Sustainability Plan Progress Report

Goleta Water District Sustainability Plan

2017-2018

GOLETA WATER DISTRICT

District Mission

To provide a reliable supply of quality water at the most reasonable cost to the present and future customers within the Goleta Water District.

ACKNOWLEDGEMENTS

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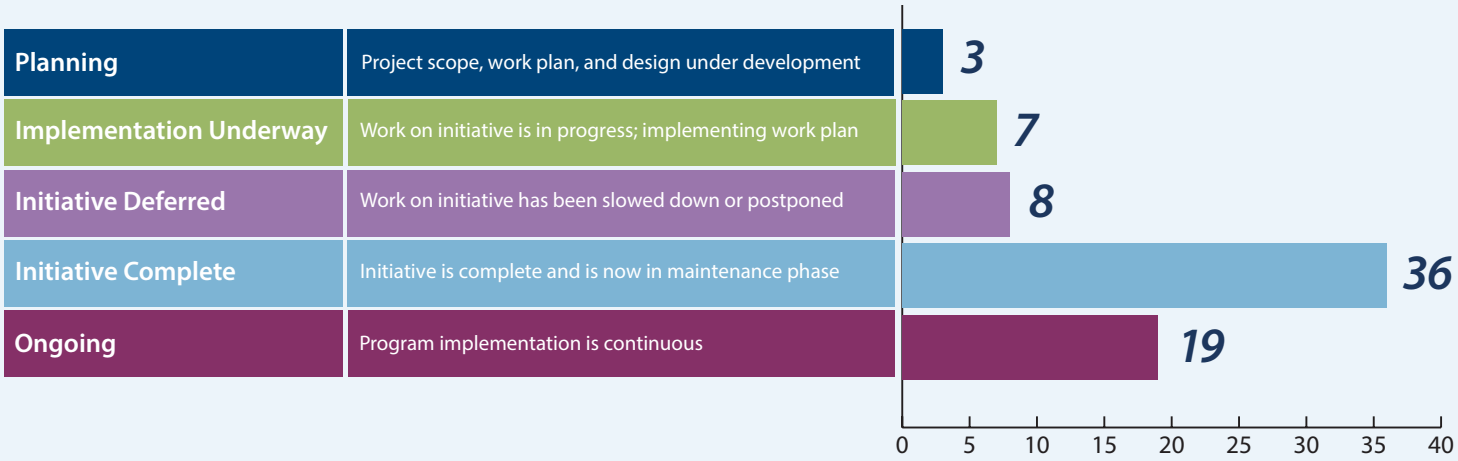
***Sustainability** is commonly defined as the responsible management of economic, environmental and social resources to meet the needs of present and future generations.*

Initiative Implementation Progress Status Overview

The bar graph below provides a snapshot of the 73 Goleta Water District Sustainability Plan initiatives in each stage of progress.*



*A comprehensive list of the initiatives that have been included in the 2012-2017 Sustainability Plan and their relative status is provided on page 26.

INTRODUCTION

Finding Balance

Balancing the competing needs and priorities of the District requires a keen focus on the present and a forward-thinking vision of the future. It means making the right investments at the right time while anticipating how future events may affect the District's ability to serve the community. Some of the challenges ahead include: changing water quality conditions at Lake Cachuma as a result of a severely burned watershed; reduced water supplies from a pending State Water Rights Order and Federal Biological Opinion; the need to recharge the Goleta Groundwater Basin after the historic drought ends; and aging infrastructure that is nearing or past its expected life.

Each of these challenges will present its own unique hurdles. Water quality conditions will likely require changes in operations and investment in additional treatment technologies. Changes in the reliability of our water supply will require the District to rebalance our supply portfolio and could even lead to the need to develop new supplies. Emerging State and Federal regulations, in conjunction with what we have learned from the current drought, mean that investment in the groundwater basin will remain critical in the decade ahead. The costs related to meeting these challenges must be balanced together with routine operating expenditures and capital planning needs.

To that end, the Sustainability Plan allows us to take a step back and view District activities from a perspective that balances the economic, environmental and social benefits of each of the District's planned investments. The plan broadly seeks to offset cost and mitigate risk over time, both of which are essential to ensure the District continues to fulfill its mission to present and future customers.

Plan Organization

Every year, the District reflects on how its past initiatives, current management efforts, and planned future activities produce sustainable outcomes. By evaluating the actual and projected benefits through the lens of sustainability, the District can adapt or adjust its efforts as needed to align with its overarching Guiding Principles. This Sustainability Plan Progress Report is organized into four sections:

- ***Introduction*** reflects back on the District's implementation of the Sustainability Plan, including highlights of sustainable outcomes from initiatives and activities implemented over the last year.
- ***Guiding Principles*** describes how the three original Guiding Principles have taken on new meaning in a changing service delivery environment, and identifies District strategies for producing outcomes consistent with the Principles going forward.
- ***Strategic Investment Across the District*** illustrates how District initiatives produce sustainable benefits, including annual performance highlights from previously established initiatives, and "new" initiatives planned or underway. This section is organized under three district service delivery categories:

    1. **Customer Service and Business Operations**
    2. **Administration Buildings and Fleet Management**
    3. **Water Supply, Treatment, and Distribution System Investment**

- ***Progress at a Glance*** provides a summary of all District Sustainability initiatives, organized by service delivery category, as well as the Guiding Principle(s) with which initiative outcomes align (i.e., economic, environment, social).

Annual Highlights At A Glance

Maintaining Water Quality. Despite changing surface water conditions resulting from prolonged drought conditions and recent fires in the watershed, the water treatment process and additional measures put in place by the District continued to produce quality water for the community. Nearly 150,000 water quality tests were conducted throughout 270 miles of the distribution system for disinfection performance monitoring, bacteria monitoring, and compliance with State and Federal regulations.

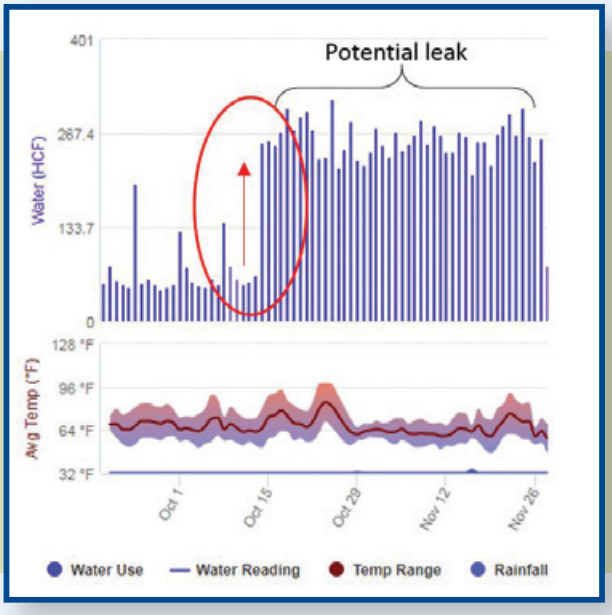
Aging Infrastructure. Having provided water service to the community for nearly 75 years, much of the District's infrastructure is nearing or past its expected life. As infrastructure ages, the risk it could fail increases. The aging Cachuma Project infrastructure, including Bradbury Dam, the Tecolote Tunnel, and the South Coast Conduit, vital to deliver surface water to the Goleta Valley and southern Santa Barbara County, present additional challenges for the Cachuma Member Agencies, including the District. Balancing investment while minimizing risk requires proactive planning, and the District has initiated several planning activities to assess infrastructure and prepare for the next Five Year Infrastructure Improvement Plan.

Conservation Leaders. District customers remain among the thriftiest water users state-wide. Demand in the 2017/18 fiscal year was 25% below normal, with residential users averaging 54 gallons per person per day. This is 40% lower than the state-wide average, and 23% lower than the Central Coast average! In fact, Goleta residents use less than half of the 110 gallons per person standard set by the State for indoor and outdoor usage. These conservation levels are significant given that the District started the drought with already low per-person use. In the Goleta Valley conservation is way of life.

2017 to 2018 Activities

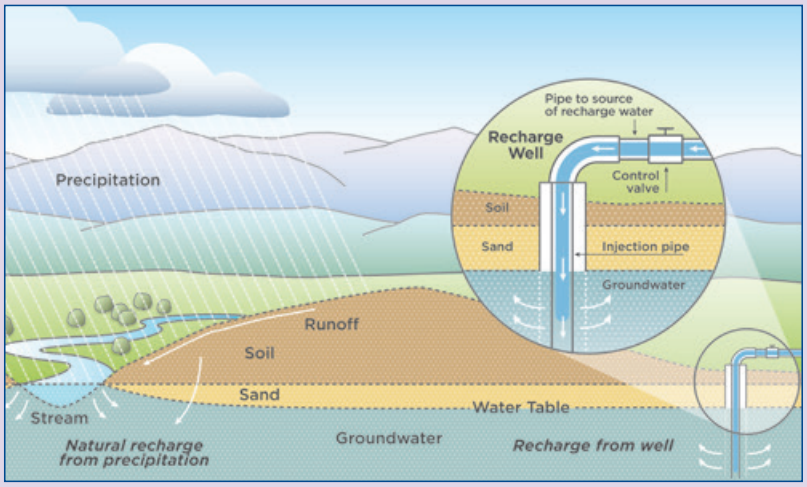
Minimizing Water Loss. The District was selected to present its exemplary Water Loss Control Program at the **2018 National Conference of the American Water Works Association (AWWA).** Founded in 1881, the Association is the largest organization of water supply professionals in the world (www.AWWA.org). The conference, which is held annually and attended by water purveyors from all over the country, is intended to connect the water sector with innovative solutions and new insights to help solve global water challenges. The success of the District's water loss program, which has been vital to conserving water supplies for the community, has earned national recognition through the AWWA. For more information on the program itself, refer to page 20 of this report.

American Water Works Association



Maximizing Water Savings. The District's advanced metering infrastructure helps identify large leaks for high volume customers, resulting in real water savings. The program uses real-time data to generate an automated list of abnormal usage patterns, which is typically indicative of a leak. This program serves as an invaluable tool for other District programs, including the Customer Scorecard Program (discussed on page 14) and the Water Loss Control Program (highlighted above), to reduce system-wide water usage. The program has resulted in targeted phone calls to customers, yielding a total estimated water savings of 19.7 acre feet, or .58 acre feet (190,000 gallons) saved per call. This translates to a combined customer cost savings of approximately $72,100, or $2,100 per customer contacted!

Aquifer Recharge Program. The groundwater basin takes many years to recharge naturally, particularly during periods of drought. District wells are specially retrofitted to be used as dual purpose injection-extraction wells that allow the District to put water into the groundwater basin. This "Aquifer Storage and Recovery (ASR) Program," initiated in the late 1970s, injects excess Cachuma water into the basin during wet years and stores it for use during dry years when surface water supplies are limited, allowing for more efficient use of both surface and groundwater supplies. The District's recently updated Groundwater Management Plan provides a framework for expanding the existing ASR Program, including construction of additional injection wells and exploring alternative water sources for injection.



Guiding Principles

The District's Sustainability Guiding Principles (developed in 2012) still provide the foundation for actions: a sustainable service delivery model that balances economic, environmental and social principles. The Guiding Principles remain a central component of upholding the District's mission to provide safe, reliable, affordable water supplies for current and future customers. That said, the service delivery environment in which the District operates today is considerably different than it was when the first Sustainability Plan was developed in 2012, giving new meaning to each of the Guiding Principles. Severe drought, regulatory changes that threaten to alter long-term water supply reliability, and an aging distribution system have tested what it means to be a sustainable water provider. The District is faced with new challenges and opportunities, and the key initiatives that put the Guiding Principles into action will help the District continue to achieve outcomes that provide economic, environmental, and social benefits to the District and its customers.

Economic Principle

Enhanced value creation and service reliability for District customers

The District's water service delivery and daily decision-making will consider sustainable approaches that create value for District customers now and into the future. Strategic infrastructure investments, cost effective business operations, and water supply management can help ensure the highest level of reliable service for District customers.

Environmental Principle

Resource stewardship, adaptability, independence, and emergency preparedness

The District will position itself for greater independence and emergency preparedness by reducing reliance on external business inputs including electricity, natural gas, and petrol, while simultaneously increasing reliance on locally controlled sources of water. Even with climate change, these actions will help protect the District from impacts associated with weather variability and other externalities.

Social Principle

Healthy Communities and productive work environments

As a provider of a lifeline resource, the District will support healthy communities through the provision of quality water to the public and a governance structure that supports civic involvement and public transparency. Additionally, daily actions and work environments will consider the enhancement, productivity and safety of the District workforce while making positive contributions to the well-being of the community in which it operates.

How it Works

Strategies for producing outcomes consistent with the Economic Guiding Principle include:

- Create pathways for alternative revenue sources and funding streams.
- Maintain, rehabilitate and improve infrastructure and processes at the CDMWTP.
- Maintain investment in the groundwater basin and well infrastructure.
- Mitigate water supply risks, preserve potable supplies, and seek out alternative sources of local water supplies.
- Implement programs that minimize water loss, maximize accounting of water use, and keep pace with technological advances.

Strategies for producing outcomes consistent with the Environmental Guiding Principle include:

- Maintain, replace, and improve the efficiency of the District's water distribution system and mechanical equipment.
- Improve the sustainability of the District fleet and heavy equipment.
- Minimize the environmental impacts of District administrative operations through employee education, building retrofits, and other property improvements.
- Explore and invest in renewable energy installations including solar and hydropower.
- Ensure the District's preparedness for natural disasters and other unplanned emergencies.

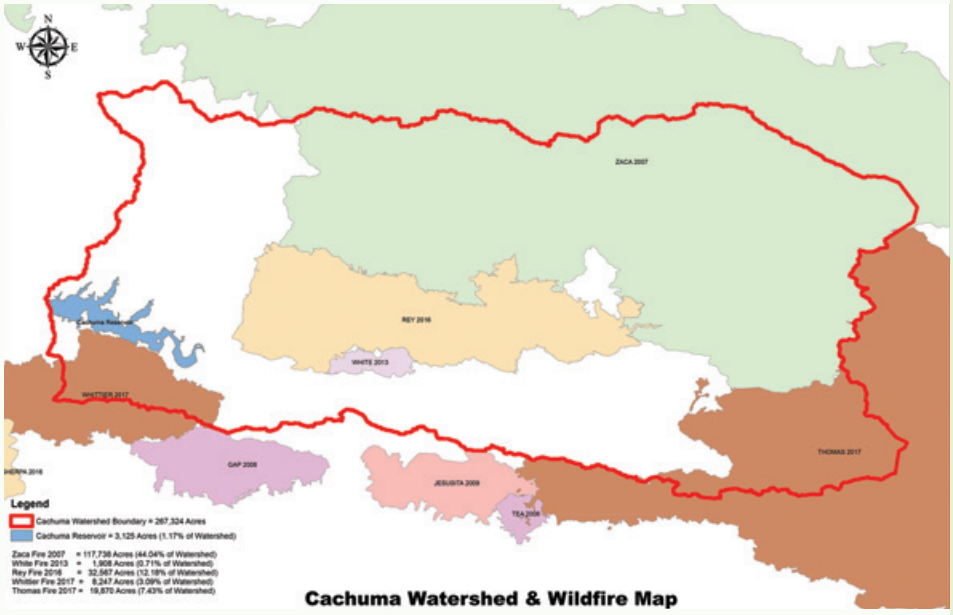
Strategies for producing outcomes consistent with the Social Guiding Principle include:

- Improve community education and public engagement.
- Implement a suite of rebate and incentive programs to promote water conservation by District customers.
- Enhance the safety, wellbeing, and productivity of the District workforce.
- Ensure the ongoing delivery of safe, clean water supplies to protect the health and safety of the community.
- Continuously enhance customer service and provide customers with convenient ways to interact with the District.

A Focus on Water Quality

Water Quantity Versus Water Quality

As a result of the Rey Fire in 2016, and the Whittier and Thomas Fires in 2017, the region is now grappling with not only a water shortage, but challenging water quality conditions at the lake. The Rey and Whittier fires burned directly in the Cachuma watershed, scorching trees and brush that had grown in the dry lake bed and leaving the soil vulnerable to erosion. Airborne ash from the Thomas fire deposited additional layers of fine silt onto the soil and into Lake Cachuma and Gibralter Reservoir, which feeds the lake. Even with below average rainfall last winter, run-off from the steep slopes has carried debris into the lake, and as this organic material is submerged it breaks down, increasing particulate matter and presenting water treatment challenges. The effects of these fires on water quality are likely to persist for years as evidence of the previous Zaca Fire is still detectable at the lake ten years later. As the drought stretches into its 8th year, the South Coast finds itself hoping for rain, but also worrying about what those storms will do to water quality.



Cachuma Watershed & Wildfire Map

In the last 2 years 70% of the Lake Cachuma watershed has burned. Ash and charred vegetation have led to higher sediment levels in the water making treatment more difficult and costly.

Complicating matters is the fact that Cachuma acts not only as a reservoir for surface water, but also serves as the conveyance facility to deliver State Water and any supplemental purchased water to the region. That means that water quality impacts will extend to alternative water supply sources as well, limiting the ability of water providers to switch supply sources.

The Whittier Fire in 2017 burned in the watershed adjacent to the intake tower that feeds water to the South Coast through the Tecolote Tunnel.

Taking Action

To address these challenges, the District has modified its operations and treatment protocols, and shifted its infrastructure investments accordingly. The current Infrastructure Improvement Plan and Annual Budget prioritize continued investment in new technology, mechanical replacement, and system upgrades that will produce optimum water quality, efficient operations, and reliable water supplies. This proactive planning is critical to supporting sustainable water service to the community in a changing service delivery environment.

Strategic Investment Across the District

Key Initiatives

Meeting short-term production targets and long-term sustainability goals requires strategically balanced investment in all areas of District service delivery. As a water provider, an obvious focus and investment priority is the **water supply, treatment, and distribution system** that delivers water to over 87,000 people in the Goleta Valley. In addition to water supplies, smart investments are made across all categories of District operations, from its daily **business operations and customer service** to the long-term maintenance of its **administration buildings and fleet** of vehicles and heavy equipment. The pages that follow provide summaries of initiatives the District is undertaking that fit within the framework of the Sustainability Plan, as well as notable outcomes from existing initiatives that align with the Guiding Principles. Looking ahead, new projects will provide improvements needed to meet new regulatory requirements, while offering economic benefits in the form of reduced energy costs, minimizing impacts to natural resources, and supporting a healthy community.

Customer Service and Business Operations

Incorporating sustainability into everyday operations, policy development, and decision-making presents opportunities to reduce costs and inefficiencies, streamline operations, increase revenue, and seek out new resources.

The following summaries highlight the sustainable ***outcomes*** associated with District customer service and business operations activities, organized by the central project ***benefits*** that are consistent with the Sustainability Guiding Principles.

Annual Performance Highlights

Improved community education and public engagement.

- Produced two videos that focus on easy outdoor conservation tips and an overview of the District's water supply portfolio. The videos were developed in-house using existing resources. Subsequent episodes are currently being developed, and will provide more in-depth coverage of each specific water supply source. These videos are intended to help the community understand where their water comes from, how the drought has influenced these resources, and the criticality of continued conservation. (Initiative 1.25)
- To ensure a continued broad reach of District Drought Outreach, Spanish language resources were organized into a central resource page on the website. The easy-to-access web page includes information on conservation while also addressing the most common questions received by customer service staff. New Spanish language materials are also available in the District's customer service lobby, and for distribution at community events. (Initiative 1.20)
- Provided drought and conservation related presentations at local schools reaching more than 500 students over the course of the year.
- Made over 2,840 visits to customer premises to investigate water-related issues.
- Responded to over 540 after-hours service calls to investigate various issues within the water systems to minimize service interruptions.
- Made various presentations to several community groups and events including:
    - UCSB Community Forums on Water Reuse Opportunities
    - UCSB guest lectures and participation in the Sustainability Summit
    - Santa Barbara Home and Garden Expo
    - Landscape Professional Workshops
    - League of Women Voters and Maravilla Senior Community

Created pathways for alternative revenue sources and funding streams.

- In close coordination with the Cachuma Resource Conservation District (CRCD), completed an Agricultural Water Efficiency Action Plan that provides a 10-year action plan to further reduce water needed for agricultural irrigation. The plan will also help position the region for future funding opportunities to achieve greater on-farm water use efficiency. (Initiative 1.23)
- Received grant funding for the third consecutive year to support the Employee Wellness Program.
- Developed several solar power concepts at the Corona Del Mar Water Treatment Plant related to canopy covers over sedimentation and flocculation basins, which would improve water quality by preventing algae growth, while also producing revenue generated by solar panels that could be installed on the canopies. (Initiative 2.2)

Customer Service and Business Operations

Implemented incentive programs to promote water conservation by GWD customers.

The implementation of conservation incentive programs continues as the drought persists, helping customers save water and money. (Initiative 1.24) Annual highlights include:

- Issued 124 rebates totaling approximately $83,000 under the Smart Landscape Rebate Program, which produces a 30% average annual water savings per participant.
- Issued 2 rebates totaling approximately $11,110 under the Water Saving Incentive Program, which is expected to save 37 AF (1.2 million gallons) per year.
- Continued to implement the Mulch Rebate program, issuing 112 rebates for the cost of purchasing and deliver mulch to customer properties to maximize landscape water use efficiency.

Enhanced the safety, wellbeing, and productivity of the GWD workforce.

- Continued to implement a grant-funded Employee Wellness Program that includes monthly newsletters, subsidies for pedometers, healthy snacks, and monthly prizes for employees who meet their fitness goals. Program participation increased by 10% in FY 2017/18, bringing total participation to 32% of the workforce. Participants are meeting goals that include making healthier food choices, losing weight, and being more active. (Initiative 1.25)
- Administered staff training courses related to workforce safety, including over 500 hours of safety compliance training. (Initiative 1.5)

Implemented programs that maximize operational efficiency and keep pace with technological advances.

The District continued to improve and integrate its technology and software programs. Use of the latest technology produces operational savings by allowing employees to work at a high rate of productivity and efficiency, while ensuring the accurate maintenance of facility records, billing, and customer information vital to operation of the District water system and customer service. (Initiative 1.8) Improvements included:

- Successfully launched a new project accounting program that integrates project-related expenditures into the District's existing accounting system, allowing for real-time visibility of expenses and immediate access to project-related reporting.
- Upgraded the District's electronic payroll system to improve the efficiency of recordkeeping and timecard management tools.
- Completed the system interface between the District's Data Warehouse and its GIS database, which automatically exchanges and updates data fields between the two systems on a nightly basis, eliminating duplicative data entry and streamlining staff access to data.

The District provides continuous customer service around the clock. Last year alone, District staff made over 2,840 visits to customer's premises and over 540 after-hours calls to investigate various water-related issues and customer service requests.

Customer Service and Business Operations

Featured Initiative

Customer Scorecard Program

The Customer Scorecard Program was created as a component of the District's Drought Outreach Plan (Initiative 1.20) to connect large-volume water users across all customer classes with District rebate and conservation programs to maximize water conservation. Originally launched in 2015, the program was developed to be a flexible tool for outreach to customers, using targeted letters, postcards, and phone calls. Last year, the District began using real-time automated meter reading data through its Advanced Metering Infrastructure (AMI) Program combined with its billing system to identify specific customers for conservation outreach. In addition to utilizing new tools, the program has shifted from primarily written outreach to courtesy calls to customers with uncharacteristic water use patterns. Customers are offered complimentary water check-ups for assistance finding suspected leaks, and are connected with rebate and conservation programs offered through the District. This approach has increased the speed with which outreach occurs and streamlined the process for both staff and customers.

During the initial pilot testing of these new tools the program yielded an estimated water savings of 19.7 AF, which equates to 0.58 AF (190,000 gallons) saved per call. Notifying customers of abnormally high use has also resulted in fewer leak adjustment submittals because leaks are addressed quickly. These changes are anticipated to result in continued water savings related to leaks and overuse as conservation staff are able to identify issues more quickly and account for seasonal variations in water use patterns while assisting customers with specific issues.

The Scorecard Program will continue to employ a multi-touch approach that aims to reach high water-using customers with calls, postcards, and online resources. Staff will continue to track and analyze responses for use in adjusting outreach in subsequent months.

Sustainable Outcomes and Benefits:

The program connects large-volume water users with rebate and conservation programs offered through the District, as well as complimentary water check-ups for assistance finding suspected leaks. The goal is to provide them with resources and incentives to conserve water and save money.

Addressing water leaks and waste through this program has helped minimize water losses and conserve water for the community and the natural environment.

The new outreach approach has streamlined the program while enhancing customer service through direct phone calls and providing customers with a single point of contact at the District.

Looking Ahead

Continuously enhance customer service and convenience of interacting with the District.

A **Web Self-Service Program –** This project will develop a variety of internet-based customer service tools. The program will enable customers to initiate simple service requests, and also facilitate increased use of the District's electronic billing ("e-billing") system. Once implemented, customers can reduce calls and trips to the office to make account changes, handle customer move-in and move-out services, or request a leak adjustment. The new feature is expected to launch in early 2019.

Anticipated Outcomes and Benefits: The project will enhance customer service and convenience. Internally, workflow efficiency is estimated to increase up to 50% by eliminating certain service-related manual activities, thereby increasing staff productivity.

Ensure the District's preparedness for natural disasters and other unplanned emergencies.

Hazard Mitigation Plan – The District is developing a Hazard Mitigation Plan that will provide a framework to reduce the District's vulnerability to the impacts of natural and man-made hazard events such as earthquakes, flooding, and fires. The Plan will identify the types of hazards that threaten the Goleta Valley, evaluate the District's vulnerability to those threats, and outline a strategy to reduce or eliminate risk to District facilities and water resources.

Anticipated Outcomes and Benefits: In an environment of increased externalities beyond the District's control, the District is taking proactive measures to prevent or mitigate potential hazards to water resources. Ultimately, the Plan will help prevent reactive responses to emergencies, while also positioning the District for potential grant funding to implement hazard mitigation activities and offset associated costs to the District and its customers.

Minimize the potential environmental impacts of District infrastructure and operations.

Recycled Water Slough Crossing Alternative Design Study – This study will determine design alternatives for a segment of the District's recycled water main that crosses through the estuarine habitat of the Goleta Slough. The pipeline, built in the early 1990s, and through which all recycled water deliveries are conveyed, was damaged during a recent bridge construction project to Goleta Beach, leaving it vulnerable to failure. When the District is unable to deliver recycled water to its customers, potable water must be used as a substitute to maintain landscapes. Repair of the damaged facility is likely not feasible, so the District will explore alternative options for reconstructing the pipeline in a cost-effective manner, in concert with planning for implementation of an existing Initiative (3.6 Goleta Beach Recycled Waterline Relocation) to adapt to changing environmental conditions and protect District infrastructure from natural beach erosion.

Anticipated Outcomes and Benefits: Taking proactive measures to protect and improve the District's recycled water distribution system will ensure the viability of this supply source, while also making the pipeline more resilient to erosion and increased storm activity associated with climate change.

Ongoing activities associated with existing initiatives that are scheduled for the year ahead include:

Improved community education and engagement

Informing Customers About Water (Initiative 1.25), includes the production of three new videos that provide more in-depth coverage of each of the District's water supply sources. Once completed, the videos will be posted on the District website for easy customer access.

Administration Buildings and Fleet Management

Incorporating sustainability considerations into District investments and initiatives increases the financial predictability of operating and maintaining District-owned buildings, facilities, and heavy equipment.

The following summaries highlight the sustainable ***outcomes*** associated with District administration buildings and fleet management operations activities, organized by the central project ***benefits*** that are consistent with the Sustainability Guiding Principles.

Annual Performance Highlights

Preserved potable water supplies.

- Delivered 45,814 gallons of hauled recycled water, an increase of 215% over the previous year, to customers through the District's Recycled Water Hauling Program. These deliveries conserved potable water that would have otherwise been used for irrigation and construction activities.

Explored renewable energy (solar) installations at District facilities.

In the spring of 2018 the District completed a solar feasibility analysis (Initiative 2.2) that was previously delayed due to prioritization of water supply and conservation projects related to the declaration of a Stage II and subsequent Stage III Water Shortage Emergency in 2015. The analysis evaluated solar power options, cost estimates, economic feasibility, and qualitative analysis of other benefits and potential hurdles, for several solar generation project options throughout District facilities. Multiple solar power options for both the District's CDMWTP and Headquarters were identified:

- A solar trellis project at the District Headquarters (Initiative 2.10) would generate solar energy, provide shade cooling, extend vehicle and equipment service life, and prevent oils and grease and sediment from washing off vehicles and entering storm water runoff.
- Solar panels mounted on the south-facing roofs of the District's administrative, engineering, and warehouse buildings could generate an estimated 113,500 kWh of energy equal to 71% of the Headquarters' annual energy demand.
- Solar panels were reviewed for various facilities around the CDMWTP property. Ground-mounted solar panels could generate enough power to offset 98% of the CDMWTP's average annual energy demand.
- A solar panel canopy over the sedimentation basins at the CDMWTP could generate up to 99% of the facility's current electricity usage while reducing treatment costs associated with algae growth and treatment chemical evaporation. Canopies would provide shade and coverage of the basins, reducing sunlight and water temperatures, and maintaining a more consistent water quality.

The estimated costs associated with each project will need to be evaluated prior to implementation.

Energy produced by solar panels mounted at the District's San Ricardo Well helps offset the electricity needed to pump groundwater from the well.

Administration Buildings and Fleet Management

Enhanced the safety, wellbeing, and productivity of the GWD workforce.

- Completed a crew quarters remodeling project at the CDMWTP, enhancing the living area for Water Treatment Plant Operators required to stay overnight to monitor and respond to emergencies.

- The District replaced three older fleet trucks with new, more fuel efficient models under the District's Fleet Replacement Program (initiative 2.5). Vehicles that are approximately 10 years old or have reached 100,000 miles are prioritized for replacement to ensure vehicle dependability for daily use. While the trucks are not yet available in electric or hybrid engine models, the new vehicles are more fuel efficient, reducing fuel usage and related costs, as well as producing fewer emissions (quantifiable performance data will be available in fiscal year 2018/19). Enhanced safety features ensure worker safety, and new device integration features turn vehicles into mobile offices, increasing employee productivity and efficiency.

Minimized the negative environmental impacts of District properties

- Completed Phase II of Storm Water Improvements (Initiative 2.13) to the District operations yard, including performing extensive oil-spot cleaning of pavement, placing oil and sediment-absorbent wattles throughout the yard to filter storm water runoff, and implementing a monthly street sweeping regimen. These improvements reduced the amount of potential sediment runoff into storm drains and neighboring creeks by 95% compared to the previous year, helping protect local water quality. Notably, these improvements prevented the expenditure of up to $400,000 budgeted for potential storm water runoff mitigation projects that may have otherwise been necessary absent implementation of the above measures.

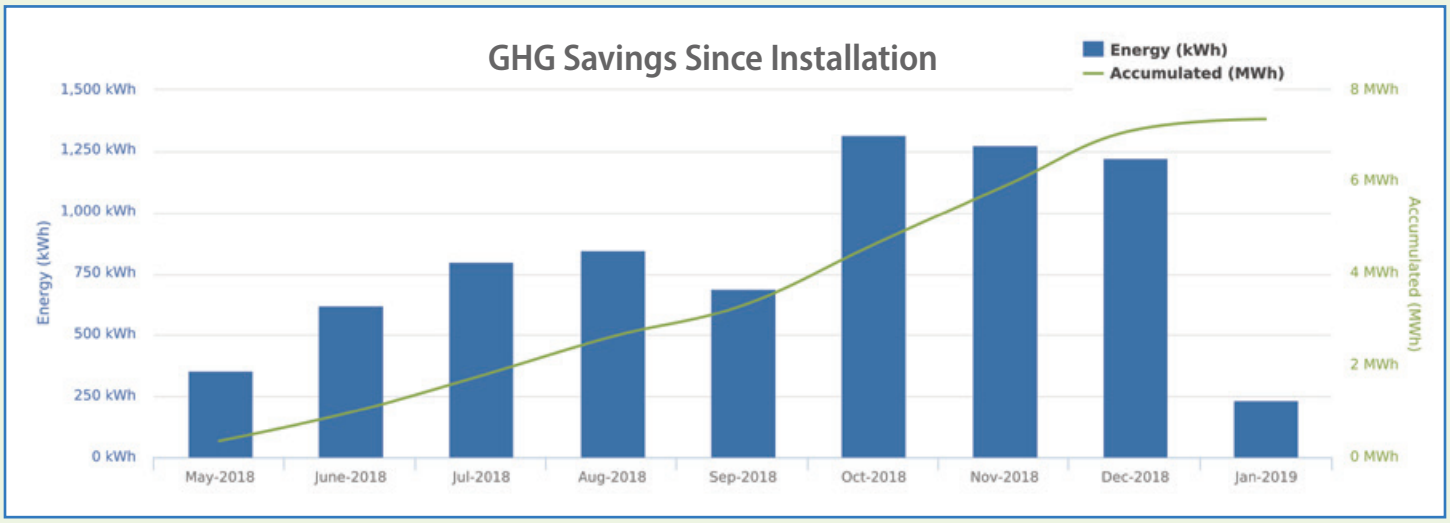
- Completed a conditions assessment of all District roofs to proactively identify any necessary repairs and plan for replacements where appropriate. The assessment can also be used to determine which buildings may be suitable for rooftop solar installations.

Featured Initiative

Vehicle Charging Station

A Vehicle Charging Station (Initiative 2.16) was installed in the District parking lot in May 2018, with grant funding from the Air Pollution Control District. The project demonstrates the District's environmental leadership while aligning with the Sustainability Plan Guiding Principles. This project supports the acquisition of electric vehicles under the District's Fleet Replacement Program, while also providing the community with access to an electric vehicle charging station.

Workers are 20 times more likely to buy an electric vehicle if their employer offers free charging at work, according to a survey conducted by the Dept. of Energy. Six percent of District staff own electric vehicles, up from 3% prior to the installation of the charging station. This is higher than the national average of 2.1%. (Department of Energy)



Sustainable Outcomes and Benefits:

Electric vehicle charging stations support the District's acquisition of electric vehicles under its Fleet Replacement Program, which will lower fuel costs, reducing the District's overall operating costs. A grant secured by the District from the Air Pollution Control District helped offset a portion of the project cost.

Since it was installed in May 2018, the charging station is responsible for avoiding 3,000 kg of greenhouse gas emissions. This is equivalent to planting 79 trees and letting them grow for 10 years! Replacing standard engine vehicles with electric vehicles also reduces dependence on foreign oil and minimizes the District's carbon footprint.

Free charging incentivizes staff to buy an electric vehicle. The station also serves the community after business hours and on weekends and holidays. Since installation, the charging station has experienced 696 charging sessions by 60 unique users.

Administration Buildings and Fleet Management

Looking Ahead

Given the ongoing need to focus District investments on water supplies and the distribution system, there has been a corresponding decrease in building and fleet-related investments. However, recognizing the various operational improvements associated with Initiatives in this category, the District will continue prioritizing projects that significantly reduce operating costs, generate revenue, upgrade critical infrastructure, or comply with new regulations.

Ongoing activities associated with existing initiatives that are scheduled for the year ahead include:

Improve the sustainability of the GWD fleet and heavy equipment

The District is installing two dual-port electric **Vehicle Charging Stations** (Initiative 2.15) in the Operations Yard for use by District fleet and employee vehicles. Combined, the new stations will have the ability to charge four vehicles at a time, avoiding an estimated 7,700 kg of greenhouse gas emissions.

Minimize negative environmental impacts of District Properties

The **Fleet Replacement Program** (Initiative 2.5) will incorporate up to three new electric/hybrid vehicles into the District's fleet, reducing fuel usage and associated costs, and lowering greenhouse gas emissions that would otherwise be generated from standard engine fleet vehicles.

Water Supply, Treatment, and Distribution System

Initiatives in this category support the core mission of the District, and are particularly critical during the drought. Comprehensive infrastructure planning and investment ensure the ongoing reliability of the distribution and treatment systems. Investment in sustainable infrastructure that is resource efficient, cost effective, replicates natural hydrology, and can adapt to a changing climate and other conditions provides multiple benefits to the District and its customers.

Annual Performance Highlights

Implement programs that minimize water loss, maximize accounting of water use, and keep pace with modern technology.

Activities undertaken as part of the District's nationally recognized Water Loss Control Program include rehabilitating and replacing water mains, installing additional valves to manage system pressure, and proactively upgrading large customer meters that account for 53% of total potable demand. These activities limit operational water losses, detect sources of water leakage, and prevent unauthorized uses of water. In 2017 alone, the District had a 45% reduction in pipeline breaks and leaks compared to 2015. The program has been vital to conserving water for the community and reducing water loss-related costs during the historic drought that is now entering its eighth year.

- Continued conditions assessment for the District's entire distribution system to prevent corrosion of over 125 miles of steel pipelines and identify problems early. This program is vital to maintaining the District's aging distribution system and providing uninterrupted service to customers, while minimizing the potential for catastrophic water loss and costly repairs from corrosion damage. (Initiative 3.8)

Maintain, replace, and improve efficiency of water distribution system and mechanical equipment.

Commenced construction of the Patterson Booster Pump Station improvements. The pump was designed initially for limited use during emergencies. Improvements to this and other booster stations through the distribution system will include replacing pumps, adding redundant components, and upgrading the electrical systems to handle continuous operations. Once the Patterson booster station is completed, it will be capable of moving large volumes of groundwater across the distribution system and serving customers at higher elevations, thereby increasing the reliability of water service to District customers. (Initiative 3.29)

Minimized the environmental impacts of District infrastructure through investments to the recycled water distribution system.

Completed replacement of aged recycled water pipelines embedded in two bridges within the District service area, preventing potential pipeline failure that could have resulted in loss of recycled water service and potential environmental damage if water leaked into nearby creeks.

Maintain, rehabilitate and improve infrastructure and processes at the CDMWTP.

Continued infrastructure improvements at the CDMWTP, including completing the first phase of the removal of excess sediment in the CDMWTP intake structures and lines. This sedimentation resulted from the low flow conditions experienced over the last few years due to reduced demand during drought, and the increased use of groundwater. (Initiative 3.15)

Ensure ongoing reliable delivery of water to protect the health and safety of the community.

Enhanced fire safety by testing, maintaining, and replacing over 115 fire hydrants in the District service area.

Water Supply, Treatment, and Distribution System

Ensure the ongoing delivery of safe, clean water supplies to the community.

As changing water quality conditions are likely to persist for many years, work was completed to position the District to continue to meet these ongoing challenges in the future:

- Completed design and construction of an aeration system at the Fairview Reservoir to remove trihalomethanes (THMs), a byproduct of the water treatment process, and started construction of an aeration system at Ellwood Reservoir to reduce THMs and improve water quality.
- Constructed a temporary pump station at Corona Reservoir to blend groundwater with treated surface water for continued delivery of quality water to an isolated area of the distribution system, and started design of an aeration system to reduce THMs.
- Began design of an iron and manganese removal system at University well. (Initiative 3.30)
- Completed extensive study, testing, and screening of different treatment approaches for reducing THMs in the potable water system resulting from higher organic matter in Lake Cachuma water supply. The studies will help the District identify the most cost effective method to maintain high quality potable water. (Initiative 3.31)
- Conducted a system-wide flushing program at over 800 locations to enhance water quality throughout the distribution system while minimizing service interruptions and inconveniences to customers. This program is typically conducted every three years, but was delayed five years due to the drought. Flushing operations were planned to minimize water loss, and redirect flushed water to parks and medians when possible.
- Completed electrical upgrades and testing at well facilities and reservoirs to support electrical generators that enable continued delivery of water to the community in an event of a power outage or other emergency.

The CDMWTP was taken off line for an entire month in early 2018 for the first time since it was constructed in 1974, thanks to recent improvements to District wells that increased groundwater availability and reduced reliance on surface water.

Featured Initiative

Valve Replacement Program

The District operates an active Valve Replacement Program that ensures the ongoing operability of 5,357 valves throughout the potable water distribution system. Valves are used to isolate various sections of the 230 mile pipeline network and the 1,400 fire hydrants located throughout the system. Through the Valve Replacement Program, valves are routinely exercised, maintained, and replaced to ensure they remain in good condition. Working valves minimize service interruptions to customers, reduce water loss, and ensure continued public health and safety.

44% of the District's 5,357 potable system valves are 50 years or older.

Valves that are not routinely operated, have corroded, or exceed 50 years in age have an increased rate of failure. Failing or malfunctioning valves compromise worker safety, public safety, and the ability to complete repair work.

Activities under the program during the 2017/18 fiscal year included:

- Installed more than 110 new and replacement mainline valves.
- Operated and exercised over 1,500 main line valves throughout the distribution system to ensure proper operation for isolation during repairs.
- Conducted maintenance on more than 20 special regulating valves located throughout the distribution system to ensure proper pressures are consistently maintained.
- Replaced over 50 key service line valves used to isolate individual customer water supplies without affecting the entire water supply system.
- Completed over 40 shutdowns throughout the distribution system to facilitate repairs while minimizing impacts to the over 1,600 customers affected. The District received fewer than 5 complaints as a result of implementing special provisions and notifications prior to the service interruptions.

Sustainable Outcomes and Benefits:

Active testing and replacement of valves minimizes costly emergency repairs to the distribution system, as well as unplanned service outages that could adversely affect the local economy.

Valves allow for isolation of system segments and small pipeline sections, minimizing water lost through the pipeline dewatering process.

Operational valves support worker and public safety by providing a mechanism to shut off water when fire hydrants are damaged or other system assets fail, preventing flooding, property damage, hazardous driving conditions, sink holes, and adverse impacts to the community's fire protection capability. Minimizing interruptions and the number of customers affected is a key goal.

Looking Ahead

Changing water quality conditions at Lake Cachuma will require the District to rely on a mix of groundwater and surface water over the coming year. Changes in the use of the District water supply sources and fluctuations in water quality conditions will require modifications of operations and treatment protocols. Water Treatment costs at CDMWTP are expected to decline as a result of treating less surface water volume. These will be offset by additional regulatory water quality testing, investment in the mechanical maintenance of wells to maintain high production capacity, and increased repair, replacement, and general maintenance needs associated with alternating supply sources as planned groundwater production increases. The District also plans to upgrade critical pumps and motors on the aging recycled water system to improve energy efficiency and reduce the risk of a potential interruption of recycled water delivery.

Ensure the ongoing delivery of safe, clean water supplies to protect public health and safety

Reservoir Aeration Systems – The District will install, operate, and test new aeration systems at Fairview and Ellwood Reservoirs to reduce disinfection byproducts in the distribution system that result from increased levels of organic matter in surface water from Lake Cachuma. Design and construction of aeration at the Corona Reservoir is also planned.

Anticipated Outcomes and Benefits: This project will result in water quality improvements, supporting the continued delivery of quality water to the community while ensuring compliance with state and federal regulations.

Maintain, rehabilitate and improve infrastructure and processes throughout the system

Water Quality Treatment Technologies – The District is evaluating a number of treatment technologies for deployment at various points in the overall water system to identify the most effective solution to changing water quality at Lake Cachuma. This includes completing alternatives analyses and preliminary design work for Corona Del Mar Water Treatment Plant and distribution system upgrades, including pH control upgrades to enhance corrosion control. To address the source of the water quality issue, the District is also supporting COMB's water quality assessment and planning project for Lake Cachuma.

Anticipated Outcomes and Benefits: The continued evaluation of treatment technologies will enhance the District's ability to maintain delivery of quality water to protect the health and safety of the community. Additionally, enhanced corrosion control will help protect the District's distribution system through prevention of costly corrosion damage, supporting the District's existing Corrosion Protection Program (Initiative 3.8)

Overall Progress at a Glance

SERVICE CATEGORY #1 - CUSTOMER SERVICE AND BUSINESS OPERATIONS

REF	2012-13 INITIATIVES	STATUS
1.1	Integrated Regional Water Management Planning (IRWMP)	Ongoing
1.2	Conservation	Complete
1.3	Electronic Billing System	Complete
1.4	Emergency Response Plan Update	Complete
1.5	Workplace Safety Program Update	Complete
1.6	Drought and Water Shortage Contingency Plan	Complete
1.7	Vendor Management	Complete
1.8	Technology Improvement and Integration	Ongoing
1.9	Alternative Revenue Sources	Ongoing
1.10	Introduction of Lifeline Discount Program	Deferred
1.11	Tiered Rate Updated	Complete
REF	**2013-14 INITIATIVES**	**STATUS**
1.12	Community Demonstration Garden Outreach	Ongoing
1.13	Salt and Nutrient Management Plan Scoping	Complete
1.14	Asset Management Implementation Plan and Pilot Study of the Recycled Water System - Phase I	Complete
1.15	Coordinated Energy Management	Underway
REF	**2014-15 AND 2015-16 INITIATIVES**	**STATUS**
1.16	Drought Supply and Demand Model	Ongoing
1.17	Groundwater Management Plan Update	Complete
1.18	Water Supply Management Plan Update	Complete
1.19	Urban Water Management Plan Update	Complete
1.20	Drought Outreach Plan	Ongoing
1.21	Sustainable Groundwater Management Act Implementation	Ongoing
1.22	Groundwater Model	Complete
1.23	Agricultural Water Efficiency Action Plan	Complete
1.24	Conservation Incentive Programs	Ongoing
REF	**2016-17 AND 2017-18 INITIATIVES**	**STATUS**
1.25	Informing Customers about Water	Underway
1.26	Employee Wellness Program	Ongoing

SERVICE CATEGORY #2 - ADMINISTRATION BUILDINGS AND FLEET MANAGEMENT

REF	2012-13 INITIATIVES	STATUS
2.1	Community Demonstration Garden Restoration and Enhancement	Complete
2.2	Renewable Energy (Solar) Feasibility and Permitting	Ongoing
2.3	Green Business Certification	Deferred
2.4	Building Envelope Improvements	Ongoing
2.5	Fleet and Construction Equipment Replacement Program	Ongoing
2.6	Field Operations	Ongoing
2.7	Fleet Replacement Study	Complete
REF	**2013-14 INITIATIVES**	**STATUS**
2.8	Edible Garden Project	Complete
2.9	Lighting Upgrades at Administrative HQ – Phase I	Complete
2.10	Solar Trellis System at Administrative HQ – Phase I	Underway

2.11	Stormwater Runoff Improvements Study	Complete
REF	**2014-15 AND 2015-16 INITIATIVES**	**STATUS**
2.12	Leaking Underground Fuel Tank (LUFT) Closure	Complete
2.13	Stormwater Headquarters Improvements/Master Plan (Phase I)	Complete
2.14	Board Room Remodel	Complete
2.15	Recycled Water Hauling Program	Ongoing
REF	**2016-17 AND 2017-18 INITIATIVES**	**STATUS**
2.16	Vehicle Charging Station	Underway

SERVICE CATEGORY #3 - WATER SUPPLY AND SYSTEM INVESTMENT

REF	2012-13 INITIATIVES	STATUS
3.1	Hydroelectric Generator Installations	Complete
3.2	Recycled Water System Booster Station Electrical Upgrades	Complete
3.3	San Ricardo Well Rehabilitation	Complete
3.4	WTP Sustainable Wastewater Disposal and Irrigation Study	Complete
3.5	Grant Application Readiness	Ongoing
3.6	Goleta Beach Recycled Waterline Relocation	Planning
3.7	Infrastructure Improvement Program Evaluation Criteria	Complete
3.8	Corrosion Protection Program	Ongoing
3.9	Neighborhood Compatibility of District Facilities	Ongoing
3.10	Meter Replacement Program	Ongoing
REF	**2013-14 INITIATIVES**	**STATUS**
3.11	San Ricardo Well Site Enhancement	Complete
3.12	Arc Flash and Electrical Upgrades	Complete
3.13	Water System Evaluation and Submetering Program – Phase I	Complete
3.14	Van Horne Reservoir Slope Protection Evaluation	Complete
3.15	Corona Del Mar WTP Infrastructure Improvement Construction	Underway
3.16	Hydroelectric Turbine Installation at Patterson Reservoir	Deferred
3.17	Goleta Water District – City of Santa Barbara Interconnect	Deferred
REF	**2014-15 AND 2015-16 INITIATIVES**	**STATUS**
3.18	San Antonio Well Rehabilitation Project	Complete
3.19	Berkeley Well Rehabilitation Project	Complete
3.20	Shirrell Well Rehabilitation Project	Complete
3.21	Oak Grove Well #2 Rehabilitation Project	Deferred
3.22	SB Corporation Well Rehabilitation Project	Deferred
3.23	Hollister Recycled Water Pump Replacement	Complete
3.24	Emergency Pump Project (Patterson and Edison)	Underway
3.25	Airport Area New Well Project	Deferred
3.26	Transmission Main Area New Well Project	Deferred
3.27	Monitoring Wells	Planning
3.28	Injection Wells	Planning
REF	**2016-17 AND 2017-18 INITIATIVES**	**STATUS**
3.29	Booster Pump Station Improvements	Underway
3.30	Groundwater Treatment Equipment Upgrades	Underway
3.31	Water Quality Studies	Complete
3.32	Valve Replacement Program	Ongoing

New Initiatives at a Glance

SERVICE CATEGORY #1 - CUSTOMER SERVICE AND BUSINESS OPERATIONS

REF	NEW INITIATIVES	STATUS
1.27	Web Self-Service Program	Underway
1.28	Hazard Mitigation Plan	Underway
1.29	Recycled Water Slough Crossing Alternative Design Study	Planning

SERVICE CATEGORY #2 - ADMINISTRATION BUILDINGS AND FLEET MANAGEMENT

No new initiatives in this category. Ongoing activities associated with Initiatives 2.5 and 2.15 will be implemented during the year.

SERVICE CATEGORY #3 - WATER SUPPLY AND SYSTEM INVESTMENT

REF	NEW INITIATIVES	STATUS
3.33	Reservoir Aeration Systems	Underway
3.34	Surface Water Quality Treatment Technologies	Underway

LOOKING FORWARD

The Sustainability Plan is a living document. Its ability to remain adaptable and adjustable is important as the future of District water supplies is affected by externalities such as drought conditions, State and Federal regulatory changes, and climate change. As illustrated throughout this Sustainability Progress Report, the District is making significant efforts to preserve natural resources and engage the community. This is particularly important during periods when environmental conditions are stressed, and the District must strategically adapt to major changes in its water supply portfolio and customer demand. It will continue to be important as the District prepares to celebrate 75 Years of Service in 2019.

The upcoming 75th Anniversary provides an opportunity to reflect on the accomplishments of the past, but also anticipate and plan for a future that is sustainable, financially sensible, and forward looking. An aging system with infrastructure near or at its expected service life will require significant investment. With an overall system valued at $1 billion, proactive replacement would be prohibitively expensive for ratepayers. The Guiding Principles outlined in the District's Sustainability Plan will continue to guide investment while keeping costs reasonable for customers.

Ongoing monitoring of the progress of these initiatives will continue so the District can effectively adjust its approach as needed, and report on Sustainability Plan implementation results and benefits to the community. Through continued strategic planning, investments, and implementation of best practices, the District will continue to foster a model operation for sustainable service today and well into the future.

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Goleta Water District

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