022	1,211	0	0	1,853	236	188	1,983	0	177	0	0	379	207
City of Solvang	6,126	0	0	0	1,088	159	107	1,732	76	202	19	77	0	0
Vandenberg SFB	18,000	0	0	0	2,472	123	18	1,006	0	53	0	5	0	0
Vandenberg Village CSD	7,308	0	0	0	1,031	126	98	2,430	55	68	0	17	0	9

AFY= Acre-feet per year

* Population as reported by water purveyor

** M&I (Municipal, Commercial, Institutional & Industrial) refers to all urban use, not including recycled water, agricultural irrigation or wholesale sales.

1 acre-foot=325,851 gallons.

*** Per Capita Use is shown as (a) total M&I water divided by population and (b) Single & Multi-Family Residential use divided by population. Lot size and landscape water usage are major factors affecting Gallons/Person/Day

COORDINATION OF REGIONAL WATER EFFICIENCY PROGRAM

Supporting USBR's Utility Operations BMP #1.1 for a Water Conservation Coordinator

Coordinated Bi-Monthly RWEF Meetings

- For program coordination, information sharing, vetting ideas, etc.
- The County WA scheduled and facilitated all meetings, including preparing agenda drafts for feedback, meeting materials, and circulating meeting notes. The County WA also maintained a video conferencing contract to hold virtual meetings.
- The County WA coordinated and conducted 5 meetings, one of which was in person at the City of Santa Barbara.

Coordinated Quarterly RWEF Sub-Committee Meetings: Website & Education

- For program coordination, planning, and discussion of education and website specific programs. Vet ideas through sub-committee members to present to monthly RWEF meetings.
- Coordinated additional meetings with interested RWEF members for the HSVC group judging session, Green Gardener curriculum developments and general program updates, WEGG grant project, etc.
- The WA coordinated 4 education website committee meetings each for a total of 8 committee meetings. The WA is also coordinating the formal formation of a landscaping committee for FY24-25.

Coordinated Joint-Meetings with Outside Water Conservation Agencies

- Meetings useful for program coordination, information sharing, networking, vetting ideas, etc.
- Due to scheduling conflicts, there were no joint-RWEF meetings with either SLO or Ventura this fiscal year. However, a Ventura meeting is planned for October 2024.

REGIONAL PROGRAMS AND PROJECTS CO-FUNDED BY LOCAL WATER PROVIDERS FY2023-24*

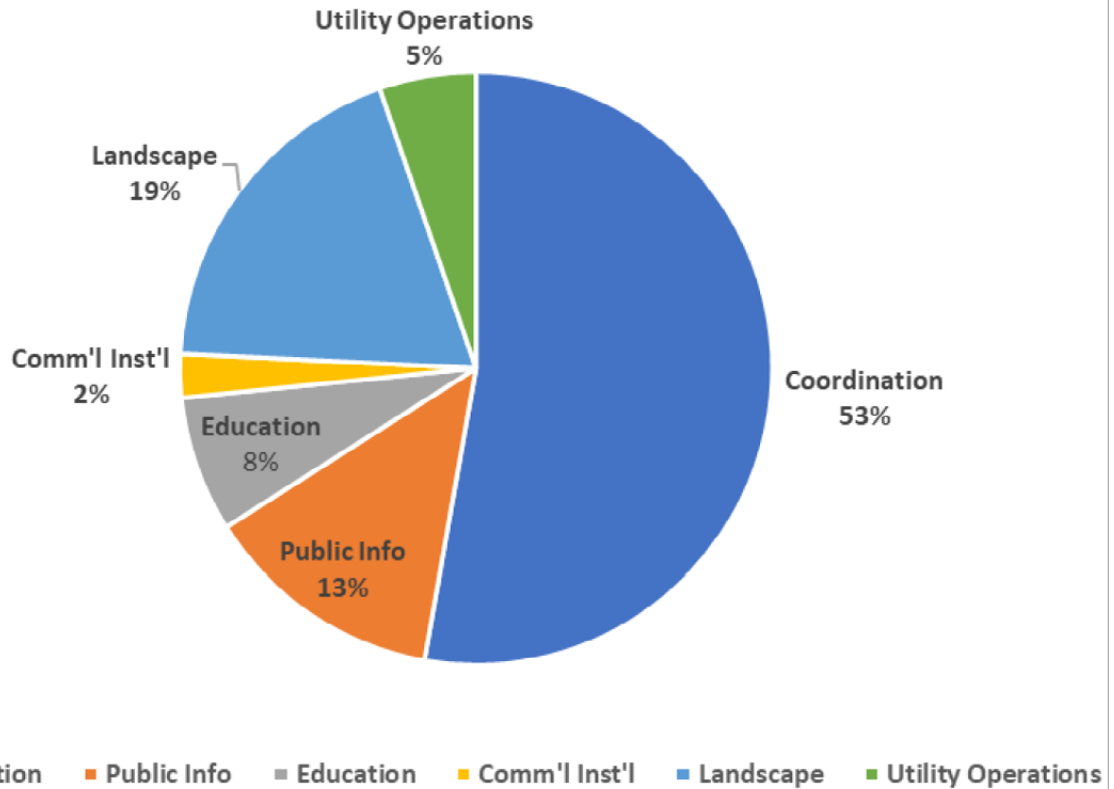
	Media	Youth Education	Websites	Green Gardener	Garden Wise Show
Buellton	✓	✓	✓	✓	✓
Carpinteria Valley Water District	✓	✓	✓	✓	✓
Cuyama CSD	✓	✓	✓		
Golden State Water Company	✓	✓	✓	✓	✓
Goleta Water District**	✓	✓	✓	✓	✓
La Cumbre Mutual Water Company	✓	✓	✓	✓	✓
Los Alamos CSD	✓	✓	✓		
Mission Hills CSD	✓	✓	✓		
Montecito Water District	✓	✓	✓	✓	✓
City of Santa Barbara**	✓	✓	✓	✓	✓
City of Santa Maria	✓	✓	✓	✓	✓
Santa Ynez River WCD ID #1	✓	✓	✓	✓	✓
City of Solvang	✓	✓	✓	✓	✓
Vandenberg Village CSD	✓	✓	✓		✓

*Many water purveyors have water conservation programs separate from regional projects listed here

**The City of Santa Barbara and Goleta Water District help to co-fund the GardenWise TV Show outside of RWEP funds. The City of Santa Barbara also provides additional staff time and supplemental materials for the Green Gardener program.

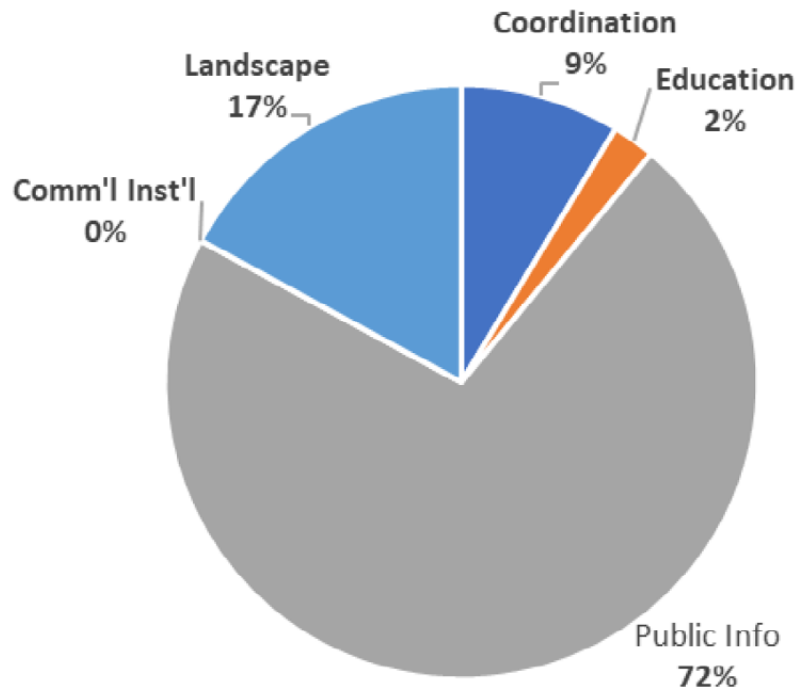
ALLOCATION OF WATER AGENCY STAFF TIME FOR RWEF IN FY2023-24

Below lists the total labor hours worked by County Water Agency staff on RWEF.



ALLOCATION OF RWEF FUNDS IN FY2023-24

Below lists the percentage of total funds spent on RWEF programs and projects by category. The total includes County Water Agency funds and the contributions from RWEF members for FY2023-24. Total funds used excludes County staff time.



Appendix H – Outreach Examples

H.1 Social Media Examples

"Let the rain do the work!" Landscape Campaign



H.2 Online Example

City of Santa Barbara's Water Wise Landscaping "Tree Watering" Web Page



How to Water Trees

A BRIEF GUIDE TO PROTECTING TREES THROUGH RESPONSIBLE WATER USE

Trees in climates like Santa Barbara's should be watered occasionally even in years when we're getting enough rain—but during times of low rainfall, they need our help more than ever.

Tips for Tree Watering

WATER AT THE BEST TIME OF DAY

Water in the evening or very early morning. This allows water to soak into the soil before the daytime sun speeds evaporation.

USE MULCH TO KEEP WATER IN THE SOIL

Adding a layer of mulch insulates and feeds the tree's roots. Make the layer 4–6 inches thick, and extend it out as far as the tree's drip line—but keep it 2 inches away from the trunk to prevent rot.

ACCOUNT FOR AGE/SPECIES

Trees of different ages and species have varying watering needs. See the box below for more information.

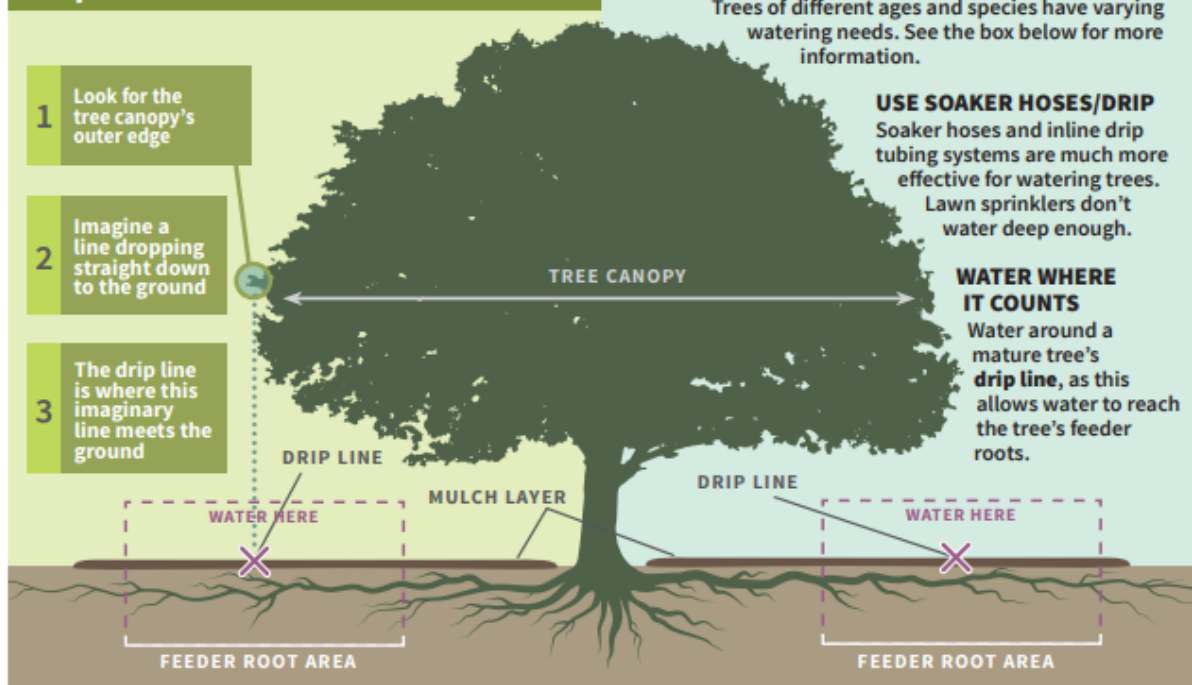
USE SOAKER HOSES/DRIP

Soaker hoses and inline drip tubing systems are much more effective for watering trees. Lawn sprinklers don't water deep enough.

WATER WHERE IT COUNTS

Water around a mature tree's **drip line**, as this allows water to reach the tree's feeder roots.

How to find a tree's drip line



A tree's age makes a difference!

MATURE TREES

1. Water once a month.
2. Water enough to soak the ground to 18 inches deep.
3. Use a pressure regulated soaker hose or drip tubing with a timer to water. See SantaBarbaraCA.gov/TreeWatering for more information.

YOUNG TREES (UP TO 3 YEARS)

1. Water once a week.
2. Use about 15–20 gallons each time you water.
3. Make a basin with a 3–5 inch ring-shaped mound in the ground around the tree; use a hose to fill the basin slowly.

Source: City of Santa Barbara Tree Watering web page.

Plant in fall for spring color.

Leonotis leonurus
Lion's Tail

Saving water never looked so good. Click **here** to find the perfect plant.

EASY ON THE EYES WATERWISE.

Lawn be gone.

Take your water efficiency to the next level by replacing your water-thirsty lawn with water wise plants.

- **\$2 /square foot** of eligible lawn replaced.
- Single family homes and small multi-unit homes: **\$1,500 maximum** rebate.
- Commercial and large multi-unit homes: **\$2,500 per meter** serving irrigation, maximum of \$5,000 per property.
- **Additional \$3 /square foot** & increased maximum rebate to replace your lawn with a rain garden!

Rebate amount is based upon square footage of lawn removed. Projects must be approved in advance.



APPLY FOR A REBATE NOW. SCAN FOR MORE INFO.



SantaBarbaraCA.gov/LawnRebate

