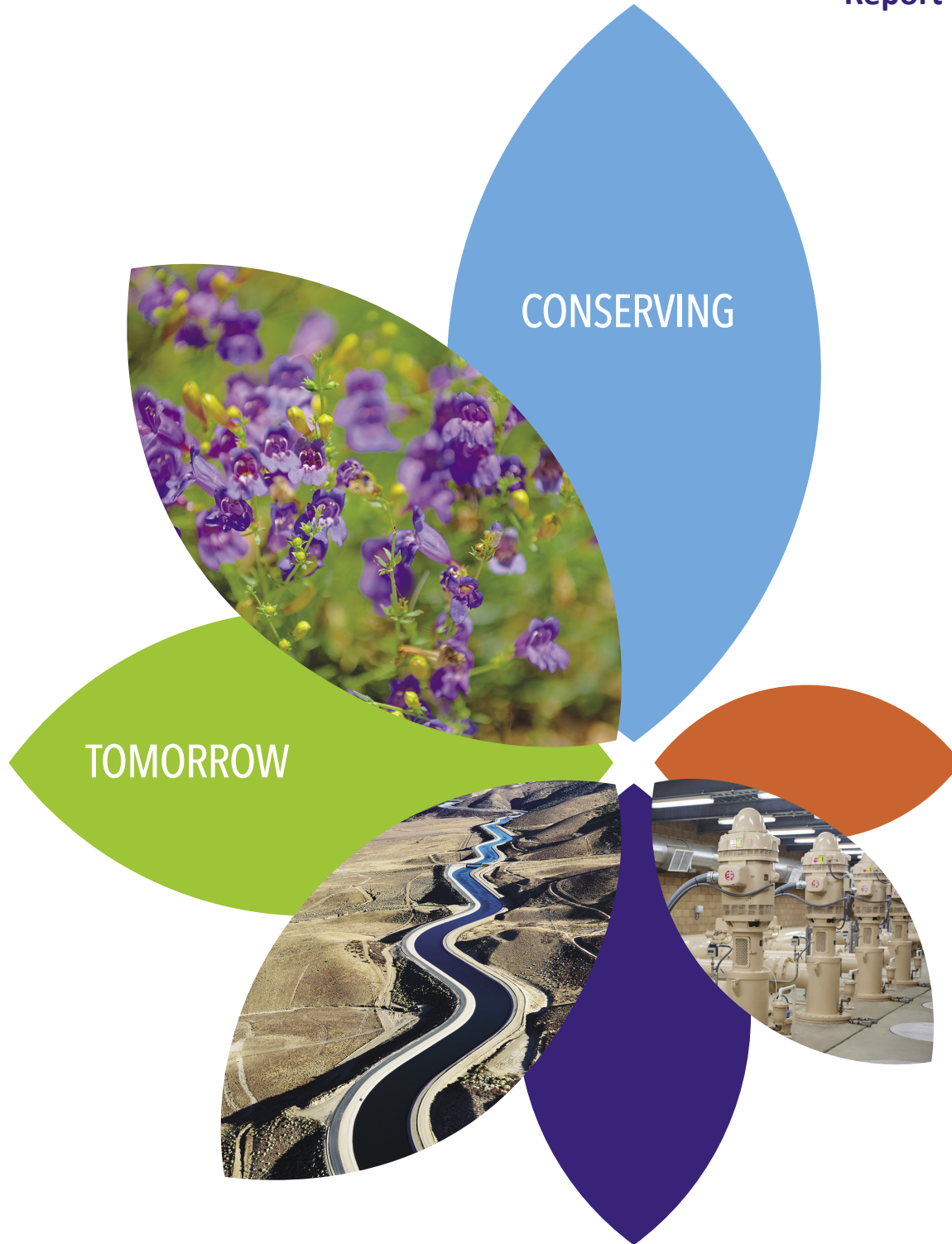


Every Drop Counts. Conserving for Tomorrow.

Water Quality 2021 Report





A Message From Nabil Saba

Clean City and the Quality of Life

After a pivotal 2021, Santa Ana's Public Works Agency is now engaged in a historic initiative to enhance and sustain a high quality of life for our community.

While continuing to provide essential services and maintain our infrastructure and delivery systems, we have reignited Clean City Santa Ana. City Manager Kristine Ridge and I are both committed to its goal of beautifying streets, green spaces and public areas for generations to come.

Supported in part by funds from the American Rescue Plan, this can be a true partnership with residents and businesses to create a safer, healthier and more beautiful environment for our residents, workers and visitors.

To encourage this partnership, we launched our annual Santa Ana Neighborhood Block Transformation Contest (NBTC) last year to recognize and reward residents who make aesthetic improvements to parkways and properties.



Contracts and Capital Improvement Projects

We also initiated and renewed several important contracts that support Clean City Santa Ana. The most significant one is the 10-year solid waste contract with Republic Services, which extends beyond trash collection to include sidewalk and alley cleaning using a more environmentally friendly approach. Our renewed graffiti contract has increased the number of technicians available and has already reduced response time to a 24-hour turnaround.

The new Focus Media Group (FMG) contract for bus shelter maintenance will mean our shelters are now cleaned three to five days each week and will be repainted by year's end.

We have contracted Outfront to study City-owned lots along Interstate 5 and the 55 and 22 Freeways for the best location to install a digital billboard. Once a site is identified, Outfront will construct the billboard and share 40 percent of all advertising revenue, which will go directly to maintaining public spaces citywide.

I am also excited to report that fleet, facilities and stores are now under the PWA umbrella, along with the maintenance and management of the Civic Center area, Santa Ana Regional Transportation Center, and Parks & Recreation's 62 locations. I welcome and look forward to working with 30 new staff members from Parks & Recreation who now join us in maintaining the facilities, greenspace, irrigation systems, trees and future projects for these locations.

The 49 Capital Improvement Projects (CIPs) currently on our books at a value of \$90 million, include replacing or upgrading water infrastructure, sewer and storm drains, as well as improvements to our parks, sidewalks, streets and parkways.

Clean City Santa Ana is designed as a collaborative initiative. We all deserve the highest quality of life. But we all have a role in achieving and maintaining it.

You will be learning more about this initiative and how you can get involved as we roll it out to the community. I look forward to working with you to make Clean City Santa Ana a lasting success.

Sincerely,

Nabil Saba P.E.

Executive Director
Public Works Agency



On behalf of the City of Santa Ana Public Works Agency and the men and women of the Water Resources Division, thank you for allowing us to serve you.



A Message From Cesar Barrera

New Water Sources, Reliability and Grants Drive Cost Savings for Customers

Santa Ana's Water Resources Division accomplished a great deal during 2021. While the pandemic continued to pose challenges, it also taught our leadership and staff to be more flexible, resilient and prepared for unforeseen circumstances.

That knowledge has steered the focus of our operations for the last year. We are adding to our local water supply, increasing system reliability, and pursuing grants to fund critical projects and maintain the lowest possible water rates for our customers.

To ensure sustainable local water sources, the City partnered with its wholesaler, Orange County Water District (OCWD), on its major water reuse project. Their Groundwater Replenishment System allows treated wastewater to be processed to near-distilled-quality before it is added back into the groundwater basin for later use. A plant expansion is underway to provide an even greater supply.

In addition, I would like to thank the OCWD for fully funding the \$5.5 million treatment headworks PFAS facility at Well 40.

To further minimize our dependence on imported water, we are preparing to drill the first new well in the City in 15 years. I am proud to report that a significant portion of the \$6 million Washington Avenue Well project cost will be covered by a federal grant.

To better predict water main breaks, we implemented several state-of-the-art technology upgrades, including GIS mapping and the Supervisory Control and Data Acquisition (SCADA) control system, which you will read more about in this report. These and other upgrades are garnering awards and positioning our Water Resources Division as a technology-driven utility powerhouse.

None of this would be possible without the diverse, highly skilled staff and technicians who work in our Division. Whether designing, building, operating or maintaining our city's water infrastructure, staff members are front-line problem-solvers who invest additional time and effort to keep themselves current with the latest training, licensing and certification.

The success of the Water Resources Division also depends on you, our customers. I would like to thank you for your efforts to conserve water during previous droughts and urge you to support the Governor's call for further reductions. Let's make conservation a way of life in Santa Ana and protect our precious local resources!

Rest assured, our team will continue safeguarding our award-winning water resources and ensuring a clean, safe supply. The results of our frequent water quality testing are included in this Water Quality Report and show that your drinking water meets or exceeds all state and federal regulations. I encourage you to read this report and contact our Division should you have any questions.

Sincerely,

Cesar E. Barrera P.E.
Deputy Public Works Director/Water Resources Manager



The success of the
Water Resources
Division also depends
on you, our customers.



About This Report

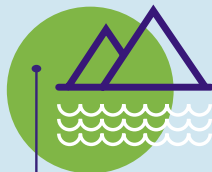
The Consumer Confidence Report (CCR) is an annual water quality report that informs you where your drinking water comes from and what's in it.

The centerpiece of the CCR is a series of tables that list the results of year-round monitoring for more than 120 constituents. Included in these tables is the quantity of each constituent found in Santa Ana's water supply, how it compares with the allowable state and federal limits, and the constituent's likely origin. Only the constituents that are found in Santa Ana's water are listed in the data tables. Bottled water is not covered in this report. Read this report to learn more about the water provided by Santa Ana and what the City is doing to ensure the highest quality of water is delivered to you year after year.



Read this report to learn more about the water provided by Santa Ana and what the City is doing to ensure the highest quality of water is delivered to you year after year.

Need-To-Know Information SUCH AS:



Where your water comes from—such as an aquifer, lake, river, or other source.



A list of regulated contaminants that were detected and their level.



Potential health effects from consuming contaminated water and additional safeguards against water-related illnesses.



Contaminant levels in your drinking water compared to national standards and any violations of health-based standards.

Your tap water met all Federal and State drinking water health standards in 2021. Santa Ana is meticulous at safeguarding its water supplies and, once again, we are proud to report that our system has never violated a maximum contaminant level or any other water quality standard.



About Your Drinking Water

Santa Ana's Sources Of Water Supply

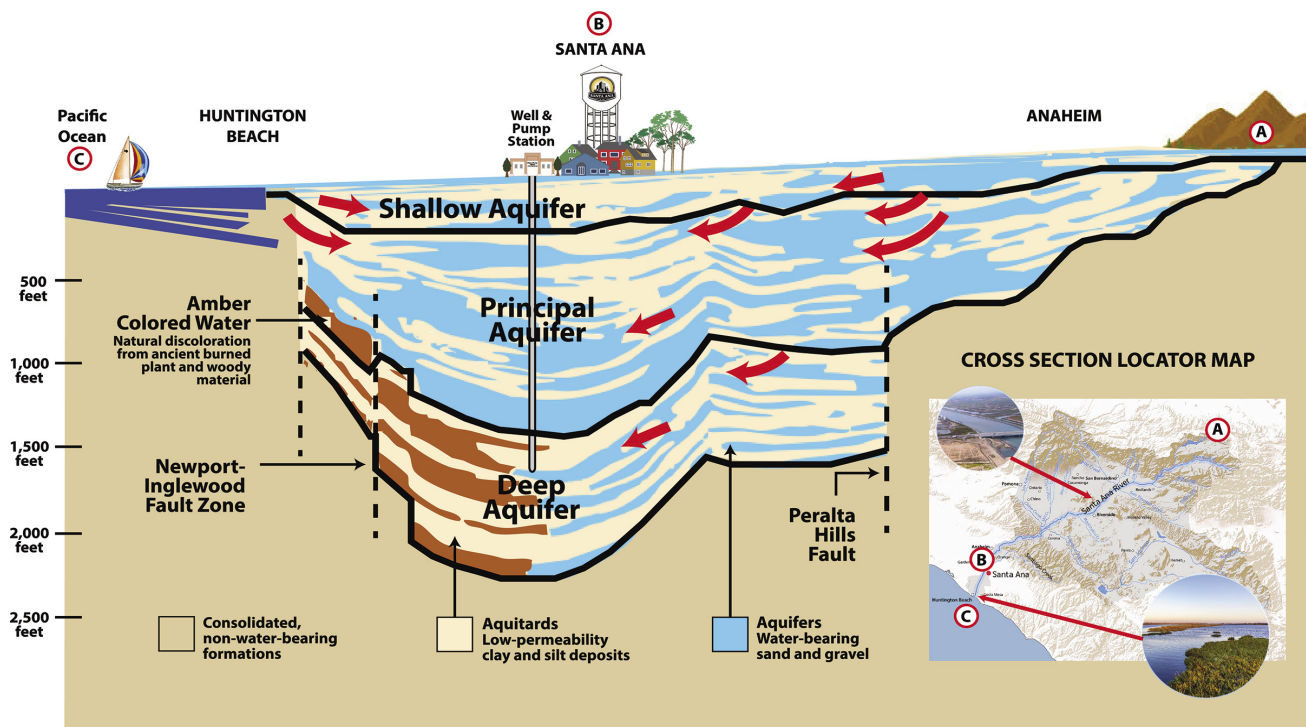
The City of Santa Ana relies on two sources for the 11 billion gallons of water it supplies to residents and businesses each year: 77 percent is groundwater and 23 percent is imported water purchased from Metropolitan Water District of Southern California (MWD). MWD is a regional wholesaler that provides water to 26 member public agencies like Santa Ana throughout Los Angeles, Orange, Riverside, San Bernardino, San Diego and Ventura counties.

Imported — MWD brings Colorado River water from Lake Havasu through the 242-mile Colorado River Aqueduct to Lake Mathews near Riverside. It also transports water from the Sacramento and San Joaquin River junction in Northern California via the State Water Project's 444-mile California Aqueduct. The water is then treated at either the Diemer Filtration Plant in Yorba Linda or the Weymouth Water Treatment Plant in the City of La Verne before it is delivered to Santa Ana. There are seven MWD connections located in the city.

Groundwater — Santa Ana sits on the Orange County Groundwater Basin, which contains approximately 500,000 acre-feet (162.9 billion gallons) of usable storage water and covers 270 square miles. The aquifers comprising this underground basin extend over 2,000 feet deep and naturally filter groundwater by forcing it to pass through small pores and between sediments, which helps to remove substances from the water. Santa Ana pumps this groundwater to the surface by 21 city-owned wells.

Most of our customers receive a blending of the two sources: groundwater and imported water.

You can read about the water quality standards for each of these sources in the data tables starting on page 14. We have listed imported water and groundwater in separate tables. An additional table lists the water quality standards for Santa Ana's water distribution system.





Regulatory Requirements

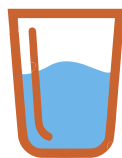
Your tap water may contain different types of chemicals (organic and inorganic), microscopic organisms (e.g., bacteria, algae, viruses) and radioactive materials (radionuclides), many of which are naturally occurring. Health agencies require monitoring for these constituents or substances, because at certain levels they could make a person sick.

Water Quality Standards

Drinking water standards established by the U.S. Environmental Protection Agency (U.S. EPA) and the State Water Resources Control Board (State Water Board) set limits on over 90 substances that may affect consumer health or aesthetic qualities of drinking water. EPA rules also set water-testing schedules and methods that water systems must follow. The data tables in this report show the following types of water quality standards:

Primary Standards

Mandatory health-related standards regarding potable water. For each contaminant, a Primary Standard either specifies a treatment technique or sets a Maximum Contaminant Level (MCL).



Secondary Standards

Aesthetic standards (non health-related) that could cause odor, taste, or appearance problems in drinking water.



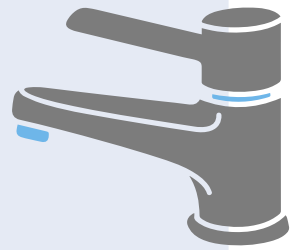
Unregulated Parameters

Information about contaminants that are monitored, but are not currently regulated by federal and state health agencies.



Water Quality Goals

In addition to mandatory water quality standards, the U.S. EPA and California Environmental Protection Agency (Cal/EPA) have set voluntary water quality goals for some contaminants. The data tables in this report includes three types of water quality goals:



Maximum Contaminant Level Goal.

The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs are set by the U.S. EPA.



Public Health Goal.

The level of a contaminant in drinking water below which there is no known or expected risk to health. PHGs are set by the Cal/EPA.



Maximum Residual Disinfectant Level Goal.

The level of a drinking water disinfectant below which there is no known or expected risk to health. MRDLGs do not reflect the benefits of the use of disinfectants to control microbial contaminants.





Maximum Allowed Levels of Constituents

Health agencies have maximum contaminant levels (MCLs) for constituents so that drinking water is safe and looks, tastes and smells good. A few constituents have the letters “TT” (Treatment Technique) in the MCL column because they do not have a numerical MCL. Instead, they have certain treatment requirements that have to be met. One of the constituents, total chlorine residual, has an MRDL (maximum residual disinfection level) instead of an MCL.

The MRDL is the maximum level of a disinfectant added for water treatment that is allowed in water. While disinfectants are necessary to kill harmful microbes, drinking water regulations protect against too much disinfectant being added. Another constituent, turbidity, has a requirement that 95 percent of the measurements taken must be below a certain number. Turbidity is a measure of the cloudiness of the water. We monitor it because it is a good indicator of the efficiency of the filtration system.

Primary vs. Maximum Allowed Levels of Constituents

Constituents that are grouped in the “Primary Standards” section may be unhealthy at certain levels. Constituents that are grouped under the “Secondary Standards” section can affect the appearance, taste and smell of water, but do not affect the safety of the water unless they also have a primary standard. Some constituents (e.g., aluminum) have two different MCLs, one for health-related impacts, and another for non-health related impacts.

Safe Levels of Constituents

With a few exceptions, if the average amount of a constituent found in tap water over the course of a year is no greater than the MCL, then the regulatory requirements are considered to be satisfied. The highest and lowest levels measured over a year are shown in the range. Requirements for safety, appearance, taste and smell are based on the average levels recorded and not the range.



Additional Information

Additional information about drinking water safety and standards can be found at:

State Water Resources Control Board Division of Drinking Water

1001 I Street
Sacramento, CA 95814
(916) 449-5577
www.waterboards.ca.gov/drinking_water/certlic/drinkingwater/Chemicalcontaminants.html

U.S. Environmental Protection Agency Office of Ground Water And Drinking Water

1200 Pennsylvania Avenue, NW
Mail Code 4606M
Washington, DC 20460-0003
www.epa.gov/ground-water-and-drinking-water

Consumer Information

www.epa.gov/ccr

Information On How Drinking Standards Are Established

www.epa.gov/dwstandardsregulations



Drinking Water & Your Health

The sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, and wells. As water travels over the surface of the land or through the ground, it dissolves naturally occurring minerals and, in some cases, radioactive material, and can pick up substances resulting from the presence of animals or human activity.

The presence of contaminants does not necessarily indicate that water poses a health risk. More information about contaminants and potential health effects can be obtained by visiting the U.S. EPA's website at www.epa.gov/ground-water-and-drinking-water or calling the U.S. EPA's Safe Drinking Water Hotline at 800-426-4791.

Contaminants That May Be Present

Water agencies are required to use the following language to discuss the source of contaminants that may reasonably be expected to be found in drinking water, including tap water and bottled water.

Contaminants that may be present in sources of drinking water include:

- **Microbial contaminants**, such as viruses and bacteria that may come from sewage treatment plants, septic systems, agricultural livestock operations and wildlife.
- **Inorganic contaminants**, such as salts and metals, that can be naturally occurring or result from urban stormwater runoff, industrial or domestic wastewater discharges, oil and gas production, mining or farming.



- **Pesticides and herbicides** that may come from a variety of sources such as agriculture, urban stormwater runoff and residential uses.
- **Organic chemical contaminants** including synthetic and volatile organic chemicals that are byproducts of industrial processes and petroleum production, and can also come from gas stations, urban stormwater runoff, agricultural application and septic systems.
- **Radioactive contaminants**, that can be naturally occurring or be the result of oil and gas production and mining activities.

To ensure that tap water is safe to drink, the U.S. EPA and the State Water Board prescribe regulations that limit the amount of certain contaminants in water provided by public water systems. U.S. Food and Drug Administration regulations and California law also establish limits for contaminants in bottled water that provide the same protection for public health. Additional information on bottled water is available on the California Department of Public Health's website.

People with Weakened Immune Systems

Although Santa Ana meets all drinking water standards, some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised persons such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly, and infants can be particularly at risk from infections.

These people should seek advice about drinking water from their health care providers. U.S. EPA/CDC (U.S. Centers for Disease Control and Prevention) guidelines on appropriate means to reduce the risk of infection by *Cryptosporidium* and other microbial contaminants are available from the U.S. EPA's Safe Drinking Water Hotline at 800-426-4791.



Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants.



Protecting Water Quality at the Source

Source water protection is an important issue for all of California. Treatment to remove specific contaminants can be more expensive than measures to protect water at the source, which is why MWD and the City of Santa Ana invest resources to support improved watershed protection programs that in turn safeguard our groundwater.

Imported Water Assessment—

Large water utilities, like MWD, are required by the Division of Drinking Water (DDW) to conduct an initial source water assessment, which is then updated through watershed sanitary surveys every five years. Watershed sanitary surveys examine possible sources of drinking water contamination and recommend actions to better protect these source waters. The most recent surveys for Metropolitan's source waters are the Colorado River Watershed Sanitary Survey – 2020 Update, and the State Water Project Watershed Sanitary Survey – 2016 Update.

You can request a copy of the most recent Watershed Sanitary Surveys by calling MWD at 213-217-6000.

Groundwater Assessment—

An assessment of the drinking water wells for the City of Santa Ana was completed in December 2021. As in any urban area, Santa Ana's wells are considered most vulnerable to historic agricultural activities, golf courses and application of fertilizers, which are associated with contaminants detected in the water supply. Our wells are also considered most vulnerable to chemical/petroleum pipelines, chemical/petroleum processing, dry cleaners, gas stations, junk/scrap/salvage yards, metal plating/finishing/fabrication, plastics/synthetics producers and sewer collection systems, **although constituents associated with these activities were not detected.** These water sources are tested throughout the year to ensure the supplied water remains safe.



Safeguarding Our Groundwater Is Everyone's Responsibility

Here's what you can do to help protect Santa Ana's drinking water source:

- Limit your use of fertilizers and pesticides. The hazardous chemicals in both can reach our drinking water source.
- Pick up after your pets.
- Dispose of chemicals properly; take used motor oil and paint to a recycling center.
- Find a watershed protection organization, like the Santa Ana Watershed Association, and volunteer to help.



Protecting Your Drinking Water: Commonly Used Residential Backflow Prevention

While the City of Santa Ana works hard to deliver the safest water possible, there are common problems, once this water enters your property, that may arise due to improper changes in plumbing or misuse of your plumbing system.

Cross-connections are dangerous if no protective measures are taken. Cross-connections are when a water supply line is connected to equipment or systems containing a non-potable (unsafe to drink) substance, like a hose submerged in polluted water, a heating boiler with treatment

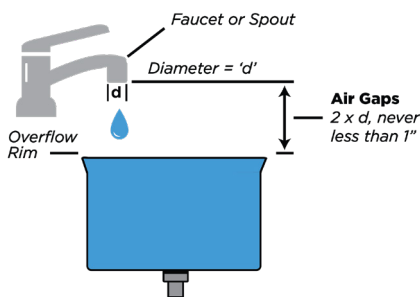
chemical added to prevent internal corrosion, an underground lawn sprinkler system or fountain that has a direct connection with your home's water system for filling.

Here are the most common devices you can easily install to prevent contaminants from entering into your drinking water system as well as the public water distribution system.

Air Gap:

Air gaps can be found on bathroom sinks, dishwashers, and in countless other applications. Air gaps are effective in preventing backflow.

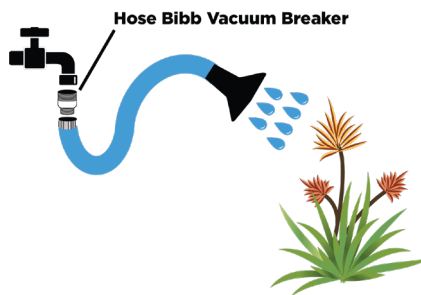
An air gap is the vertical separation between the supply line and the overflow rim of the receiving vessel, such as a sink. It should measure at least twice the diameter of the supply line and under no circumstances less than one inch. Fill lines to water troughs or tanks must also be physically separated or "air-gapped." If there is no air gap, then the contents of the sink, tub, or tank may be sucked or "backsiphoned" into the water line during a loss of water pressure.



Hose Bibb Vacuum Breaker:

Hose bibbs (spigots) are part of our everyday life. They allow us to hook up a garden hose to water the plants, apply pesticides, wash the car or fill the fountain. However, every time you connect a garden hose to a hose bibb, there is the risk that harmful materials from outdoors can seep back into your home's drinking water system.

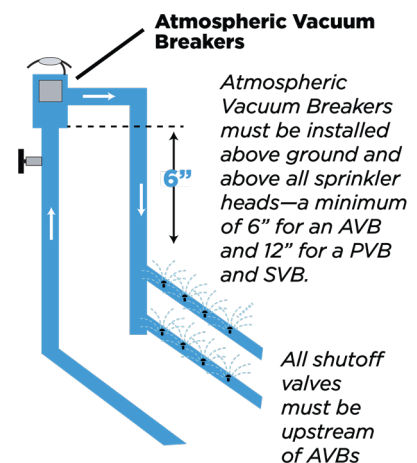
A vacuum breaker is a simple device that attaches to a spigot and then your garden hose. It prevents water from flowing backward with a spring-loaded check valve, which opens and closes based on the water pressure. When you turn off the water, the pressure against the spring on the valve decreases, the valve closes, and air flows into the space around the valve, preventing backflow.



Atmospheric Vacuum Breaker:

Irrigation systems make outdoor watering easier, but if not properly constructed, contaminants may backflow into your drinking water. For example, water pooling around sprinkler heads may be contaminated by chemicals, fertilizers or animal waste.

Using an atmospheric vacuum breaker (AVB) can help protect against backflow. It has an air inlet valve that is normally closed when the device is pressurized, preventing potentially contaminated water from entering your home's water system and Santa Ana's water mains.





Additional Information of Interest

Cryptosporidium

Cryptosporidium is a microbial pathogen found in surface water throughout the U.S. To date, cryptosporidium has not been detected in our water supply. U.S. EPA/CDC (U.S. Centers for Disease Control and Prevention) guidelines on appropriate means to lessen the risk of infection by cryptosporidium and other microbial contaminants are available from the Safe Drinking Water Hotline at 800-426-4791. For more information, visit www.cdc.gov/parasites/crypto/index.html.

Perchlorate

Perchlorate has been shown to interfere with uptake of iodide by the thyroid gland, and to thereby reduce the production of thyroid hormones, leading to adverse effects associated with inadequate hormone levels. Thyroid hormones are needed for normal prenatal growth and development of the fetus, as well as for normal growth and development in the infant and child. In adults, thyroid hormones are needed for normal metabolism and mental function.

Lead In Residential Plumbing

If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Lead in drinking water is primarily from materials and components associated with service lines and home plumbing. The City of Santa Ana is responsible for providing high quality drinking water, but cannot control the variety of materials used in plumbing components. If you live in an older house that has copper piping with lead solder, you can minimize the potential for lead exposure. When your water has been sitting for several hours in the pipes, simply flush your tap for 30 seconds to 2 minutes before using water for drinking or cooking. If you do so, consider collecting the flushed water and reuse it for another beneficial purpose, such as watering plants. If you are concerned about lead in your water, you may wish to have your water tested. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure are available from the U.S. EPA Safe Drinking Water Hotline at 800-426-4791 or at www.epa.gov/lead.

Fluoride

The City of Santa Ana receives approximately 23 percent of its water supply from MWD. Beginning in October 2007, MWD joined a majority of the nation's public water suppliers in adding fluoride to the treated water it supplies to state water agencies, a plan approved by the CDC and the State Water Board. Santa Ana's well water has a naturally occurring fluoride range level of .21 to .45 ppm. Water provided by MWD has been adjusted to the optimal level for dental health of 0.7 to 0.8 parts per million. Additional information may be found by calling MWD's Water Quality Information Hotline at 800-354-4420. You can also download MWD's fact sheet at www.bit.ly/MWD_Fluoride or visit the American Dental Association's site at www.bit.ly/ADA_Fluoride.





How To Read The Data Tables

The data presented on the following tables are from the most recent monitoring completed in compliance with regulations. The State allows us to monitor for some contaminants less than once per year because the concentrations of these contaminants do not change frequently. Some of our data, though representative, are more than one year old.

You will find three data tables showing a list of chemicals tested in each of the following water sources:

- Santa Ana Distribution System
- Santa Ana Groundwater
- Metropolitan Water District of Southern California Treated Surface Water



For each table, begin with the chemical and read across.

- 1** The column marked “Chemicals” lists the substances found in the water Santa Ana delivers.
- 2** MCL is the highest level of substance (contaminant) allowed.
- 3** MCLG is the goal level for that substance (this may be lower than what is allowed).
- 4** Average Amount is the average level measured for the substance (less is better).
- 5** Range of Detections is the highest and lowest amounts measured.
- 6** A “No” under MCL Violation indicates government requirements were met.
- 7** Typical Sources in Drinking Water tells you where the constituent usually originates.

Note: Unregulated Constituents are measured, but maximum allowed contaminant (MCL) levels have not been established by the government.



Glossary

Terms & Abbreviations

Chemicals

Components or elements found in drinking water.

Maximum Contaminant Level (MCL)

The highest level of a contaminant that is allowed in drinking water. Primary MCLs are set as close to the PHGs (or MCLGs) as is economically and technologically feasible. Secondary MCLs are set to protect the odor, taste, and appearance of drinking water.

Maximum Contaminant Level Goal (MCLG)

The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs are set by the U.S. EPA.

Maximum Residual Disinfectant Level (MRDL)

The highest level of a disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.

Maximum Residual Disinfectant Level Goal (MRDLG)

The level of a drinking water disinfectant below which there is no known or expected risk to health. MRDLGs do not reflect the benefits of the use of disinfectants to control microbial contaminants.

Primary Drinking Water Standard (PDWS)

The MCLs and MRDLs for contaminants that affect health along with their monitoring and reporting requirements, and water treatment requirements.

Public Health Goal (PHG)

The level of a contaminant in drinking water below which there is no known or expected risk to health. PHGs are set by the Cal/EPA.

Regulatory Action Level

The concentration of a contaminant, which, if exceeded, triggers treatment or other requirements that a water system must follow.

Treatment Technique (TT)

A required process intended to reduce the level of contaminants in drinking water that are difficult and sometimes impossible to measure directly.

Variances and Exemptions

Permissions from the State Water Board to exceed an MCL or not comply with a treatment technique under certain conditions.

Additional Abbreviations

AL = Regulatory Action Level

NA = Not Applicable

ND = Not Detected

NL = Notification Level

SMCL = Secondary MCL

Measurements

Santa Ana conducts extensive sampling and testing to ensure your water meets all water quality standards. In 2021, we collected 16,774 samples for contaminants at various sampling points in our water system; all of which were below state and federal maximum allowable levels.

Contaminants are measured in:

Parts per million (ppm)
or milligrams per liter (mg/L)

Parts per billion (ppb)
or micrograms per liter (µg/L)

Parts per trillion (ppt)
or nanograms per liter (ng/L)

PicoCuries per liter (pCi/L)
A measurement of radioactivity in water.

Micromhos per centimeter (umho/cm)
A measurement for conductivity of water.

Grains per gallon (grains/gal)
A measurement of water hardness often used for sizing household water softeners. One grain per gallon is equal to 17.1 mg/L of hardness.

Nephelometric Turbidity Units (NTU)
A measurement of the clarity of water. Turbidity in excess of 5 NTU is noticeable to the average person.



1 part per trillion (ppt) =

A single drop of water in
20 Olympic-sized swimming pools!



2021 Water Quality Tables

2021 CITY OF SANTA ANA DISTRIBUTION SYSTEM'S WATER QUALITY

1

2

4

5

6

7

Type	MCL (MRDL/MRDLG)	Average Amount	Range of Detections	MCL Violation?	Typical Source of Chemical
DISINFECTANT RESIDUAL AND DISINFECTION BY-PRODUCTS					
Chlorine Residual (ppm)	(4 / 4)	0.97	ND - 2.94	No	Disinfectant Added for Treatment
Total Trihalomethanes (ppb)	80	29	ND - 36	No	Byproducts of Chlorine Disinfection
Haloacetic Acids (ppb)	60	15	ND - 29	No	Byproducts of Chlorine Disinfection
AESTHETIC QUALITY					
Odor (threshold odor number)	3*	1	1	No	Naturally-Occurring Organic Materials
Turbidity (ntu)	5*	<0.1	ND - 0.83	No	Erosion of Natural Deposits

Twelve locations in the distribution system are tested quarterly for total trihalomethanes and haloacetic acids. Fifty locations are tested monthly for color, odor and turbidity. Color was not detected in 2021.

MRDL = Maximum Residual Disinfectant Level; MRDLG = Maximum Residual Disinfectant Level Goal; < = detected but average is less than the reporting limit; ntu = nephelometric turbidity unit; ND = not detected.

*Chemical is regulated by a secondary standard to maintain aesthetic qualities (color, odor, and taste).

Microbiological	MCL	MCLG	Highest Number of Detections	No. of Months in Violation	Typical Source of Bacteria
E.coli	(a)	0	0	0	Human and Animal Fecal Waste

(a) Routine and repeat samples are total coliform-positive and either is E. coli-positive or system fails to take repeat samples following E. coli-positive routine sample or system fails to analyze total coliform-positive repeat sample for E. coli.

LEAD AND COPPER ACTION LEVELS AT RESIDENTIAL TAPS

Chemical	Action Level (AL)	Public Health Goal	90th Percentile Value	Sites Exceeding AL / Number of Sites	AL Violation?	Typical Source of Chemical
Lead (ppb)	15	0.2	ND	0 / 123	No	Internal Corrosion of Household Water Plumbing Systems; Discharges from Industrial Manufacturers; Erosion of Natural Deposits
Copper (ppm)	1.3	0.3	0.16	0 / 123	No	Internal Corrosion of Household Water Plumbing Systems; Discharges from Industrial Manufacturers; Erosion of Natural Deposits

In 2021, 123 residences were tested for lead and copper at-the-tap. Lead was detected in 4 samples, none of which exceeded the AL for lead. Copper was detected in 98 samples, none of which exceeded the AL for copper. A regulatory action level is the concentration of a contaminant which, if exceeded, triggers treatment or other requirements that a water system must follow. In 2021, no school submitted a request to be sampled for lead.

UNREGULATED CHEMICALS REQUIRING MONITORING IN THE DISTRIBUTION SYSTEM

Chemical	Notification Level	PHG	Average Amount	Range of Detections	Most Recent Sampling Date
Bromochloroacetic acid (ppb)	NA	NA	0.94	ND - 3.9	2020
Bromodichloroacetic acid (ppb)	NA	NA	0.68	ND - 2.1	2020
Chlorodibromoacetic acid (ppb)	NA	NA	0.47	ND - 1.4	2020
Dibromoacetic acid (ppb)	NA	NA	0.88	ND - 2.6	2020
Dichloroacetic acid (ppb)	NA	MCLG = 0	1.2	ND - 6.1	2020
Monobromoacetic acid (ppb)	NA	NA	0.1	ND - 0.6	2020
Trichloroacetic acid (ppb)	NA	MCLG = 20	0.7	ND - 2.5	2020

** Total chromium is regulated with an MCL of 50 ppb but was not detected, based on the detection limit for purposes of reporting of 10 ppb. Total chromium was included as part of the unregulated chemicals requiring monitoring.

2021 Water Quality Tables



2021 CITY OF SANTA ANA GROUNDWATER QUALITY

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Chemical	MCL	PHG (MCLG)	Average Amount	Range of Detections	MCL Violation?	Most Recent Sampling Date	Typical Source of Chemical
Organic Chemicals							
1,1-Dichloroethene (ppb)	6	10	<0.5	ND - 0.6	No	2021	Discharge from Industrial Chemical Factories
Radiologicals							
Uranium (pCi/l)	20	0.43	2.6	ND - 5.8	No	2021	Erosion of Natural Deposits
Inorganic Chemicals							
Arsenic (ppb)	10	0.004	< 2	ND - 2.2	No	2021	Erosion of Natural Deposits
Barium (ppm)	1	2	<0.1	ND - 0.14	No	2021	Erosion of Natural Deposits
Fluoride (ppm)	2	1	0.35	0.21 - 0.45	No	2021	Erosion of Natural Deposits
Nitrate (ppm as N)	10	10	1.9	0.42 - 4.14	No	2021	Runoff and Leaching from Fertilizer Use; Leaching from Septic Tanks and Sewage; Erosion of Natural Deposits
Nitrate + Nitrite (ppm as N)	10	10	1.9	0.42 - 4.14	No	2021	Runoff and Leaching from Fertilizer Use; Leaching from Septic Tanks and Sewage; Erosion of Natural Deposits
Perchlorate (ppb)	6	1	<2	ND - 4.2	No	2021	Discharge from Industrial Operations
Secondary Standards*							
Chloride (ppm)	500*	NA	51	19.9 - 107	No	2021	Erosion of Natural Deposits
Specific Conductance (umho/cm)	1,600*	NA	668	461 - 1,040	No	2021	Substance That Forms Ions When In Water
Sulfate (ppm)	500*	NA	87.8	50.9 - 123	No	2021	Erosion of Natural Deposits
Total Dissolved Solids (ppm)	1,000*	NA	408	258 - 635	No	2021	Erosion of Natural Deposits
Turbidity (ntu)	5*	NA	<0.1	ND - 0.1	No	2021	Soil Runoff
Unregulated Constituents							
Alkalinity, total (ppm as CaCO ₃)	Not Regulated	NA	170	143 - 235	NA	2021	Erosion of Natural Deposits
Bicarbonate (ppm as HCO ₃)	Not Regulated	NA	208	175 - 286	NA	2021	Erosion of Natural Deposits
Boron (ppm)	NL = 1	NA	<0.1	ND - 0.11	NA	2021	Erosion of Natural Deposits
Calcium (ppm)	Not Regulated	NA	75.5	39.5 - 128	NA	2021	Erosion of Natural Deposits
Hardness, total (grains/gal)	Not Regulated	NA	14	7.7 - 24	NA	2021	Erosion of Natural Deposits
Hardness, total (ppm as CaCO ₃)	Not Regulated	NA	247	132 - 410	NA	2021	Erosion of Natural Deposits
Magnesium (ppm)	Not Regulated	NA	14.1	8 - 22.4	NA	2021	Erosion of Natural Deposits
Perfluoro hexane sulfonic acid (ppt)	Not Regulated	NA	<4	ND - 4.9	NA	2021	Industrial Discharge
Perfluoro octane sulfonic acid (ppt)	NL = 6.5	NA	<4	ND - 4.9	NA	2021	Industrial Discharge
Perfluoro octanoic acid (ppt)	NL = 5.1	NA	<4	ND - 4	NA	2021	Industrial Discharge
pH (pH units)	Not Regulated	NA	7.8	7.5 - 8.1	NA	2021	Acidity, Hydrogen Ions
Potassium (ppm)	Not Regulated	NA	2.3	1.4 - 3.4	NA	2021	Erosion of Natural Deposits
Sodium (ppm)	Not Regulated	NA	44.5	36.7 - 60.5	NA	2021	Erosion of Natural Deposits

*Contaminant is regulated by a secondary standard to maintain aesthetic qualities (taste, odor, color).

UNREGULATED CHEMICALS REQUIRING MONITORING

Chemical	Notification Level	PHG	Average Amount	Range of Detections	Most Recent Sampling Date
Bromide (ppm)	NA	NA	0.13	0.062 - 0.298	2020
Manganese (ppb) **	SMCL = 50	NA	0.2	ND - 1	2020
Total Organic Carbon (Unfiltered) (ppm)	NA	NA	0.23	0.08 - 0.57	2020

SMCL = Secondary MCL

** Manganese is regulated with a secondary standard of 50 ppb but was not detected, based on the detection limit for purposes of reporting of 20 ppb. Manganese was included as part of the unregulated chemicals requiring monitoring.



2021 Water Quality Tables

2021 METROPOLITAN WATER DISTRICT TREATED SURFACE WATER

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Constituent	MCL	PHG (MCLG)	Diemer Average	Weymouth Average	Range of Detections	MCL Violation?	Typical Source in Drinking Water
Radiologicals - Tested in 2020 and 2021							
Alpha Radiation (pCi/L)	15	(0)	ND	ND	ND - 3	No	Erosion of Natural Deposits
Beta Radiation (pCi/L)	50	(0)	5	5	4.6	No	Decay of Natural and Man-made Deposits
Combined Radium (pCi/L)	5	(0)	ND	ND	ND - 1	No	Erosion of Natural Deposits
Uranium (pCi/L)	20	0.43	2	2	1 - 3	No	Erosion of Natural Deposits
Inorganic Chemicals - Tested in 2021							
Aluminum (ppm)	1	0.6	0.141	0.148	ND - 0.24	No	Treatment Process Residue, Natural Deposits
Barium (ppm)	1	2	0.111	0.11	0.11 - 0.111	No	Refinery Discharge, Erosion of Natural Deposits
Bromate (ppb)	10	0.1	ND	ND	ND - 7	No	Byproduct of Drinking Water Ozonation
Fluoride (ppm) treatment-related	2	1	0.7	0.7	0.6 - 0.9	No	Water Additive for Dental Health
Secondary Standards - Tested in 2021							
Aluminum (ppb)	200*	600	141	148	ND - 260	No	Treatment Process Residue, Natural Deposits
Chloride (ppm)	500*	NA	96	96	95 - 97	No	Runoff or Leaching from Natural Deposits
Color (color units)	15*	NA	1	1	1	No	Runoff or Leaching from Natural Deposits
Odor (threshold odor number)	3*	NA	2	1	1 - 2	No	Naturally-occurring Organic Materials
Specific Conductance (µmho/cm)	1,600*	NA	958	964	950 - 965	No	Substances That Form Ions In Water
Sulfate (ppm)	500*	NA	214	219	215 - 217	No	Runoff or Leaching from Natural Deposits
Total Dissolved Solids (ppm)	1,000*	NA	597	604	597 - 609	No	Runoff or Leaching from Natural Deposits
Unregulated Chemicals - Tested in 2021							
Alkalinity, total (ppm as CaCO ₃)	Not Regulated	NA	125	126	123 - 128	NA	Runoff or Leaching from Natural Deposits
Boron (ppm)	NL = 1	NA	0.13	0.13	0.13	NA	Runoff or Leaching from Natural Deposits
Calcium (ppm)	Not Regulated	NA	66	67	64 - 70	NA	Runoff or Leaching from Natural Deposits
Hardness, total (ppm as CaCO ₃)	Not Regulated	NA	274	272	270 - 276	NA	Runoff or Leaching from Natural Deposits
Hardness, total (grains/gal)	Not Regulated	NA	15	15	15 - 16	NA	Runoff or Leaching from Natural Deposits
Magnesium (ppm)	Not Regulated	NA	25	26	24 - 26	NA	Runoff or Leaching from Natural Deposits
pH (units)	Not Regulated	NA	8.1	8.1	8.1	NA	Hydrogen Ion Concentration
Potassium (ppm)	Not Regulated	NA	4.4	4.6	4.2 - 4.7	NA	Runoff or Leaching from Natural Deposits
Sodium (ppm)	Not Regulated	NA	94	98	93 - 101	NA	Runoff or Leaching from Natural Deposits
Total Organic Carbon (ppm)	TT	NA	2.4	2.4	1.8 - 2.8	NA	Various Natural and Man-made Sources
Turbidity - Combined Filter Effluent Metropolitan Water District Filtration Plants			Treatment Technique	Turbidity Measurements		TT Violation?	Typical Source in Drinking Water
				Diemer	Weymouth		
1) Highest single turbidity measurement (NTU)			0.3	0.03	0.03	No	Soil Runoff
2) Percentage of samples less than or equal to 0.3 NTU			95%	100%	100%	No	Soil Runoff

Turbidity is a measure of the cloudiness of the water, an indication of particulate matter, some of which might include harmful microorganisms. Low turbidity in Metropolitan's treated water is a good indicator of effective filtration. Filtration is called a "treatment technique" (TT). A treatment technique is a required process intended to reduce the level of chemicals in drinking water that are difficult and sometimes impossible to measure directly. NTU = nephelometric turbidity units.

UNREGULATED CONSTITUENTS REQUIRING MONITORING

Constituent	Notification Level	PHG	Average Amount	Range of Detections	Most Recent Sampling Date
Germanium (ppb)	NA	NA	0.1	ND - 0.4	2018
Manganese (ppb) **	SMCL = 50	NA	2.2	0.8 - 3.3	2018

** Manganese is regulated with a secondary standard of 50 ppb but was not detected, based on the detection limit for purposes of reporting of 20 ppb. Manganese was included as part of the unregulated chemicals requiring monitoring.



Notes

1. Trihalomethanes and Haloacetic Acids

Twelve locations in the distribution system are tested quarterly for total trihalomethanes (TTHMs) and haloacetic acids (HAAS).

2. Coliform

No more than 5% of the monthly samples may be positive for total coliform bacteria. The occurrence of 2 consecutive total coliform positive samples, one of which contains fecal coliform/E.coli, constitutes an acute MCL violation. This Consumer Confidence Report (CCR) reflects changes in drinking water regulatory requirements during 2021. These revisions add the requirements of the federal Revised Total Coliform Rule, effective since April 1, 2016, to the existing state Total Coliform Rule. The revised rule maintains the purpose to protect public health by ensuring

the integrity of the drinking water distribution system and monitoring for the presence of microbials (i.e., total coliform and E. coli bacteria). The U.S. EPA anticipates greater public health protection as the rule requires water systems that are vulnerable to microbial contamination to identify and fix problems. Water systems that exceed a specified frequency of total coliform occurrences are required to conduct an assessment to determine if any sanitary defects exist. If found, these must be corrected by the water system. The state Revised Total Coliform Rule became effective July 1, 2021.

3. Lead and Copper

In 2021, 123 residences were tested for lead and copper at-the-tap. Lead was detected in 4 of the samples, none of which exceeded the AL for lead. Copper was detected in 98 samples, none of which exceeded the AL for copper.

A regulatory action level (AL) is the concentration of a contaminant which, if exceeded, triggers treatment or other requirements that a water system must follow. In 2021, no school submitted a request to be sampled for lead.

4. Combined Filter Effluent Turbidity (NTU)

Turbidity is a measure of the cloudiness of the water, an indication of particulate matter, some of which might include harmful microorganisms. Low turbidity in MWD's treated water is a good indicator of effective filtration. Filtration is called a "treatment technique" (TT). A treatment technique is a required process intended to reduce the level of chemicals in drinking water that are difficult and sometimes impossible to measure directly.

Monitoring Requirements Not Met for Santa Ana

Our water system failed to monitor as required for drinking water standards during the past year and, therefore, was in violation of the regulations. Even though this failure was not an emergency, as our customers, you have a right to know what you should do, what happened, and what we did to correct this situation.

We are required to monitor your drinking water for specific contaminants on a regular basis. Results of regular monitoring are an indicator of whether or not your drinking water meets health standards. During the fourth quarter 2021, we did not complete all monitoring for coliform bacteria, and therefore, cannot be sure of the quality of your drinking water during that time.

What should I do?

- There is nothing you need to do at this time.
- The table below lists the contaminant(s) we did not properly test during the last year, how many samples we are required to take and how often, how many samples we took, when samples should have been taken, and the date on which follow-up samples were (or will be) taken.

If you have health issues concerning the consumption of this water, you may wish to consult your doctor.

What is being done?

We have since taken the required samples, as described in the last column of the table below. The samples showed we are meeting drinking water standards.

For more information, please contact Robert Hernandez at (714) 647-3341 or RYHernandez@santa-ana.org.

Contaminant	Required Sampling Frequency	Number of Samples Taken	When All Samples Should Have been Taken	When Samples Were Taken
Coliform	1 each quarter from Well 39	1	3Q, 4Q 2021	3Q 2021

Please share this information with all the other people who drink this water, especially those who may not have received this notice directly (e.g., people in apartments, nursing homes, schools, and businesses). You can do this by posting this public notice in a public place or distributing copies by hand or mail.



Drought is Here

Do Your Part To Conserve Water!



Enterprise Bridge over a section of Lake Oroville. In May 2022, water levels at Lake Oroville have dropped to 55 percent of its capacity. (Image provided courtesy of California Department of Water Resources)

Climate change is here to stay. Weather extremes brought on by climate change have reduced California's water supply since warmer temperatures reduce the amount of precipitation (rain) that fills our streams, lakes, reservoirs and aquifers. In drier seasons, California relies on these sources of water.

But California is now facing a historic level of dryness that has gone on for 3 years. And it's only getting worse: 2022 had the driest January, February, and March in over 100 years!

What does this mean to Santa Ana residents?

Each water agency has its own measures and target based on how well they've saved water in recent years. Since the 2015 drought, Santa Ana has made conservation a way of life and our water consumption continues to remain lower than it was in 2014. Nevertheless, we need to be mindful of the water supply throughout the state and do our part to protect our local water reserves. We are asking Santa Ana residents and businesses to voluntarily reduce their water use.

Santa Ana's water reduction actions for a Level 2 Water Supply Shortage, adopted by City Council resolution on June 7, 2022, limits outdoor watering to two days a week and only between the hours of 6 p.m. and 6 a.m. It also reduces the time to repair leaks to within 48 hours of notification by the City.

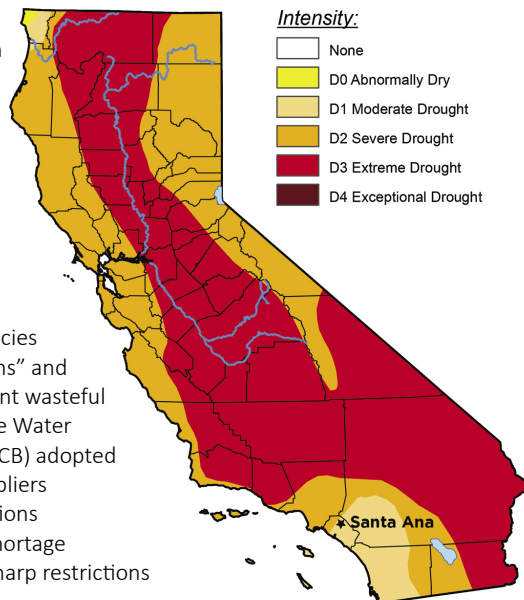
On the following pages, you'll read about these revised requirements for Santa Ana residents and businesses, which prohibit wasteful practices. You will also learn about the easiest ways to reduce your water consumption so we can do our part to conserve water.

We are in a third year of drought and need to use less water.

The severity of the drought put us in a state of emergency last year and Governor Newsom asked for a voluntary 15 percent reduction in water use statewide. But Californians haven't done enough to conserve. Since July 2021, the state has cut its overall water use by just 3.7%, woefully short of Newsom's 15% goal.

It's no surprise that Governor Newsom has urged water agencies to "take more aggressive actions" and increase enforcement to prevent wasteful water use. As a result, the State Water Resources Control Board (SWRCB) adopted regulation requiring water suppliers to implement conservation actions under Level 2 of their Water Shortage Contingency Plans, including sharp restrictions on landscape watering.

U.S. Drought Monitor California



May 10, 2022
(Released Thursday, May 12, 2022)

Snowpack Down to 38%

In April 2022, water officials surveyed snow in the Sierra Nevada Mountains. Rather than standing on 5 feet of snowpack, they were standing on dry ground. Warm days melted snow faster than expected. On April 1, this important source of water was down to 38% of average and is dropping daily. Snowpack is important because it provides about 30 percent of the water Californians use after it melts and flows into rivers and reservoirs.





Permanent Water Conservation Requirements

(Revised for Santa Ana's Level 2 Water Conservation Contingency Plan on June 7, 2022.)

All Water Users

- Leaks must be repaired within 48 hours of notification by the City.
- No washing down sidewalks or driveways.
- No excessive water flow or runoff that causes water to flow onto an adjoining sidewalk, driveway, street, alley, gutter or ditch.
- No washing vehicles with a hose, unless the hose is fitted with a shut-off nozzle.
- No operating a fountain or decorative water feature, unless the water is part of a recirculating system.
- No outdoor watering during and 48 hours following measurable rainfall.

Additional Guidelines

For Businesses and Owners of Industrial, Institutional and Commercial Properties

- Restaurants and other food service establishments can only serve water to customers on request.
- Hotels and Motels must provide guests with the option of not having towels and linens laundered daily.
- No outdoor watering of non-functional turf at commercial, industrial and institutional sites. Outdoor watering to ensure the health of trees and other perennial non-turf plants is permitted.

Alert:

Santa Ana's Permanent Water Conservation Requirements call for all leaks to be repaired within 48 hours of notification by the City.



Stop The Drip

When it comes to water leaks, every drop counts! Now more than ever, it's important to fix leaks in your home. It will not only help you save money, but it will also save water and ensure you are in compliance with Santa Ana's Permanent Water Use Efficiency Guidelines.

Fixing worn washers in a faucet with a slow steady drip saves 350 gallons per month and much more if the leak is a small stream. For toilets, an easy way to test for leaks is to put food coloring in the tank. Don't flush. Ten minutes later if you see color in the bowl ten minutes later, you have a leak.

Faucet and toilet leaks may be easy to detect. How can you tell if you have other leaks inside and outside your home?

Detecting Outdoor Leaks

- Turn off your house valve (all indoor and outdoor water).
- Check the meter register for any movement as described opposite. Any movement indicates a leak between the water meter and your home.
- If you suspect you have a leak, be sure to contact a plumber. If you don't, remember to check for leaks periodically.

Three Ways To Report Water Wasting

- 1 Use the "mySantaAna" smartphone app



Call the water hotline:
714-647-3500

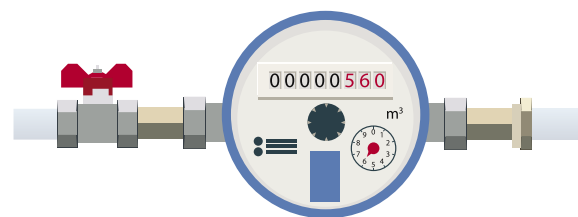


Email us at:
conservation@santa-ana.org

Detecting Indoor Leaks

Your water meter can help you determine whether your water-using fixtures or inside plumbing have inconspicuous leaks. It's the best place to begin your search. Here's what you can do:

- Turn off all faucets and water-consuming appliances, including evaporative coolers and icemakers in refrigerators.
- Check the meter register for any movement of the numbers or the low-flow indicator and note the time.
- Check the meter register again after 15-30 minutes. Any movement indicates a leak.





Small Changes. Big Impact.

Whether you're a homeowner or a renter, small changes inside and outside your home can have a big impact on your annual water use. These quick tips will help you get started today. Remember, it's up to each of us to do our part to use water wisely and preserve our water reserves for future generations.

Indoors

1. Stop Running Water. Turn off the water when you're brushing your teeth and shaving. Doing so will save up to 2.5 gallons per minute.

2. Limit your Showers to 5 Minutes. Spend only 5 minutes in the shower and save up to 8 gallons each time.

3. Scrape Before Washing. Scrape your dishes instead of using your kitchen faucet to wash food off your plates.

4. Fix The Drips. A leaky faucet can waste more than 3,000 gallons per year. Find and fix plumbing leaks immediately. Remember, Santa Ana's Level 2 Water Conservation Contingency Plan requires leaks to be repaired within 48 hours of notification by the City.

5. Buy Efficient Appliances. Premium high efficiency toilets use 20% less water. Rebates start at \$40. High-efficiency clothes washers use 55% less water and can save up to 11,000 gallons per year. Rebates start at \$85.

6. Control The Flow. Install a water efficient shower head that uses no more than two gallons per minute and save up to 2,700 gallons per year. Install an aerator to your kitchen faucet and save 1.5 gallons per minute.

7. Stop The Running. A continuously running or leaking toilet can waste about 200 gallons of water every day. Replacing old or worn-out toilet flappers (e.g., valve seal) that cause leaks can be a quick and easy fix to save water.

8. Wash Full Loads Only. Washing only full loads of laundry and dishes can save 15-50 gallons per load.

Outdoors

1. Put down the Hose. Use a broom instead of a hose to clean your driveway and sidewalks and save 100 gallons each time. Use a bucket and soapy sponge instead of a hose to wash your car and save up to 100 gallons of water each wash.

2. Don't Over-Water. You should only be watering outdoors 2 days a week according to Santa Ana's Level 2 Water Conservation Contingency Plan. Eliminating just one watering day can save 500 gallons a week or more!

3. Choose the Right Time. You should only be watering outdoors between the hours of 6 p.m. and 6 a.m. Sticking to these hours reduces evaporation and saves up to 5 gallons each time you water.

4. Mulch. Surround your plant with mulch and reduce water evaporation by protecting soil surface from direct sunlight.

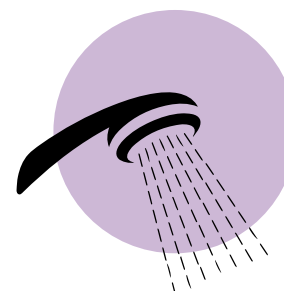
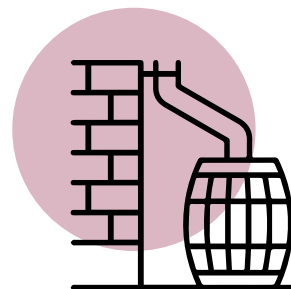
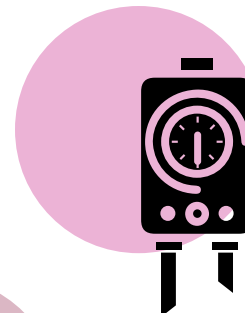
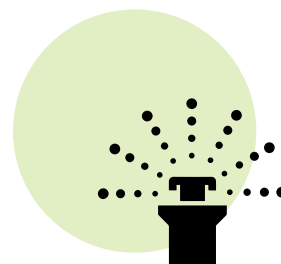
5. Maintain Your System. Check your sprinkler system for leaks, overspray and broken sprinkler heads and save up to 500 gallons per week.

6. Control What You Need. Install a smart sprinkler controller that adjusts watering based on weather, soil type and amount of shade, and save 40 gallons a day.

7. Capture Rain. Collect and reuse rainwater for your lawn or garden with a rain barrel or cistern. Rebates start at \$35 per barrel or \$250 per cistern.

8. Go Native. California Friendly® and OC native plants are naturally drought tolerant and use up to 85% less water per year than a traditional lawn. See the article on page 22 for more information and inspiration.

For more about water conservation, visit www.santa-ana.org/water-conservation.





Take The Pledge & Win

There's no better way to show your commitment to water conservation than to take a pledge! When you do, you'll receive a gift from us by following these simple steps:

1. Fill out your pledge.
[cut along the dotted lines]
2. Attend one of the community events listed below.
3. Hand in your pledge at the Water Resources Division booth.
4. You'll have a choice of one of our VIP giveaways.*
* Limited to one per family.



Water Conservation Pledge

I pledge to stop water waste, uphold Santa Ana's Permanent Water Conservation Requirements, and use water wisely in my daily life.

Signature

Date

"Our community has a long history of environmental stewardship. We are proud of our community's conservation efforts, which have made a significant impact on our water consumption. While Santa Ana is not directly impacted by current water shortages faced by other areas of California, we want to actively engage Santa Ana residents and businesses to continue saving water, protect our local water reserves and help build a more sustainable future for us all."

In The Community

Be sure to visit the Water Resources Division booth at these community events for more information about ways you can use water efficiently and help conserve our precious resource!



We are planning to be at more events in the near future. Please check out our webpage at www.santa-ana.org/departments/public-works/ for updates!



**Wednesdays,
June 8 – August 31**

**Movies in the
Park Series**

Select City Parks

Saturday, June 18

**Juneteenth
Celebration**

Centennial Park

Monday, July 4

**Fourth of July
Celebration**

Centennial Park

Thursday, July 28

**Shakespeare in
the Park presents
"Romeo and Juliet"**

Birch Park

**Thursdays,
August 4 - 25**

**Concerts in the
Park Series**

Select City Parks



Go Native and Save Water!

Did you know that up to 70% of household water is used for outdoor gardens and landscapes? Rather than feed your thirsty lawn and plants that account for most of your total water bill, why not use Orange County natives?

OC native plants are a great landscaping choice for your home garden. Not only are they beautiful, but they require little to no water and support our local habitats, bird and insect life, and the ecosystems upon which we all depend. What's more, OC natives don't need fertilizers and pesticides.



Save water.



Reduce maintenance.



Cut pesticide use.



Support local ecology.



Help the birds and butterflies!

The simple act of replacing your lawn with OC native plants is a powerful way to save money and will make a difference to our environment by conserving water...our most precious resource! This is particularly important considering the extreme drought conditions we face today and the reality that droughts will continue to impact California in the future.

Turning your yard into a drought resilient landscape is easy. Here are a few tips to consider before getting started:

Tips for OC Native Gardens

Set Your Foundation

- Consider hiring a professional who can ensure your design is beautiful and functional.
- Give structure to your yard with hardscapes and OC native evergreen shrubs that will remain green year-round and act as a backdrop to more colorful perennials and annuals.
- Plant in drifts and swaths of like plants, rather than a sprinkling of different plant species, for a simple yet powerful visual effect. Also consider planting in layers of increasing height from front to back.

Plant Wisely

- Choose the right season. Take advantage of cooler temperatures and rainfall by planting in fall through early spring.
- Observe the amount of sun and shade in your yard throughout the day and identify the type of soil and drainage for each area. Then group plants with similar water, sun and soil needs.
- Give plants room to grow into their mature size. Look for the mature sizes on the container labels and space plants accordingly.

Let Nature Take Its Course

- OC natives require little irrigation beyond natural rainfall after their first year of planting. During the first year, deep water once every 1-2 weeks, mimicking natural "rainfall" by hand-watering or using an efficient irrigation device, such as drip irrigation.
- Be vigilant and check the soil for signs of dryness as you being to transition to less frequent irrigation.
- Use your landscape to capture water and minimize runoff by using permeable surfaces wherever possible, directing water from downspouts, and contouring your landscape with berms, swales, and dry creek beds.

Turning your yard into a drought resilient landscape doesn't have to be an overwhelming endeavor. Keep in mind that you can go at your own pace and transform one area at a time!



Micro-bubbler drip irrigation systems apply gentle streams of water that are typically adjustable for different types of plants and spacing. Since water is applied directly to the root zone, these irrigation systems help avoid runoff waste. Micro bubblers are ideal for shrubs, trees and dense planting areas. A Rain Bird Micro-Bubbler is pictured above.



Image provided courtesy of Nadiya Balukh



OC Natives (Requiring little to no watering)

Trees/Tree-like Shrubs

- Oaks, such as Coast Live Oak (*Quercus agrifolia*) or Engelmann Oak (*Quercus engelmannii*)
- Southern California Black Walnut (*Juglans californica*)
- Goodding's Black Willow (*Salix gooddingii*)
- Cottonwood (*Populus fremontii*)
- Toyon (*Heteromeles arbutifolia*)
- Elderberry (*Sambucus nigra*)

Shrubs/Bushes

- Ceanothus, such as Hoaryleaf Ceanothus (*Ceanothus crassifolius*) or Woollyleaf Ceanothus (*Ceanothus tomentosus*)
- Sugar Bush (*Rhus ovata*)
- Lemonade Berry (*Rhus integrifolia*)
- Hollyleaf Redberry (*Rhamnus ilicifolia*)
- Laurel Sumac (*Malosma laurina*)
- Western False Indigo (*Amorpha fruticosa*)



Perennials/Wildflowers

- Matilija Poppy (*Romneya coulteri*)
- California Wildrose (*Rosa californica*)
- California Buckwheat (*Eriogonum fasciculatum*)
- White sage (*Salvia apiana*)
- Black sage (*Salvia mellifera*)
- Cleveland sage (*Salvia clevelandii*)
- Bladderpod (*Peritoma arborea*)
- Bush Sunflower (*Encelia californica*)
- Chaparral Mallow (*Malacothamnus fasciculatus*)
- California Sagebrush (*Artemisia californica*)
- Gooseberry (*Ribes speciosum*)
- Sticky Monkey Flower (*Mimulus aurantiacus*)
- Woolly Bluecurls (*Trichostema lanatum*)
- Fuchsia (*Epilobium canum*)
- Golden Yarrow (*Eriophyllum confertiflorum*)
- Common Yarrow (*Achillea millefolium*)
- Showy Penstemon (*Penstemon spectabilis*) or Foothill Penstemon (*Penstemon heterophyllus*)
- Narrow Leaf Milkweed (*Asclepias fascicularis*)
- Common Tidy Tips (*Layia platyglossa*)
- Blue-Eyed Grass (*Sisyrinchium bellum*)

Ground Covers

- Clustered Field Sedge (*Carex praegracilis*)
- Common Rush (*Juncus patens*)
- Purple Needlegrass (*Stipa pulchra*)
- Deergrass (*Muhlenbergia rigens*)
- California Aster (*Corethrogyne filaginifolia*)
- Wishbone Bush (*Mirabilis laevis*)
- Yerba Mansa (*Anemopsis californica*)

Vines

- Virgin's Bower (*Clematis ligusticifolia*)
- Southern Honeysuckle (*Lonicera subspicata*)
- Morning Glory (*Calystegia macrostegia*)



All Images provided courtesy of Nadiya Balukh



Inspiration

Here are some designs to inspire you as you consider transforming your garden with OC Natives.

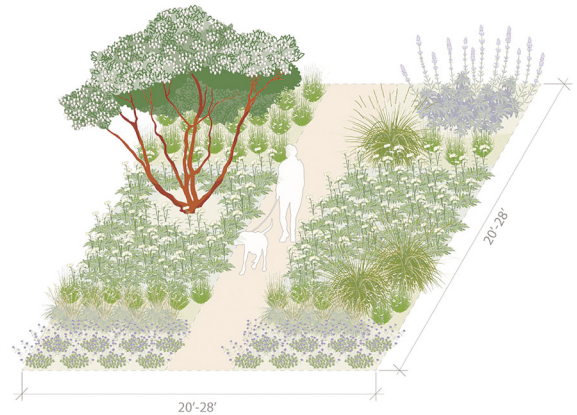
These diagrams and ideas are provided courtesy of California Native Plant Society. Be sure to visit its site, **"Bloom! California,"** for more information and helpful tips!

Welcoming Entries



What You'll Need:

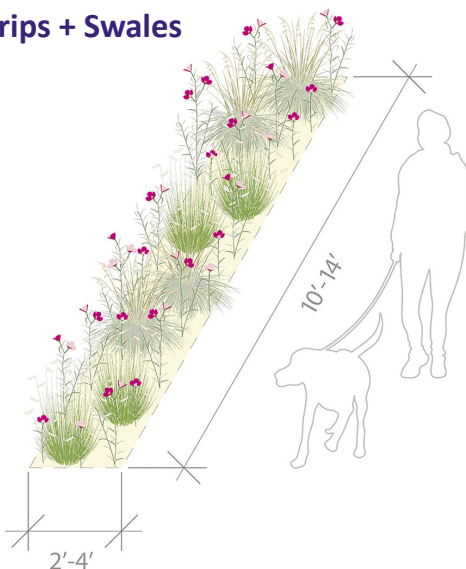
Purple Clarkia (seed)
8-12 Douglas Iris
8-12 TOTAL PLANTS



What You'll Need:

Common Manzanita	10-20 Coyote Mint
1 White Sage	20-35 Blue Grama
3 Deergrass	20-60 Common Yarrow
10-15 California Fescue	75-125 TOTAL PLANTS

Linear Strips + Swales



What You'll Need:

Purple Clarkia (seed) 4-6 California Fescue
4-6 Blue Grama **8-12 TOTAL PLANTS**

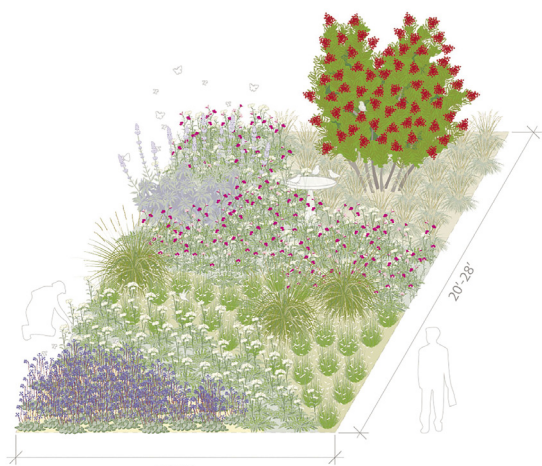


What You'll Need:

Purple Clarkia (seed)
8-12 Douglas Iris
8-12 TOTAL PLANTS



Sunny Pollinator Patch



What You'll Need:

Purple Clarkia (seed) 15-25 Blue Grama
 1 White Sage 20-30 California Fescue
 1 Toyon 30-60 Common Yarrow
 3 Deergrass **80-140 TOTAL PLANTS**
 10-20 Desertbells

Shady Refuge



What You'll Need:

1 Valley Oak 15-25 Douglas Iris
 3-4 Red Flowering Currant 15-25 Hummingbird Sage
 10-20 California Fescue 15-25 Coyote Mint
 15-25 Common Yarrow **75-125 TOTAL PLANTS**

Resources:

Bloom! California: For more inspiration and design tips.
www.bloomcalifornia.org/garden-inspiration

Calscape Garden Planner: An online tool for design ideas and a list of plants suitable to your location, style and goals. www.gardenplanner.calscape.org

Tree of Life Nursery: A nursery located in San Juan Capistrano dedicated to growing native plants. www.californianativeplants.com

California Native Plant Society: A top resource from California's native plant experts. www.cnps.org/gardening

Be Water Wise: Learn about MWD's rebate programs at www.bewaterwise.com and download a plant guide for Orange County at: www.bewaterwise.com/assets/mwd_plantguide-screen_oc_4_23.pdf





Retrofit To Be Water Fit!

Water efficiency means being smart about using water through water-saving technologies around the house.

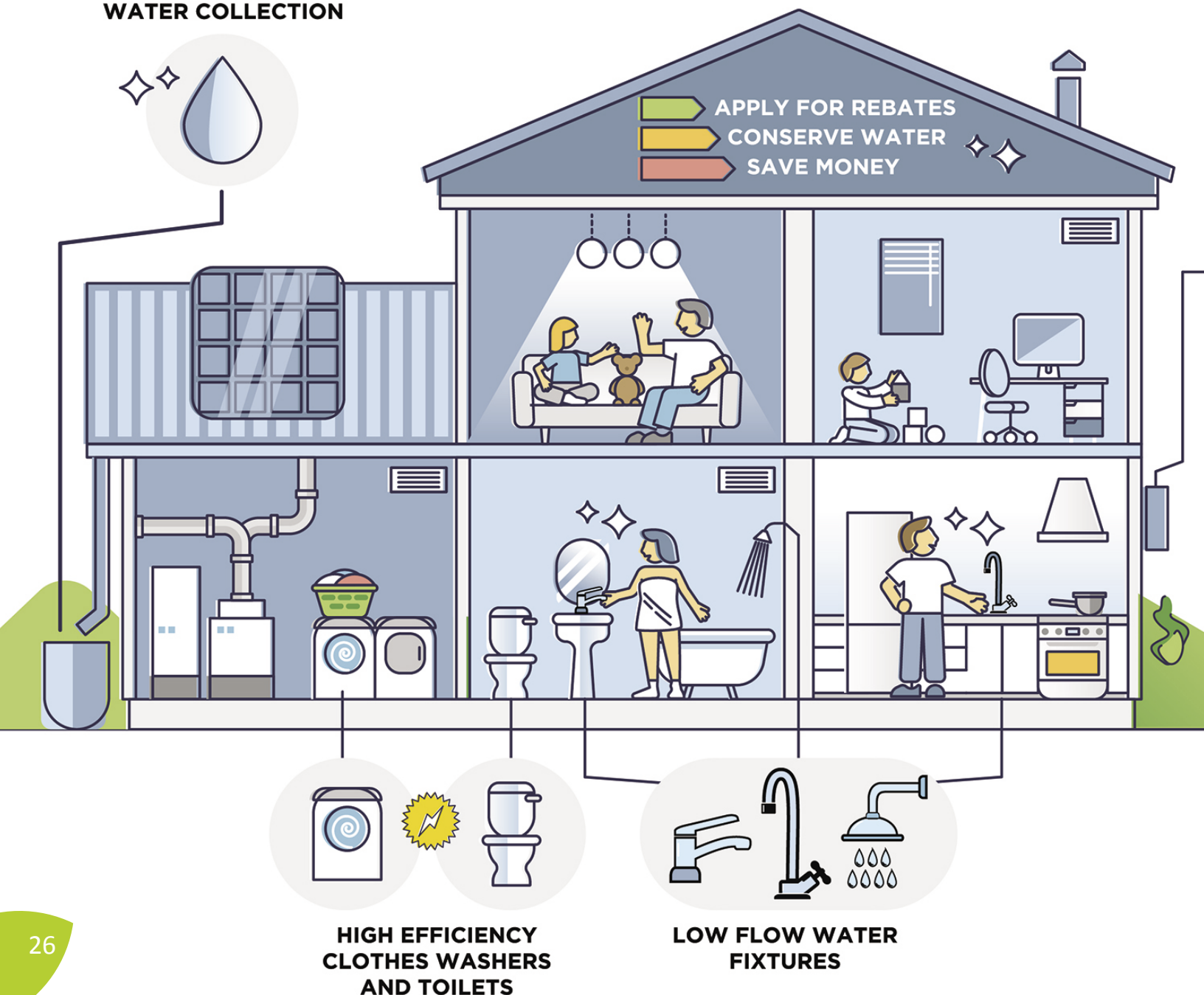
Switching to high-efficiency appliances and water-efficient devices makes being water smart easy. What's more, through our partnership with MWD and its SoCal

Water\$mart program, you can apply for money-saving rebates. Be sure to visit www.socalwatersmart.com/en/residential for a list of qualifying products—from flow monitor/leak detection devices and high-efficiency toilets to clothes washers.

For other devices, look for products with a 'WaterSense' label, which are backed by an

independent, third-party certification and meet EPA's specifications for water efficiency and performance. You can visit the EPA's website at www.lookforwatersense.epa.gov/products/ to find WaterSense products in your area. By retrofitting your home to be water fit, you will save on your water bills. Best of all, you'll be doing your part to preserve water for future generations!

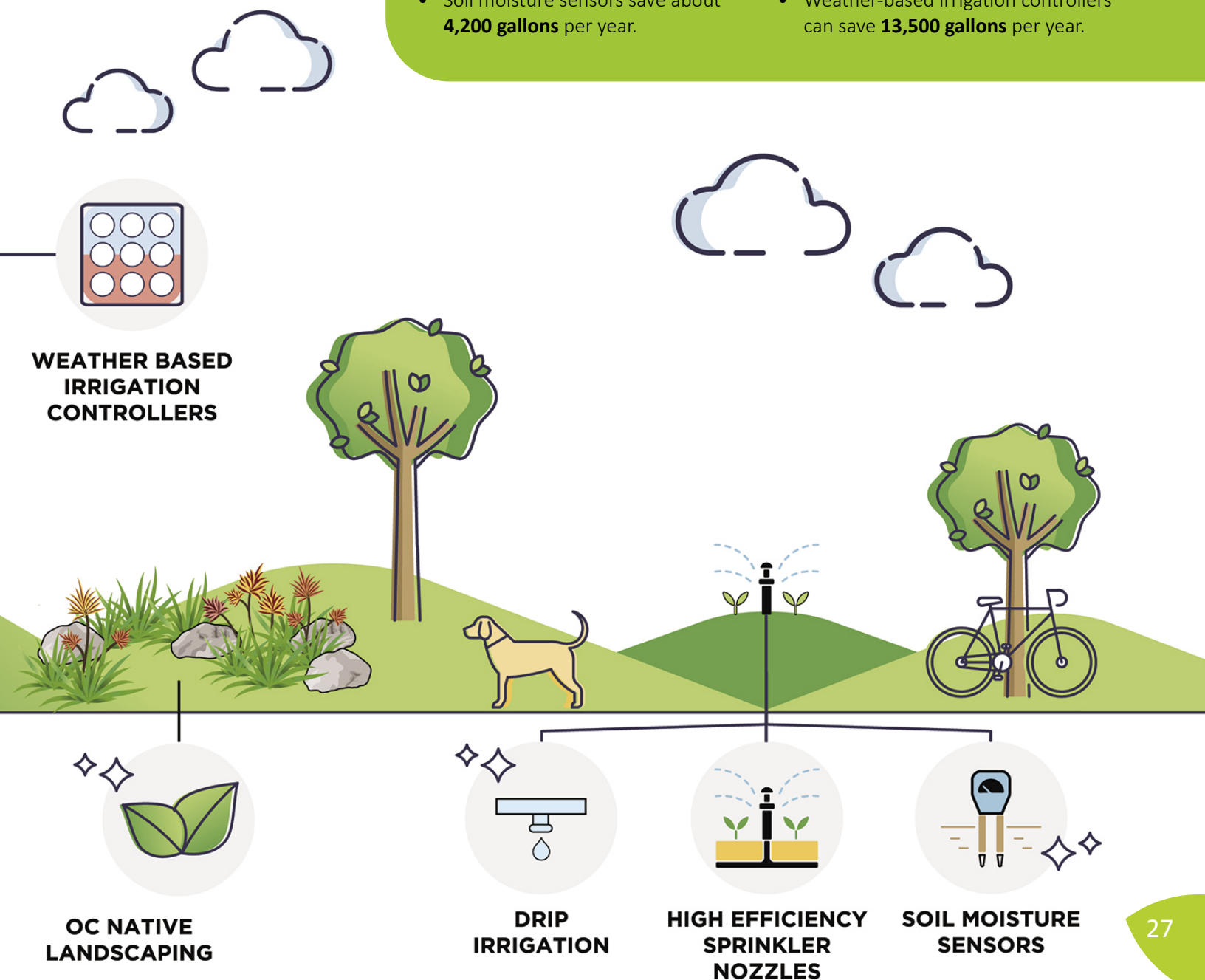
RAIN WATER COLLECTION





How Much Can I Save?

- High-efficiency clothes washers save **11,000 gallons** per year.
- High-efficiency toilets can save **8,000 gallons** per year.
- Low-flow showerheads can save **2 gallons** per minute.
- Soil moisture sensors save about **4,200 gallons** per year.
- Rain barrels can save about **600 gallons** per year.
- Turf removal saves about **44 gallons** per square foot per year.
- High-efficiency sprinkler nozzles can save about **1,400 gallons** per year.
- Weather-based irrigation controllers can save **13,500 gallons** per year.





Creativity and Conservation

Youth Compete While Learning to Use Water Wisely

To create awareness of California's ongoing drought conditions and the importance of conserving water, Santa Ana youth were challenged to create posters using the theme "Every Drop Counts: Use It Wisely!" More than 260 students competed for the City of Santa Ana's 2022 Youth Water Poster Contest, using their creativity to illustrate ways in which we all can save water.

The contest, which is held citywide each year in partnership with the Santa Ana Unified School District (SAUSD), concluded in spring after a panel of judges selected twelve winners.

"The Youth Water Poster Contest is an important educational initiative sponsored by the Public Work's Water Resources Division each year," says Cesar E. Barrera, Deputy Public Works Director/Water Resources Manager. "This year's theme underscores the importance of water conservation now that we are facing another serious drought and educates students about smart water use habits."

A special awards ceremony was held in July 2022 during the City Council's monthly meeting, where winners were presented with award certificates. The winners, accompanied by their families, were then invited to a dinner reception where they received their prizes ranging from gift certificates to Nintendo Switches and iPads. A special drawing for a \$200 gift certificate was also held for teachers with high student participation.

We thank all youth who participated for their outstanding work and to this year's judges for their support in making the contest a success:

- **Tram Le**
Arts & Culture Specialist
- **Gabriela Cramer**
Economic Development Specialist
- **Bianca Zurita**
Community Development
Commission Secretary



Every Drop Counts: Use It Wisely!

We extend a special congratulations to the Grand Prize Winners and Finalists listed here!

Ages 5-8

- 1st Place: **Duoc Man Tue L. Nguyen**
- 2nd Place: **Brian A. Cano**
- 3rd Place: **David L. Cobian**

Ages 9-12

- 1st Place: **Sophia Tran**
- 2nd Place: **Sophia A. Molina**
- 3rd Place: **Rolando Regalado**

Ages 13-14

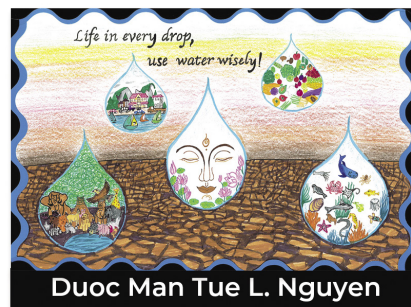
- 1st Place: **Juliana Gallardo**
- 2nd Place: **Kimberly Barajas**
- 3rd Place: **Michelle Perez**

Ages 15-18

- 1st Place: **Laisha Echegoyan**
- 2nd Place: **Sofia Sevilla**
- 3rd Place: **Asheley Flores**

Grand Prize Winners 2022

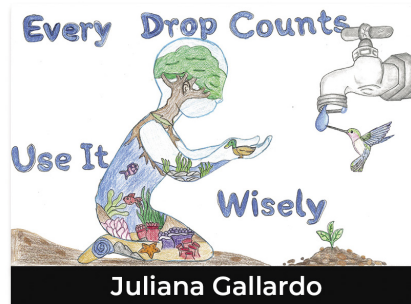
Ages 5-8



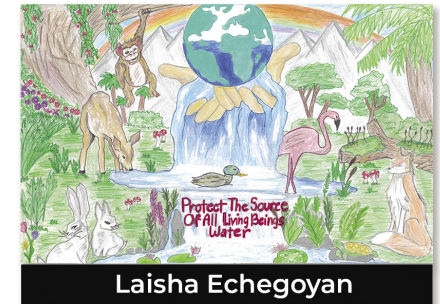
Ages 9-12



Ages 13-14



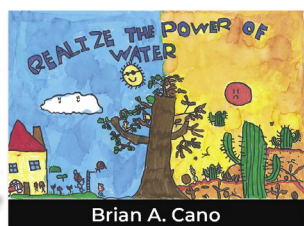
Ages 15-18



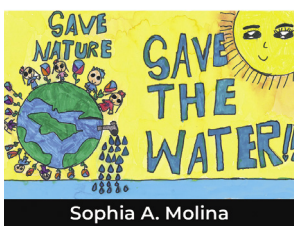


Finalists 2022

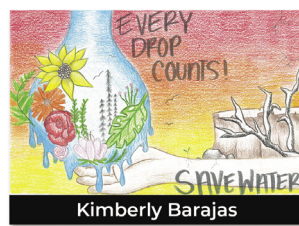
Ages 5-8



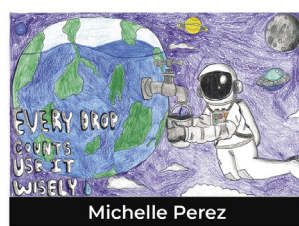
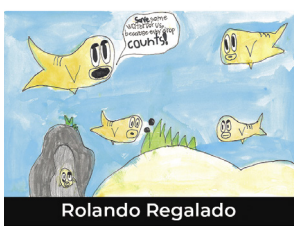
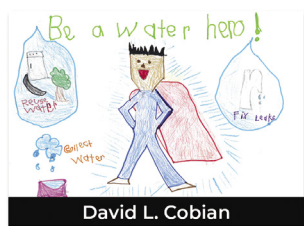
Ages 9-12



Ages 13-14



Ages 15-18



Utility Box Wraps

Our poster contest winners deserve to be celebrated!

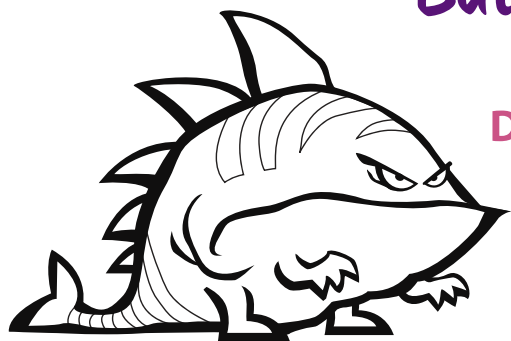
We are showcasing their exceptional work on high-quality vinyl wraps. Not only does this public art program help beautify our city, but it also promotes our annual Youth Water Poster Contest and encourages participation!

Be sure to keep an eye out for these brightly wrapped utility boxes around town!



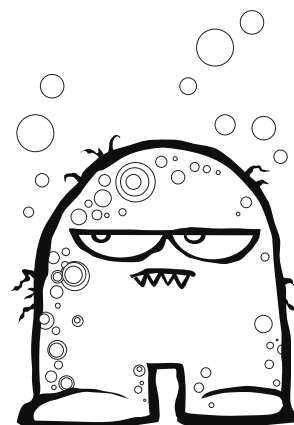
Color These Water Wasters

But Don't Be One!



Drainiac

Drainiac loves to run the tap. She rinses her dishes before putting them in the dishwasher and leaves the water running while brushing her teeth.

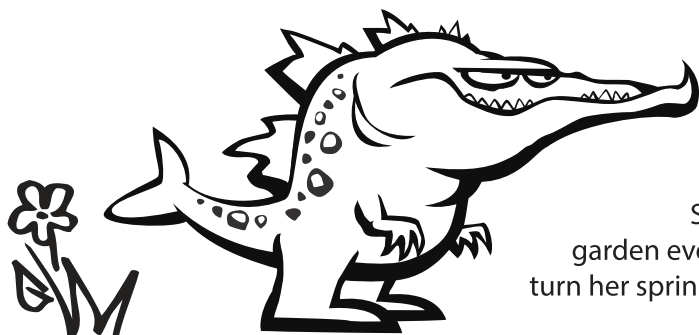


Swirly

Swirly likes to watch toilet bowls swirl, leak, and run constantly. Swirly even uses his toilet as a garbage can, flushing down tissues.

Drip Drip

Drip Drip lets his sink drip all day and all night. He doesn't care that leaky faucets waste hundreds of gallons a week!



Sogosaurus

Sogosaurus waters her lawn and garden every day. Sometimes she even forgets to turn her sprinkler off and sprays onto the sidewalk!

Fun Fill-In

Figure out the missing words. Then put together the letters in the oval to reveal the mystery word.

- If your _____ has a leak, you might hear a drip. Hint: You get clean in this.
- Water is measured in _____. Hint: Milk comes in these too.
- Toilets sometimes have _____ leaks, which means you can't hear them.
- Use your _____ and ears to help find leaks at home.
- Be sure to turn off the faucet when you _____ your teeth.



Mystery Word



Ways Kids Can Save Water

Word Scramble

Directions

You can help conserve water. Below are some ways you can save water in and outside your home. Fill-in-the-blanks by unscrambling the words at the bottom of this page and placing them correctly in the sentences.

Messages

1. Take shorter _____. A _____ - _____ shower uses 25 _____ of water.
2. Turn off the water while _____ your teeth.
3. Don't use the _____ as a trash can—_____ only when necessary.
4. Tell your parents if you see a leaking _____ or if the toilet "runs" after flushing. These _____ can waste _____ of gallons of water a year and that is _____ down the drain.
5. It also takes a lot of water to wash _____ and to do the _____. If you help with these household chores, only run these appliances with full _____.
6. Collect _____.
7. Wash your bike with a _____ and rag, not a _____.
8. Water the yard, not the _____ or concrete. Tell your parents if any of the _____ heads are not _____ properly.

Scrambled Words:

erohssw _____
 uifevetnim- _____
 Inlagso _____
 bnrhigus _____
 eltoit _____
 suflh _____
 dsesih _____
 ydnalur _____
 saldo _____

itarnawer _____
 utbcke _____
 oehs _____
 cutf _____
 aeksl _____
 ushsandto _____
 mnyeo _____
 alkesdiw _____
 psnriekrl _____
 innftugcnio _____



Building Efficiency Through Technology

During 2021, the City of Santa Ana's Water Resources Division continued its transformation into a technology-driven utility powerhouse.

Over the past 15 years, we have integrated state-of-the-art technology throughout the department to strengthen the city's resiliency and efficiency, safeguard future services and protect public assets. We have advanced these Capital Improvement Program (CIP) projects while aggressively pursuing grant funding to minimize the financial impact to our customers.

As two of the following examples attest, these improvements not only contribute to what makes us an award-winning utility, but they are already having a major impact on our ability to better respond to issues throughout our production, treatment and delivery system.

Santa Ana's Collection System Wins Statewide Award

Each year, the California Water Environment Association (CWEA) recognizes the state's many water agencies for "outstanding maintenance programs, regulatory compliance and safety and training procedures." In 2021, its award for Medium Collection System of the Year went to the Water Resources Division.

These honors go to the agency that best meets the various regulations "governing environmental safeguards, safety, and the quality of staff training." CWEA assesses the equipment to see how well modern technology is being applied as well as the management teams to evaluate how finances are handled.

Reaching the statewide competition means first winning recognition from the Santa Ana River Basin Section (SARBS), one of CWEA's seven regional and 17 statewide local sections.

Our Santa Ana sewer services staff successfully presented our system's merits to local SARBS judges at the City Yard in November 2021.

After winning the local award, we advanced to the statewide competition where an even more detailed overview of our accomplishments was presented to CWEA judges.

Representatives from Santa Ana's Water Resources Division swept up the local award at SARBS' Annual Awards Banquet in March 2022, and a month later, the statewide award during CWEA's Awards Luncheon in Sacramento.

This is the second consecutive year Santa Ana's collection system has garnered recognition. The Santa Ana team first entered the local SARBS competition in 2019, quickly winning the following year's Award for Best Medium Size Sewer Collection System in 2020.

GIS Mapping Award Puts Us On The National Map

In 2021, the City of Santa Ana's Water Resources Division also earned a place on the national stage by winning one of IDC Government Insights' two Smart Cities North America Awards.

The "Smart Water Award" went to Santa Ana's Water System Mobile Field Data Management and Mapping project for implementing "infraMAP" by iWater, Inc. This cloud-based digital work order management and mapping system is accessible by staff. It allows City maintenance crews and engineering staff to respond quickly to emergencies and lets them collect, store, and retrieve data as well as facilitate routine maintenance on water infrastructure assets.



CWEA representative Jaime Eichenberger (far left) and CWEA President Arvind Akela (far right) presented the award to Santa Ana's (left to right) Leif Lovegren, Heidi Chou, Alejandro Reyes, DeShannon Braswell and Angel Agosto at the CWEA annual conference in Sacramento.

Santa Ana, CA

is one of two winners in the category of

Smart Water



IDC Smart Cities
North America Winner 2022



Before introducing this software, maintenance of the water and sanitary sewer systems which Santa Ana's Water Resources Division maintains was tracked on paper—from work orders to maps showing location of assets. Our system, which has an average daily demand of 30 million gallons, creates a mountain of paperwork needed to be transposed and entered into existing management systems. It was a laborious process that could result in outdated, incomplete and unsharable information. Since implementing "infraMAP," there has been a reduction in down time and improved customer service.

IDC Government Insights is part of International Data Corporation (IDC). It works with governments throughout the world to digitally transform systems and improve improving the efficiency, effectiveness, and delivery of government programs and services. This is IDC Government Insights' Fifth Annual Smart Cities North America Awards, which recognize progress by North American municipalities in executing Smart Cities projects.

Why is GIS Mapping Important?

All of our 450 miles of water pipelines, 390 miles of sewer pipelines and 45,000 connections are plotted on GIS. The software reduces down time and improves customer service by helping operators minimize impacts and disruptions from main breaks and other emergencies. The cutting-edge instrumentation also helps save the City money by reducing design and construction costs for infrastructure projects.

Our Award-Worthy New SCADA System

Our upgraded Supervisory Control and Data Acquisition system (SCADA) control system also deserves recognition.

Santa Ana's SCADA system aids high-level supervisory management through networked data communications, graphical user interfaces, and peripheral devices like programmable controllers to interface with process plant or machinery.

The original system was established in 1998 and regularly updated. Now it is being replaced with a technology platform of entirely new hardware and software. The project began in May 2021. After dealing with supply chain delays in acquiring hardware last year, the first installation at the Walnut pump station is now complete. Since the Walnut pump station is our most complex site, this first installation serves as a "proof of concept" and clears the way for deployment throughout all our facilities by first quarter of 2023.

The Walnut station will also be the second server location, creating a layer of redundancy that is important in the event of an emergency such as a water main break, power failure, or damaging fire.

In the event of a water main break where we may lose pressure in one area, we can turn on other facilities until our maintenance crews repair it. If a power failure occurs, the SCADA system will acknowledge the interruption and turn on generators during the outage, bringing the station back into service and pumping water out to customers. SCADA is highly valuable in the event of a fire when fire hydrants need to be at full strength. With SCADA, we have eyes on the system and can immediately help firefighters with increased pressure without impacting area customers.

According to Water Services Production Supervisor Juan Ramirez, the upgraded SCADA platform is highly adaptable, allowing us to make important enhancements quicker.

"One of the benefits of the more adaptable SCADA platform will be adding equipment and technology specifically for PFAS monitoring," Ramirez said. "If, for example, the new system detects PFAS and shuts the asset down, we are immediately alerted and can see where it is coming from. We can quickly send staff out to check it and begin fixing it where before the entire system had to be turned off and rebooted if we wanted to add new assets."





Useful Numbers

General Services

Building Inspection Request Line
714-667-2738

City Manager
714-647-5200

Fire Department
714-573-6000
(call 911 for emergencies)

Mayor and City Council
714-647-6900

Parks & Recreation
714-571-4200

**Planning & Building,
Planning Division**
(Environmental Review, Historic
Preservation & New Development)
714-667-2700

Police Department (general line)
714-245-8665
(call 911 for emergencies)

Public Library
714-647-5250

Public Works

General Maintenance and Repairs

Sanitation

Street Sweeping

Trees

Weed Abatement
714-647-3380

Public Works Emergency Repairs
(after hours) 714-834-4211

Public Works Information
714-647-5690

Shopping Cart Removal
714-667-2780

Street Lights
714-647-5074

Maintenance Services

Curb & Sidewalks
Pothole Repairs
714-647-3380

Graffiti Removal
877-786-7824

Water Resources

Sewer/Storm Drain Maintenance
714-647-3380

Water Administration
Water Engineering
Water Service & Main Location
714-647-3320

Water & Sewer Permits
714-647-5020

Water Customer Service and Billing
714-647-5454

Water Maintenance & Construction
714-647-3320

Water Production
714-647-3320

Water Quality & Conservation
714-647-3320



Traffic and Transportation

Signal Repairs

(Weekdays 8 a.m.-5 p.m.)
714-647-5620

Signal Repairs - Police Department

(Evenings/Weekends)
714-834-4211

Street Work Permits

714-647-5039

Traffic Operations

714-647-5619

Refuse Collection

Trash Cart Replacement/

Dumpster Orders

714-558-7761

Recycle Used Motor Oil & Filters

714-558-7761 (residents with
curbside trash collection)
714-834-6752 (residents with bin service)

Other Helpful Numbers

Bus Information

714-636-7433

Noise Complaints

714-834-4211

Overcrowding

714-667-2780

Poison Control Center

800-876-4766



You can request a copy of the most recent summary of the Watershed Sanitary Surveys and the Source Water Assessment by calling MWD at 213-217-6000.

For a copy of the complete assessments for Santa Ana's distribution system and groundwater, call the Santa Ana Water Resources Division at 714-647-3320. If you have questions about your water quality, contact:

City of Santa Ana, Water Resources Division

Cesar Barrera P.E., Deputy Public Works Director/Water Resources Manager

Rudy Rosas P.E., Principal Civil Engineer

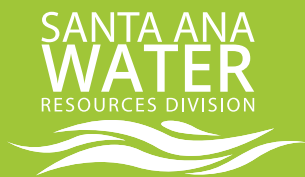
Robert Hernandez, Water Services Quality Supervisor

220 South Daisy Avenue, Bldg A

Santa Ana, California 92703

phone: 714-647-3320 | fax: 714-647-3345

web: www.santaanaccr.org



Get Involved

Get Involved If you would like to be involved in issues and decisions that affect the quality and cost of your drinking water, City Council meetings are open to the public and held at 5:45 p.m. on the first and third Tuesday of each month. The meeting location is at City Council Chambers, 22 Civic Center Plaza Santa Ana, CA 92701.

For more information, contact:

Santa Ana City Council

20 Civic Center Plaza

P.O. Box 1988, M31

Santa Ana, CA 92702

phone: 714-647-6900

Follow Us



www.facebook.com/CityofSantaAna/



www.instagram.com/cityofsantaana/



www.santa-ana.org



www.santaanaccr.org

Este informe contiene información importante sobre su agua potable.

Favor de comunicarse con la División de Recursos Hídricos de la ciudad de Santa Ana al 714-647-3320 para obtener asistencia en español.

Báo cáo này chứa thông tin quan trọng về nước uống của bạn. Xin vui lòng liên lạc Santa Ana tại 714-647-3320 để được trợ giúp bằng tiếng Việt.

这份报告含有关于您的饮用水的重要讯息。请用以下地址和电话联系 Santa Ana Water Resources Division 以获得中文的帮助: 714-647-3320.