

# 2020 WATER QUALITY REPORT

Protecting the Safety and  
Reliability of Your Water

## Water Quality



Learn about the sources and quality of your drinking water, how we monitor it and protect you.

## Sustainability



Discover how we invest in our infrastructure and community, flowing value to you everyday.

## Santa Ana Kids



For kids ... explore and learn about your water, the environment, contests and more.

## Santa Ana News



Read about our rebate programs, latest news, useful telephone numbers and more.



## A Message From Nabil Saba

The services that the City of Santa Ana Public Works Agency provides our community were never more essential than they were in 2020.

The COVID-19 pandemic made supplying safe drinking water even more crucial to the community as we ensured a secure flow to homes and hospitals, food services and first responders. Waste management also demanded both extra care and expedience. Additionally, our maintenance of public infrastructure took on added urgency to keep streets and sidewalks, sewers and storm drains unimpaired.

A key measure of success for a Public Works Agency is that the public rarely needs to think about the work we do. We endeavor to keep our many services operating without incident or interruption. This annual Water Quality Report is that yearly exception when we invite you to review what we do that directly impacts the quality of your daily life.

In this 2020 Report you will read about ...

- How our award-winning Water Resources Division ensures that the quality of Santa Ana's water surpasses all state and federal safety requirements.
- The measures we are taking to strengthen the reliability and resiliency of our water distribution and wastewater management.
- The many improvements we have made and propose to make to Santa Ana's infrastructure, focusing on cleaner streets and well-maintained medians, improving the condition of our sidewalks and the trees that line them, and ensuring timely and efficient trash collection.

- And, as a special highlight, you'll meet some of the women who are a driving force behind the efficiencies, processes and direction of our Water Resources Division.

### Raising The Bar On Our Quality of Life

The City has secured \$143 million in funding from the federal government for COVID-19 recovery. I've been working with the City Manager to make effective use of our allocation of these funds, dubbed "Thrive Santa Ana," to best improve the services and infrastructure that most benefits quality of life throughout the city.

Furthermore, in keeping Santa Ana a beautiful place to live, work and visit, the Public Works Agency recently sponsored the first annual Neighborhood Block Beautification Contest (NBBC). The contest recognizes and rewards residents whose neighborhood blocks showcase properties that reflect community pride through their aesthetically-pleasing appearance.

I am pleased to share this review of our accomplishments during this historic year, and invite you to contact us directly with any questions you may have.

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.

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

**Clean, reliable water is the result of planning, technology and teamwork.**

Despite the trials and challenges posed by the global COVID-19 pandemic, the last year has proven to be one of strength, dedication and resilience for the City of Santa Ana's Water Resources Division.

As essential workers, our team of water professionals – from field crews to treatment operators – were on the job throughout the crisis to ensure our customers received the clean, safe, high-quality water they have come to expect.

Staff was undeterred in maintaining water quality above regulations set by California and the federal government, delivering millions of gallons of it each day to Santa Ana homes and businesses.

The system's reliability is dependent on regular maintenance and upgrades to the pipelines, pumps and other equipment in our 27-square-mile delivery system. That's why we have launched several new infrastructure projects and are preparing for others in the coming years.

Key to our vision is a number of important projects that will advance our goal of being a technology-driven utility powerhouse. Technology is integral to our Capital Improvement Program to strengthen our resiliency and efficiency. We have worked for the last 15 years to actively integrate technology throughout the organization.

The Water Resources Division is committed to ensuring that the City's water and sewer infrastructure and services are state-of-the-art. We are aggressively pursuing grant funding to minimize the financial impact to our customers, while safeguarding future services and protecting public assets.

Here are some of the ways we are incorporating technology and maximizing your investment in the utility:

- **Advanced Metering Infrastructure (AMI)** – This \$30 million project will give customers access to real-time consumption data that can help them save water and money. The technology will also help staff plan, construct and optimize the water distribution system and meet state drought mandates.
- **Sophisticated mapping software** 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.
- **SCADA (Supervisory Control and Data Acquisition System)** – Upgrades are planned for the network that serves as the automated “brain” of our facilities 24 hours a day, seven days a week. SCADA is a critical component for operating pumps, filling reservoirs, maintaining pressure, and activating alarms so potential problems can be addressed quickly.

We are fortunate to have these tools available to help maintain quality water and service and exceed customer expectations. Add these resources to our teams – the men and women who ensure safe, clean water and dependable delivery – and it is a winning combination.

Please read through this Consumer Confidence Report to learn more about your water and what we do to make sure it is always there when you need it.

Sincerely,

**Cesar Barrera P.E.**  
Acting Deputy Director of Public Works  
Water Resources Manager



**Your Water Resources Division is working hard to safeguard your future services.**





## About This Report

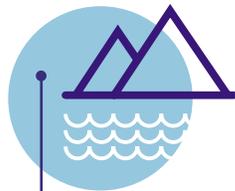
The Consumer Confidence Report (CCR) is an annual water quality report that informs you where your drinking water comes from and what's in it.

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.

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.

Your tap water met all Federal and State drinking water health standards in 2020. 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.

### 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.





# 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 19. 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:

### Water Quality Goals

In addition to mandatory water quality standards, the U.S. EPA and California EPA have set voluntary water quality goals for some contaminants. The data tables in this report include 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 U.S. 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.

### 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).



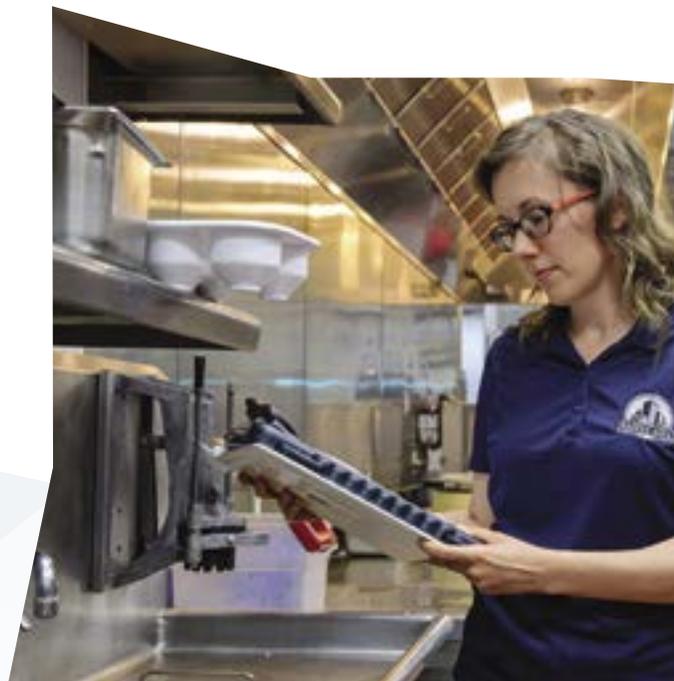
### Secondary Standards

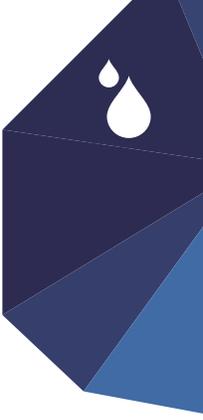
Aesthetic standards (non health-related) that could cause odor, taste, or appearance problems in drinking water.



### Unregulated Parameters

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





## 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 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](http://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](http://www.epa.gov/ground-water-and-drinking-water)

### Consumer Information

[www.epa.gov/ccr](http://www.epa.gov/ccr)

### Information On How Drinking Standards Are Established

[www.epa.gov/dwstandardsregulations](http://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](http://www.epa.gov/ground-water-and-drinking-water) or calling the U.S. EPA's Safe Drinking Water Hotline at 800-426-4791.

### 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.

### 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. The 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.



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 MWD's source waters are the Colorado River Watershed Sanitary Survey – 2015 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 2019. 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.





# Help Protect Your Public Water System

## Cross Connection Control (CCC) Program

Cross connections are dangerous if no protective measures are taken. Cross connections may happen 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.

As a homeowner, you are responsible for preventing contaminants from entering into your water system as well as the public water distribution system by properly installing and maintaining backflow prevention devices. These devices protect you and your community from a possible contamination event. Backflow devices help further safeguard our potable water system.

### Commonly Used Residential Backflow Prevention Devices

#### **Air Gap:**

Used mainly on tanks and faucets, it is a gap between the pipe and the container.

#### **Atmospheric Vacuum Breaker:**

It has an air inlet valve that will drop to draw in air thus preventing customer's water from entering Santa Ana's water mains.

#### **Pressure Vacuum Breaker:**

Used mainly on lawn irrigation systems. It has a one-way check and a spring loaded air inlet valve that closes when there is any pressure drop within a water line.

Water Resources Division staff uses his gauge to test a backflow prevention assembly.





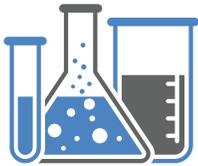
# Additional Information of Interest

## 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](http://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.

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](http://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 0.18 to 0.5 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\\_flouride](http://www.bit.ly/MWD_flouride) or visit the American Dental Association's site at [www.bit.ly/ADA\\_flouride](http://www.bit.ly/ADA_flouride).



# Understanding PFAS

PFAS are present in many common items that we come in contact with on a regular basis and water is just one of many ways that humans can be exposed to these substances.

PFOS and PFOA are two chemicals we, the Santa Ana Water Resources Division and other agencies across Orange County, are watching for in water.

## What are PFOS and PFOA?

Dating back to the 1940s, Perfluorooctanoic acid (PFOA) and perfluorooctane sulfonate (PFOS) have been commonly used to coat carpets, clothes, furniture, food packaging, cookware and other products. PFOA and PFOS are part of a larger group of man-made chemicals referred to as per- and polyfluoroalkyl substances (PFAS).

Most people have been exposed to these chemicals through consumer products, but drinking water can be an additional source of exposure in communities where these chemicals have entered water supplies.

## Where have PFAS been found?

PFOA and PFOS are common in groundwater in urban and industrial areas like Orange County, where remnant traces from consumer products and factories, military bases and other industrial uses are found. PFAS can make their way into rivers, such as the Santa Ana River, which replenishes much of Orange County's groundwater that may be used for water supplies or for private drinking water wells.

Testing of Santa Ana River surface water in Orange County has detected PFAS, indicating the presence of PFAS in upstream treated wastewater discharges from sewage treatment facilities in Riverside and San Bernardino counties. PFAS end up in wastewater by rinsing products containing the chemicals, which go down the drain and into waste treatment plants.

## What are the Federal regulations governing PFAS?

In May 2016, the U.S. EPA issued a lifetime health advisory for PFOS and PFOA for drinking water, advising municipalities that they should notify their customers of the presence of levels over 70 parts per trillion in community water supplies. EPA recommended that customer notifications include information on the increased risk to health, especially for susceptible populations.

## What is California continuing to do about PFAS?

Due to advancement in detection technology, PFAS are now being reliably detected at much lower levels. In August 2019, the Division of Drinking Water (DDW) revised its previous interim Notification Levels surrounding PFOA and PFOS. The current established Notification Levels for PFOA and PFOS are 5.1 parts-per-trillion and 6.5 parts-per-trillion, respectively, and the current established health advisory response level is 10.0 parts-per-trillion for PFOA and 40.0 parts-per-trillion for PFOS. These levels offer a margin of protection for all persons throughout their life from adverse health effects resulting from exposure to PFOA and PFOS in drinking water.

Parts per million, billion or trillion are ways to measure tiny amounts of something in water or air. It is a microscopic measurement where a part-per-trillion (ppt) is the equivalent of four grains of sugar dissolved in an Olympic-size swimming pool.

Results above the Notification Level require agencies to notify the governing body for the areas where the water has been served within 30 days of receiving the verifying test results. If the Response Level is exceeded in drinking water provided to consumers, DDW recommends that the water agency remove the water source from service or provide treatment.

**Santa Ana's drinking water is safe and meets all quality standards set by both the state and federal government.**



non-stick cookware



personal care products



paints



stain resistant carpets and fabrics



fast-food packaging



fire-fighting foam





DDW has also formally requested that OEHHA develop a draft Public Health Goal (PHG), which is the first step in establishing a Maximum Contaminant Level for PFOA and PFOS.

### What are Notification Levels?

Notification Levels are precautionary health-based advisory levels established by the DDW while further research and analysis are conducted by the state to determine the necessity of setting an enforceable drinking water maximum contaminant level (MCL). The state Notification Levels are based on the most sensitive known health endpoints for these compounds: lifetime cancer risk, liver toxicity, and immunotoxicity. In the case of PFOA and PFOS, these standards are also the lowest level detectable through current testing means.

### Does Santa Ana test for PFAS?

Public health has always been a top priority for the City of Santa Ana. Following the DDW's initial Notification and Response Levels for PFOA and PFOS, Santa Ana proactively tested for the presence of PFOA and PFOS in August 2018. Santa Ana's Well 38, located near the Santiago Creek Recharge Basin, had detectable results above the Notification Levels but below the Response Level for PFOA and PFOS. Utilizing extreme caution, Santa Ana voluntarily moved Well 38 offline in September 2018 and this well has remained out of service since then.

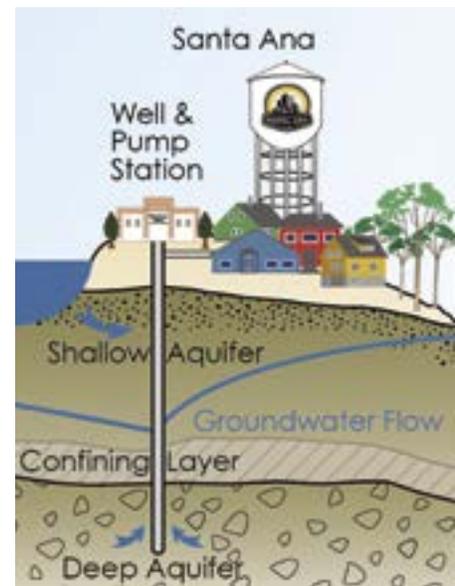
In March 2019, the DDW issued monitoring orders as part of a statewide phased PFAS Investigation Plan to determine the occurrence and extent of PFAS in California. As part of this statewide plan, the City of Santa Ana is conducting additional monitoring (sampling and testing). Santa Ana has retested its OPA-1 well 3 times. The monitoring results confirmed that Well 38 remains over the Notification Levels for PFOA (9.2 ppt average) and PFOS (13.95 ppt average). Santa Ana, in collaboration with Orange County Water District (OCWD), is currently evaluating new treatment methods to remove PFOA and PFOS from groundwater.

### What is Santa Ana doing to protect our drinking water from PFAS?

Santa Ana's water is thoroughly treated and tested to ensure it meets some of the highest standards in the world. We watch closely for PFOA and PFOS in our water and will ensure that our city's water meets or exceeds state and federal regulations. The following is part of our action plan related to PFAS:

- Continue monitoring PFOA and PFOS levels in our wells through quarterly samplings.
- Make quarterly test results available to the public through our website.
- Notify local government officials of areas served by the city's groundwater sources that have exceeded the Notification Levels for PFOA and PFOS.
- Stay current with State and Federal regulations to assure our drinking water is always safe for consumption.
- Make plans to remove any source of water that exceeds the Response Level for PFOA and PFOS, should that occur.
- Continue to review long-term solutions with the OCWD, which manages the groundwater basin where our wells are located.

It is important to note that the groundwater Santa Ana supplies to residents does not come directly from the Santa Ana River. We drill up to 1,000 feet into the deep aquifers comprising the Orange County Groundwater Basin, which act as a natural filter for the groundwater we pump through our city-owned wells. Water is tested and treated before it is distributed throughout our water system.





# Women In Water



Just a decade ago, few women were working in the water sector. What's more, even fewer served in technical and managerial positions. But change is happening and nowhere is this more evident than at Santa Ana's Water Resources Division.

Meet some of the women who are a driving force behind your water quality, treatment, distribution and planning.

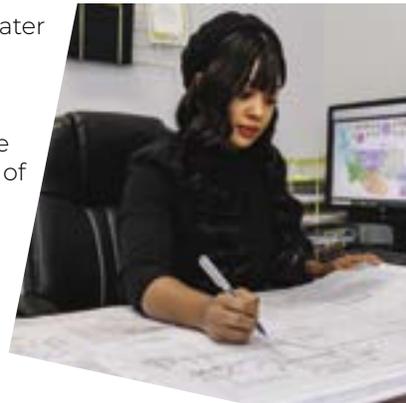
## Engineering

**Yolanda's** interest in water peaked when she took several college courses in water as she was working on her degree in civil engineering. While her career took another route after receiving her degree, she was excited to join the Water Resources Division in December 2020 after learning about the importance of her role.

*"I didn't have to think twice about accepting this position," she explains. "We all use and need water to live. How amazing is it that we get to work behind the scenes and provide water to thousands of people."*

In her role as Assistant Engineer, she works primarily with Capital Improvement Projects, designing plans for pipeline replacement and preparing specifications and engineers' estimates. These are used to prepare requests for proposals and agreements in procuring services. She then sees these projects through construction, reviewing contractors' submittals and visiting construction sites.

**Fallon** is also an Assistant Engineer. She has a bachelor's degree in mechanical engineering and a master's degree in civil engineering. She joined the Water Resources team more than six months ago and works primarily with Water Production. She enjoys the fast-paced work environment, the technical aspect of her position and the opportunity to be involved in modernizing the City's water infrastructure.



She prepares requests for proposals, pump and motor specifications, water pumping projection plans, and reports pertaining to water projects such as upgrading pumping facilities and rehabilitating groundwater wells. She assists in project oversight, which entails reviewing engineering plans, interfacing with contractors and other water agencies and collaborating with system operators on a daily basis.

*"The employees here are passionate about providing great water to the residents," she says. "I love how much history is involved in water production. I research historical records about annual water usage and calculate future water usage. It's interesting to see how water usage has changed and is trending towards conservation."*





## Water Quality

Preserving the quality and availability of our water supply through water conservation is where **Nadiya** wants to make a difference.



“With only about 0.3% of earth’s water available for human consumption, drinkable water is a valuable and scarce resource,” explains Nadiya. “We are fortunate to live in Santa Ana which is situated on the deepest part of a large aquifer from which we draw the best-tasting potable water in the United States!”

As a Water Quality Inspector, Nadiya works hard to ensure that this great-tasting water is ready for consumption for all Santa Ana residents. Drawing on her bachelor’s degree in civil-environmental engineering, she is responsible for water quality compliance and water conservation. Her responsibilities range from water quality sampling and reporting to performing inspections and engaging the public with up-to-date information on the quality of their drinking water.

Solving different issues each day is a challenge Nadiya welcomes in her role; so is finding new ways to educate the public on the high quality of their potable water and its conservation.

“Together we can make impactful and long-lasting changes for future generations to come.”

Joining Nadiya as a Water Quality Inspector is **Itzel**. She worked part time reading water meters for other cities while attending Orange Coast College for respiratory therapy. During her tenure at the City of Huntington Beach, she cross trained in different departments including water quality, water conservation and the meter shop, where she helped program AMI smart meters.

She later enrolled in Santiago Canyon College’s program to take courses on water treatment and distribution before joining the City of Santa Ana.

Itzel focuses on taking weekly samples at Santa Ana’s reservoirs, responding to customer calls about water pressure and water quality, and addressing resident concerns around water waste.

“When I respond to a call, people expect a guy to come out,” she explains. “I don’t let that phase me. I’m confident in my skills and knowledge.”

Itzel is also actively involved in educating the public about water quality and conservation.

“I love interacting with the community and educating people about the safety of their tap water. I know I make a difference in the community when I respond to each call.”





## Administration/Management

When **Kathia** started with Public Works 11 years ago as an accounting assistant, she was at a loss. She had a degree, but didn't feel she had many career options.

Soon after, everything changed. She said being surrounded by people who were passionate about the City's sewer and water system was not only impressive, it was aspirational.

"It helped me fine tune my career options and return to school to gain a better understanding of Public Works," she explains. "I officially joined the City's water team four years ago and a new professional world opened up for me."

As Projects Manager, her duties include administration and contracts management, ultimately ensuring third-party contractors are available to support staff and provide services that are critical to water operations and systems maintenance.

"If people only knew all the expertise and resources that go into our infrastructure and processes to deliver high-quality drinking water, they would not buy bottled water and would save so much money," she adds. "That's why our City's mantra is 'Drink It From the Tap!'"

Few people can say they have served the Santa Ana community for more than three decades. **Lucy** is one exception.

She enjoyed a long tenure with Santa Ana's Park & Recreation Department before joining the Water Resources team eleven years ago. She had many choices at the time, but it was the friendly and high-energy staff in water that made her decision easy.

Lucy juggles a wide range of activities in her position as Senior Office Assistant. She processes purchasing requests and orders supplies. She covers the dispatch line, which is the central number residents call for questions about utility bills, trash pickup and street sweeping, and for reporting graffiti, water waste, and water and sewer emergencies. She schedules new employee interviews and processes annual employee evaluations. She even processes rental permits for fire hydrants, which are temporary water service connections needed for construction sites.

Whether you are interested in management or a technical career, such as engineering, we hope each of the women profiled here are an inspiration and example of the many opportunities available in the water and sewer industry.

## Advice for Other Women Interested in a Similar Career

There are limitless opportunities in our field. Don't allow yourself to feel intimidated by the challenges, instead accept them as lessons to learn from. – **Yolanda**

For women currently in science, technology, engineering, and mathematics (STEM), you are a trailblazer for future generations of women. Continue to show your hard-earned talents and do not be afraid to lean in and bring to the table your unique perspective. When you show your confidence and skillset in your profession, you'll always have a seat at the table! – **Fallon**

Do not get intimidated with things that 'seem' unachievable. Pursue your dreams and don't let anything or anyone stop you! – **Nadiya**

Go for it and learn as much as you can. Your skills and knowledge will give you the confidence to advance in this field. I've met other women in water and they motivate me to work harder because they also advocate 'there's nothing we cannot do'. – **Itzel**

It's my hope that other women will be inspired by our stories and take a moment to explore new career opportunities in the water and sewer industry. Providing essential services to the community is a fulfilling career path and one to be proud of. – **Kathia**

Enjoy each and every day! – **Lucy**



"I enjoy the variety of my day-to-day work that touches upon every aspect of the Water Resources Division," she said. "But most of all, I enjoy the people I work with!"

# How To Read The Data Tables

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). Average Amount is the average level measured for the substance (less is better).
- 4** Range of Detections is the highest and lowest amounts measured.
- 5** A “No” under MCL Violation indicates government requirements were met.
- 6** 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

Use this glossary to understand the terms, abbreviations and measurements used in the data tables.

## 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 color, 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 California Environmental Protection Agency (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.





## Measurements

Santa Ana conducts extensive sampling and testing to ensure your water meets all water quality standards. In 2020, we collected 16,705 water quality samples 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 ( $\mu\text{g/L}$ )

**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.

## Additional Abbreviations

- AL** = Regulatory Action Level
- NA** = Not Applicable
- ND** = Not Detected
- NL** = Notification Level
- SMCL** = Secondary MCL



## 2020 CITY OF SANTA ANA DISTRIBUTION SYSTEM WATER QUALITY

- 1 2 3 4 5 6

Type	MCL (MRDL/MRDLG)	Average Amount	Range of Detections	MCL Violation?	Typical Sources Of Chemical
<b>DISINFECTANT RESIDUAL AND DISINFECTION BY-PRODUCTS</b>					
Chlorine Residual (ppm)	(4 / 4)	0.88	ND - 2.66	No	Disinfectant Added for Treatment
Total Trihalomethanes (ppb) <sup>1</sup>	80	27	ND - 32	No	Byproducts of Chlorine Disinfection
Haloacetic Acids (ppb) <sup>1</sup>	60	9	ND - 13	No	Byproducts of Chlorine Disinfection
<b>AESTHETIC QUALITY</b>					
Odor (threshold odor number)	3*	1	1 - 2	No	Naturally-occurring organic materials
Turbidity (ntu)	5*	<0.1	ND - 0.8	No	Erosion of natural deposits

Eight 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 2020

Microbiological	MCL	MCLG	Highest Monthly Percent Positives	MCL Violation?	Typical Sources of Chemical
Total Coliform Bacteria	5.0	0	0.49%	No	Naturally present in the environment

No more than 5.0% 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.

## 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 Sources Of Chemical
Lead (ppb) <sup>3</sup>	15	0.2	ND	0 / 135	No	Internal corrosion of household water plumbing systems; discharges from industrial manufacturers; erosion of natural deposits
Copper (ppm) <sup>3</sup>	1.3	0.3	0.14	0 / 135	No	Internal corrosion of household water plumbing systems; discharges from industrial manufacturers; erosion of natural deposits

In 2018, 135 residences were tested for lead and copper at-the-tap. Lead was detected in 3 samples, none of which exceeded the AL for lead. Copper was detected in 95 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 2020, 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.



2020 CITY OF SANTA ANA GROUNDWATER QUALITY

- 1 2 2 3 4 5 6

Chemical	MCL	PHG (MCLG)	Average Amount	Range of Detections	MCL Violation?	Most Recent Sampling Date	Typical Source of Chemical
<b>Radiologicals</b>							
Gross Alpha (pCi/L)	15	(0)	<3	ND - 13.98	No	2020	Erosion of Natural Deposits
Uranium (pCi/l)	20	0.43	3	ND - 8.18	No	2020	Erosion of Natural Deposits
<b>Inorganic Chemicals</b>							
Barium (ppm)	1	2	< 0.1	ND - 0.14	No	2020	Erosion of Natural Deposits
Fluoride (ppm)	2	1	0.34	0.18 - 0.47	No	2020	Erosion of Natural Deposits
Nitrate (ppm as N)	10	10	1.88	0.45 - 4	No	2020	Runoff and Leaching from Fertilizer Use; Leaching from Septic Tanks and Sewage; Erosion of Natural Deposits
Nitrate + Nitrite (ppm as N)	10	10	1.88	0.45 - 4	No	2020	Runoff and Leaching from Fertilizer Use; Leaching from Septic Tanks and Sewage; Erosion of Natural Deposits
Perchlorate (ppb)	6	1	<4	ND - 4.5	No	2020	Discharge from Industrial Operations
<b>Secondary Standards*</b>							
Chloride (ppm)	500*	NA	54	19.3 - 99.9	No	2020	Erosion of Natural Deposits
Color (color units)	15*	NA	<1	ND - 3	No	2020	Naturally-Occurring Organic Materials
Specific Conductance (umho/cm)	1,600*	NA	686	525 - 961	No	2020	Substance That Forms Ions When In Water
Sulfate (ppm)	500*	NA	92.2	61.8 - 125	No	2020	Erosion of Natural Deposits
Total Dissolved Solids (ppm)	1,000*	NA	413	292 - 606	No	2020	Erosion of Natural Deposits
Turbidity (ntu)	5*	NA	<0.1	ND - 0.3	No	2020	Soil Runoff
<b>Unregulated Constituents</b>							
Alkalinity, total (ppm as CaCO3)	Not Regulated	NA	168	156 - 195	NA	2020	Erosion of Natural Deposits
Bicarbonate (ppm as HCO3)	Not Regulated	NA	204	190 - 238	NA	2020	Erosion of Natural Deposits
Boron (ppm)	NL = 1	NA	<0.1	ND - 0.11	NA	2020	Erosion of Natural Deposits
Calcium (ppm)	Not Regulated	NA	77	52.5 - 116	NA	2020	Erosion of Natural Deposits
Hardness, total (grains/gal)	Not Regulated	NA	15	11 - 22	NA	2020	Erosion of Natural Deposits
Hardness, total (ppm as CaCO3)	Not Regulated	NA	255	180 - 379	NA	2020	Erosion of Natural Deposits
Magnesium (ppm)	Not Regulated	NA	14.8	10.9 - 21.8	NA	2020	Erosion of Natural Deposits
Perfluoro butane sulfonic acid (ppt)	NL = 500	NA	6.5	ND - 9.2	NA	2020	Industrial Discharge
Perfluoro heptanoic acid (ppt)	Not Regulated	NA	4.5	ND - 6.6	NA	2020	Industrial Discharge
Perfluoro hexane sulfonic acid (ppt)	Not Regulated	NA	12.2	7.2 - 15.5	NA	2020	Industrial Discharge
Perfluoro octane sulfonic acid (ppt)	NL = 6.5	NA	21.4	12.5 - 27.9	NA	2020	Industrial Discharge
Perfluoro octanoic acid (ppt)	NL = 5.1	NA	15.5	9.7 - 20	NA	2020	Industrial Discharge
Perfluorohexanoic acid (ppt)	Not Regulated	NA	8.1	5.2 - 11	NA	2020	Industrial Discharge
pH (pH units)	Not Regulated	NA	7.9	7.6 - 8.1	NA	2020	Acidity, Hydrogen Ions
Potassium (ppm)	Not Regulated	NA	2.2	1.6 - 3.1	NA	2020	Erosion of Natural Deposits
Sodium (ppm)	Not Regulated	NA	43.7	34.5 - 55.2	NA	2020	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
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.



## 2020 MWD TREATED SURFACE WATER

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Chemical	MCL	PHG (MCLG)	Average Amount	Range of Detections	MCL Violation ?	Typical Source of Chemical
<b>Radiologicals - Tested in 2020</b>						
Alpha Radiation (pCi/L)	15	(0)	ND	ND - 3	No	Erosion of Natural Deposits
Beta Radiation (pCi/L)	50	(0)	ND	ND - 5.9	No	Decay of Natural and Man-made Deposits
Uranium (pCi/L)	20	0.43	2	1 - 3	No	Erosion of Natural Deposits
<b>Inorganic Chemicals - Tested in 2020</b>						
Aluminum (ppm)	1	0.6	0.137	ND - 0.26	No	Treatment Process Residue, Natural Deposits
Barium (ppm)	1	2	0.107	0.107	No	Refinery Discharge, Erosion of Natural Deposits
Bromate (ppb)	10	0.1	1.9	ND - 1.3	No	Byproduct of Drinking Water Ozonation
Fluoride (ppm)	2	1	0.7	0.5 - 0.9	No	Water Additive for Dental Health
<b>Secondary Standards - Tested in 2020</b>						
Aluminum (ppm)	200*	600	137	ND - 260	No	Treatment Process Residue, Natural Deposits
Chloride (ppm)	500*	NA	94	93 - 94	No	Runoff or Leaching from Natural Deposits
Color (color units)	15*	NA	1	1	No	Naturally-occurring Organic Materials
Odor (threshold odor number)	3*	NA	2	2	No	Naturally-occurring Organic Materials
Specific Conductance (µmho/cm)	1,600*	NA	970	964 - 975	No	Substances That Form Ions In Water
Sulfate (ppm)	500*	NA	216	215 - 217	No	Runoff or Leaching from Natural Deposits
Total Dissolved Solids (ppm)	1,000*	NA	592	582 - 603	No	Runoff or Leaching from Natural Deposits
<b>Unregulated Constituents - Tested in 2020</b>						
Alkalinity, total as CaCO <sub>3</sub> (ppm)	Not Regulated	NA	118	117 - 120	NA	Runoff or Leaching from Natural Deposits
Boron (ppm)	NL = 1	NA	0.13	0.13	NA	Runoff or Leaching from Natural Deposits
Calcium (ppm)	Not Regulated	NA	66	65 - 67	NA	Runoff or Leaching from Natural Deposits
Hardness, total as CaCO <sub>3</sub> (ppm)	Not Regulated	NA	265	261 - 269	NA	Runoff or Leaching from Natural Deposits
Hardness, total (grains/gallon)	Not Regulated	NA	15	15 - 16	NA	Runoff or Leaching from Natural Deposits
Magnesium (ppm)	Not Regulated	NA	26	25 - 26	NA	Runoff or Leaching from Natural Deposits
N-nitrosodimethylamine (ppt)	NL = 10	NA	3.1	3.1	NA	Byproduct of Drinking Water Chloramination, Industrial Processes
pH (pH units)	Not Regulated	NA	8.1	8.1	NA	Hydrogen Ion Concentration
Potassium (ppm)	Not Regulated	NA	4.6	4.5 - 4.7	NA	Runoff or Leaching from Natural Deposits
Sodium (ppm)	Not Regulated	NA	96	93 - 98	NA	Runoff or Leaching from Natural Deposits
Total Organic Carbon (ppm)	TT	NA	2.4	2.2 - 2.7	NA	Various Natural and Man-made Sources
<b>Turbidity - combined filter effluent</b> Metropolitan Water District Diemer Filtration Plant		<b>Treatment Technique</b>	<b>Turbidity Measurements</b>		<b>TT Violation?</b>	<b>Typical Source of Chemical</b>
1) Highest single turbidity measurement		0.3 NTU	0.04		No	Soil Runoff
2) Percentage of samples less than 0.3 NTU		95%	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 CHEMICALS REQUIRING MONITORING

Chemical	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.



### 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 2016. All water systems are required to comply with the state Total Coliform Rule. Effective April 1, 2016, all water systems are also required to comply with the federal Revised Total Coliform Rule. The new federal 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 new 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.

### 3. Lead and Copper.

In 2018, 135 residences were tested for lead and copper at-the-tap. Lead was detected in 3 of the samples, none of which exceeded the AL for lead. Copper was detected in 95 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 2020, 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.





## Trust the Tap

### Good Tasting, Safe Drinking Water is as Close as Your Kitchen Faucet

If you could choose to drink something that tastes great, is good for your health, easy to access, environmentally-friendly, inexpensive and has won as many awards as some Hollywood film stars, the choice would be clear. It is Santa Ana's tap water and it's right at your fingertips, 24/7!

Santa Ana's drinking water is stringently treated and tested. It not only consistently meets and exceeds all federal and state drinking water standards; it also enjoys a long history of winning competitive industry awards.

Beginning in 2011, we have captured multiple coveted honors – including bronze, silver and gold – in the annual Berkeley Springs International Water Tasting competition, which is dedicated to preserving and protecting drinking water. The awards are given to agencies demonstrating the best-tasting and highest-quality tap water, and reflect Santa Ana's steadfast commitment to ensuring a healthy, reliable and – most of all – safe drinking water supply for everyone throughout our community.



### Reasons Why Tap vs Bottled Wins!

#### Is bottled water cheaper than tap?

Definitely not! Bottled water costs about 80 cents per gallon. Santa Ana tap is half a cent per gallon.

#### Is bottled water better for the environment?

No. Bottled water produces up to 1.5 million tons of plastic waste per year. According to Food and Water Watch, that plastic requires up to 47 million gallons of oil per year to produce. Single-use plastic bottles contribute to the glut of waste. Instead, use a glass at home and a refillable container when on the go.

**Is bottled water safer?** No. As a highly regulated public agency, Santa Ana must meet higher standards, including strict California regulations, than producers of bottled water.

**What About COVID-19?** The U.S. Environmental Protection Agency (EPA), which is charged with protecting the health and safety of Americans, emphasizes, "The COVID-19 virus has not been detected in drinking-water supplies." Remember, the coronavirus is transmitted person to person, not through water. Even if the coronavirus was able to live and spread through drinking water, all municipal drinking water systems like the City of Santa Ana use a multi-barrier approach to ensure your drinking water is safe.

No matter how, when and where you enjoy a refreshing drink of Santa Ana water, we want you to know you can always ...

**TRUST THE TAP!**

# Keeping Funds Flowing

## Securing State and Federal Grants Keeps Projects and Water on Course

Just as the water that reaches Santa Ana faucets comes from miles away, ensuring its uninterrupted daily flow begins years in advance!

Not only are designing and engineering new Santa Ana Water infrastructure projects and rehabilitation programs years in the making, procuring the funding to construct, operate and maintain them requires advance planning too.

A few years ago the decision was made to ease the cost burden of having infrastructure enhancement coming solely from Santa Ana's municipal budget, and seek support from State and Federal programs. We began by researching the funding programs available through California and U.S. agencies. Then, with the help of grant-writing professionals, we drafted proposals, emphasizing how these projects were an essential investment in the long-term public health and safety of Santa Ana residents.

To date more than \$6.5 million in direct support for water delivery systems and sustainability projects has been awarded to Santa Ana's Public Works Agency. These State and Federal funds leave more of Santa Ana's precious community assets available for other services and infrastructure needs.

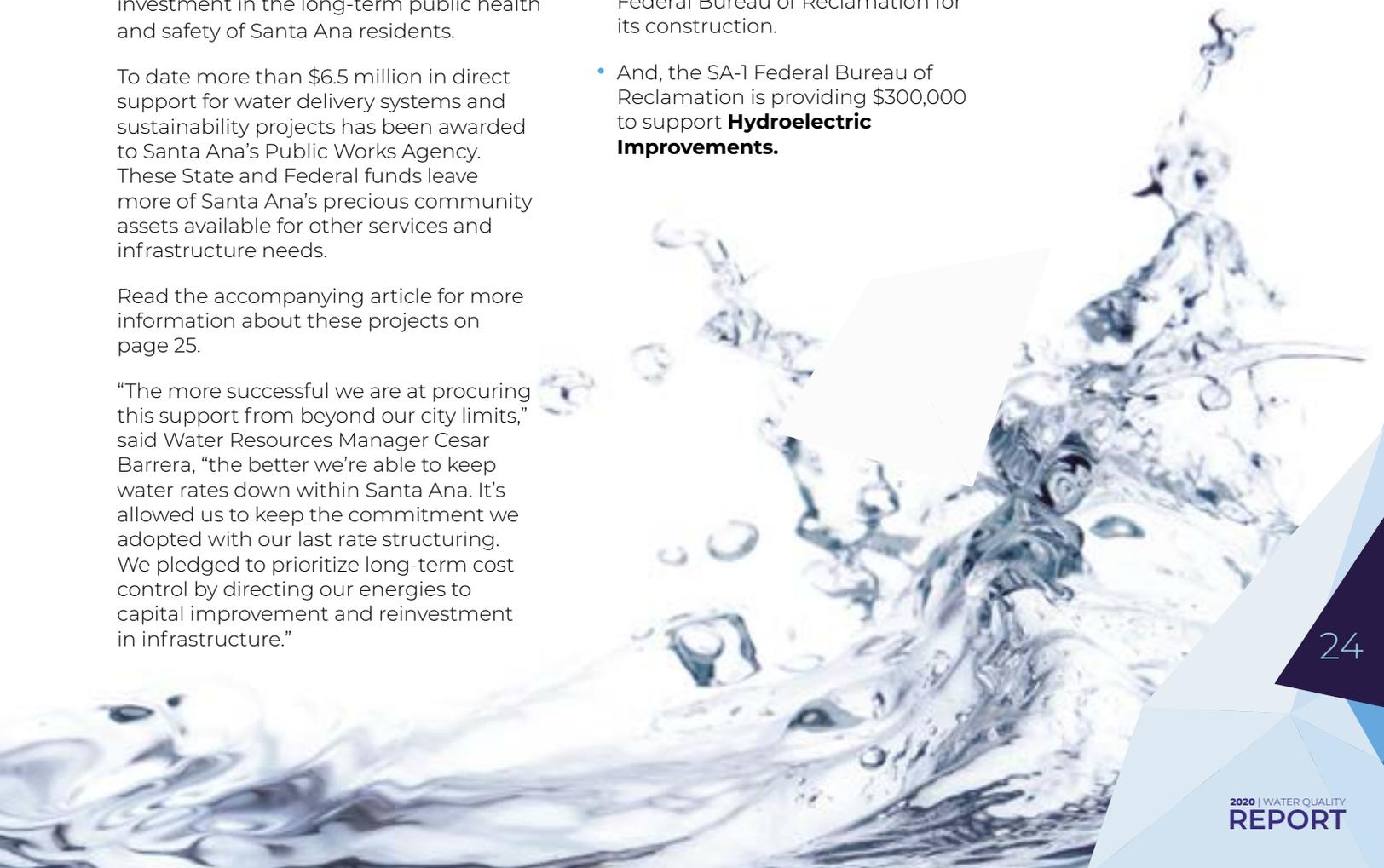
Read the accompanying article for more information about these projects on page 25.

"The more successful we are at procuring this support from beyond our city limits," said Water Resources Manager Cesar Barrera, "the better we're able to keep water rates down within Santa Ana. It's allowed us to keep the commitment we adopted with our last rate structuring. We pledged to prioritize long-term cost control by directing our energies to capital improvement and reinvestment in infrastructure."

Below is an overview of current projects, and the sources and amounts of the funding received for them.

### Current Water Projects and their Funding

- **The AMI Project** has received \$4 million from the California Department of Natural Resources, and \$1.5 million from the Federal Bureau of Reclamation.
- Another Federal Bureau of Reclamation grant, in the amount of \$750,000, went to the **Well 32 Rehabilitation Project**.
- **The Washington Well Project** received \$100,000 for engineering from Santa Ana Watershed Project Authority and \$750,000 from the Federal Bureau of Reclamation for its construction.
- And, the SA-1 Federal Bureau of Reclamation is providing \$300,000 to support **Hydroelectric Improvements**.





## Infrastructure

# CIP: Securing Our Future Today



**The Capital Improvement Program generates projects to meet water delivery demand for generations to come.**

The day-to-day stewardship of delivering water to – and diverting wastewater from – Santa Ana’s 27.2 square-mile service area means anticipating new challenges, new technologies, and the changing needs of a growing residential and business community.

**The Capital Improvement Program, or CIP,** is where the pivotal projects required to meet these challenges are imagined, incubated and initiated. This evolving slate of long-term initiatives ensures that Santa Ana has the best service systems and water quality available today and in the future.

Three major CIP projects are currently in the works, with several more on line to begin within the next 18 months. Together they will add resilience to our water supply and wastewater treatment facilities while keeping the City’s infrastructure operating efficiently and increasing our capacity to meet future demand.

In the process, we will construct new wells and maintain our 21 groundwater wells, seven import water connections, seven pump stations, ten reservoirs and 480 miles of transmission and distribution pipelines.

On-demand generators will also be added to key wells, ensuring that our water supply is maintained even during power outages. And, 45,000 “smart meters” are being installed to allow customers and management access to real-time data that can help reduce rates and emergencies.

See related story on funding sources for CIP projects on page 24.

## Projects in the Works

### Automated Meter Infrastructure (AMI)

Phase One of the five-year, \$30 million Automated Meter Infrastructure (AMI) project is scheduled for completion by the end of July 2021, thanks to initial grants of \$4 million from the state and \$1.5 million from the federal government. This first phase includes a test-batch of 100 smart meters installed. We are now testing the software before shifting to extensive installation in August on the way to a year-end target of 1,500 smart meters installed. In January, the pace will quicken as we expect to install up to 10,000 annually until all 45,000 are in and operational.

The communications system already has four new antenna towers built, one on City Hall and three more at the West, East and South Water Pump Stations.

Transitioning to smart meters that communicate via radio or similar technology will allow us to provide ongoing technological upgrades as they are developed. These include automated meter reads, leak detection and usage notifications as well as interactive customer portals.

Accurately tracking water consumption is the key to efficient management and planning. In the long term, it will mean that we will have access to more granular information to better gauge the community’s water needs. Residents, too, will have their consumption data at their finger tips for more informed decisions about their own water usage.

Studies show that communities that upgraded to AMI systems reduce water usage by as much as 15 percent.





### San Lorenzo Sewer Lift Station

Construction is underway on the San Lorenzo Sewer Lift Station. Already built are the large concrete underground tanks where wastewater will be held before it is pumped out and transferred via the Orange County Sanitation District's Santa Ana Trunk sewer pipeline to the OCSD Treatment Plant. We are now adding the supporting pipelines and mechanicals.

Project completion is slated for the end of 2021 or beginning of 2022.

### Ongoing Infrastructure Replacement

Among our CIP projects are those directed at fulfilling items included within the Santa Ana Water District's Master Plan. One example is the ongoing replacement of aging pipeline. Each year, we replace 5 miles of underground pipeline, oftentimes in conjunction with street improvements to minimize disruptions to residents and commuters while reducing overall construction costs.

### Projects Coming in 2022

Two projects on tap to begin in 2022 are related to Per- and Poly-Fluoroalkyl Substances, or PFAS, treatment and water well rehabilitation.

### PFAS Treatment Projects

The City of Santa Ana Public Works Agency constantly monitors its well system for traces of PFAS. Testing conducted in early 2021 revealed a detection of PFAS in Wells 27, 28, 31, 38 and 40. A decision was made to take all five wells immediately off-line until proper water treatment methods are put in place.

PFAS levels in four of these wells exceeded a threshold set in our standing agreement with Orange County Water District (OCWD). As a result, the OCWD will fund whatever treatment or other remediation is required to bring those levels into the permitted range at these wells.

However, since the City of Santa Ana strives to provide water to our residents that is free of PFAS, even wells that do not meet the threshold for OCWD funding will be treated. Well 38 is one example. We placed it off line while we determine how much funding will be required for treatment and to get it operating again.

Fortunately, Santa Ana has created a "redundant" water system that can generate more than enough groundwater, so shutting down these wells has not impacted production. Also supporting our ability to meet the Santa Ana's water needs is the community's conservation efforts, which have reduced Santa Ana's water consumption over the past two-plus decades to about 34 thousand acre-feet annually.

We hope to bring these wells back on line to meet the needs of our community, particularly in the Northeast Zone above Interstate 5, where all wells are offline and water is being solely supplied from imported sources from the Metropolitan Water District (MWD).

### Water Well Rehab and Blending Project

The Morrison Park well, number 32, has now been offline for about a decade after testing showed unacceptable nitrate levels. An upcoming CIP project, Water Well Rehab And Blending, will breath life back into well 32.

As you might expect, it is more cost-effective to rehabilitate an existing well than to drill a new one. We will be bringing well 32 up to code and then build a pipeline to connect it to the Garthe Station, which is the largest pump and reservoir station in the City with four groundwater wells storing more than 15 million gallons of water in its tanks. At the Garthe Station, well 32 water will be treated through a blending treatment approach.



# Santa Ana Students Illustrate How Their Tap Water is Safeguarded by The City

## The City Announces 2021 Youth Water Poster Contest Winners

The City of Santa Ana recently concluded its 2021 Youth Water Poster Contest and announced the 11 winning posters. The contest is held city-wide each year to create awareness of the high quality and safety of Santa Ana's tap water through creative expression.

While there were fewer entries this time due to the pandemic, we are proud of all those who participated and their outstanding work!

A big "thank you" to our judges Robyn MacNair, Arts & Culture Commissioner, Ward 4, and Frank Gutierrez, Arts & Culture Commissioner, Ward 6, for volunteering their time to evaluate all the poster entries and choose the winners. We also would like to thank Tram Le, our Arts & Culture Specialist for the City of Santa Ana, for organizing the judging of this Poster Contest and the ones in prior years. Judges used four scoring criteria: level of originality, visual and word clarity, and adherence to this year's theme "Trust The Tap!," illustrating how their tap water is protected from viruses—including the coronavirus—and safeguarded by the City of Santa Ana at all times.

All participants received a certificate and a gift card for participating this year! Winners were awarded prizes ranging from a Nintendo Switch to iPads. We extend a special congratulations to the following grand prize winners and finalists.



"The contest offers parents and their children the opportunity to explore various water-related themes such as protecting our groundwater, water conservation and water quality," says Cesar Barrera, Deputy Public Works Director and Water Resources Manager for the City of Santa Ana. "It's also an important educational initiative for the City. We want to thank all youth who participated and shared their creativity in this year's contest."



# 2021 WINNERS

### Ages 5-8

- Mateo Mascarenas**, Grand prize winner
- Mario Herta**, Finalist
- Elyssa Anyelie Flores**, Finalist

### Ages 9-12

- Sophia Tran**, Grand prize winner
- Evan Velazquez Moreno**, Finalist
- Andrea Gonzalez**, Finalist

### Ages 13-14

- Deziree Huerta**, Grand prize winner
- Yojana Hernandez**, Finalist
- Martin Aguilar**, Finalist

### Ages 15-18

- Teresa Isabel Gutierrez**, Grand prize winner
- Elizabeth Llamas**, Finalist

# Grand Prize Winners 2021



Ages 5-8



Mateo Mascarenas

Ages 9-12



Sophia Tran

Ages 13-14



Deziree Huerta

Ages 15-18



Teresa Isabel Gutierrez

## Finalists 2021

Ages 5-8



Mario Herta

Ages 9-12



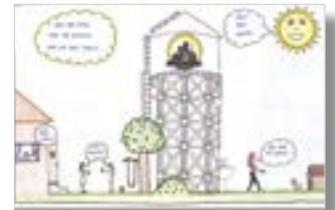
Evan Velazquez

Ages 13-14



Yojana Hernandez

Ages 15-18



Elizabeth Llamas



Elyssa Anyelie



Andrea Gonzalez



Martin Aguilar



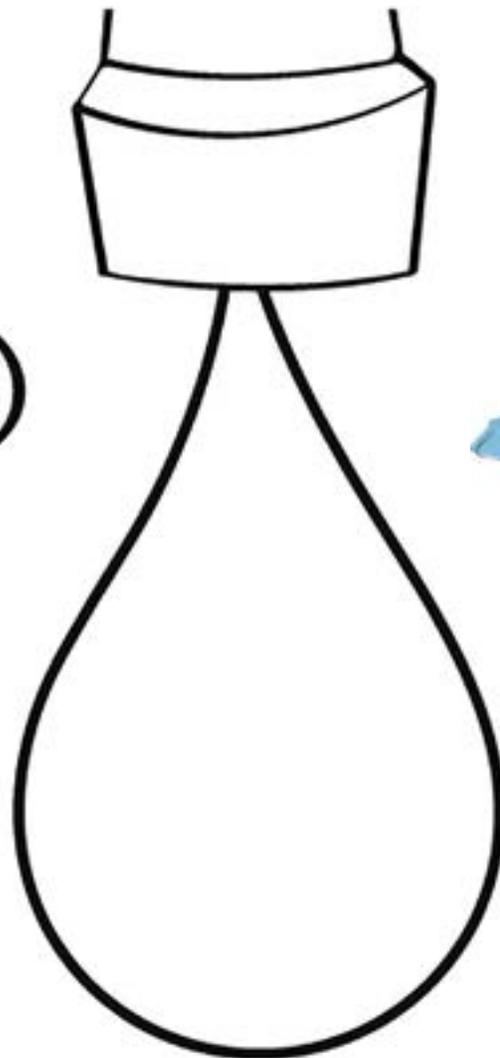
## The Facts About COVID & Your Drinking Water

**FACT:** COVID-19 is spread person to person and has **no impact** on the **quality** or **safety** of your drinking water.

- According to the Centers for Disease Control and Prevention (CDC), COVID-19 is spread person to person, **not** through water. To date, the novel coronavirus has **not been found** in drinking water supplies and has no impact on the quality and safety of tap water.
- It is **safe** to use and **drink tap water** as usual.

# TRUST THE TAP!

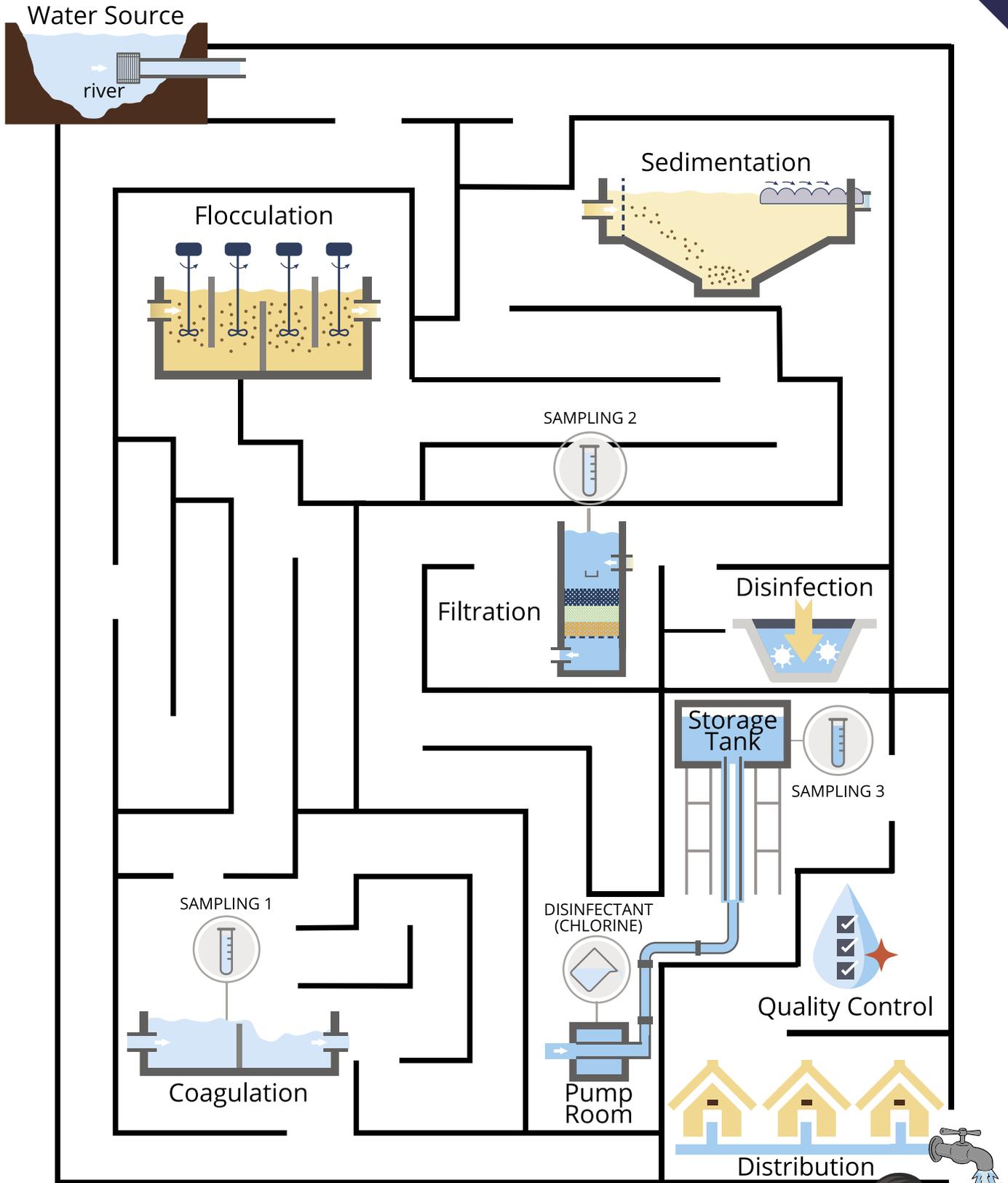
*Color Me!*



SAFE & COVID-FREE



# Water Treatment Maze



Water in lakes and rivers can have impurities and bacteria. That's why most surface sources of water must be "cleaned" through different processes. Draw a line from the water source through all the cleaning processes before it is delivered to you. Your tap water is 100% safe to drink!





Planned for Next Year:

## City-Sponsored Residential Landscape Transformation Program

Santa Ana is working on securing a Small-Scale Water Efficiency Program grant that will enable us to offer residents in designated low-income neighborhoods (known as DACs) an opportunity to remove and replace their water-wasting turf with beautiful, drought-tolerant landscaping and an efficient irrigation system – all at no cost to the homeowner.

The ongoing California drought makes this program more important than ever. Here are a few details.

- If funding is received, the two-year project kicks off in February 2022.
- The program is offered to DAC residents to offset high up-front costs homeowners typically pay to remove existing turf, create a landscape design and install native plants with a water-wise irrigation system.
- It will improve the City's water efficiency, increase climate resilience, decrease residents' water bills and increase property values.
- It also will provide green jobs to at-risk youth, who will be hired to help create the new sustainable landscapes in their neighborhoods.
- Homeowners who live outside of DACs can continue taking advantage of the City's ongoing water-smart landscape program with the use of rebates offered through the Metropolitan Water District (MWD).



Look out for updates on this program later this year. We look forward to helping Santa Ana residents create a bright green future for themselves, our community and Planet Earth!

One of four design samples prepared by a landscape architect for the Landscape Transformation Program.



## Awards - CWEA Honors Santa Ana!

Ask any of the California Water Environment Association's 10,000 wastewater professionals to name their "favorite annual industry award" and you're sure to hear about CWEA's own annual award ceremony.

For so many essential workers in our field, the honors CWEA hands out each year are welcome recognition for excellence across the state's wastewater systems.

But there are also awards presented within the many sections that make up CWEA.

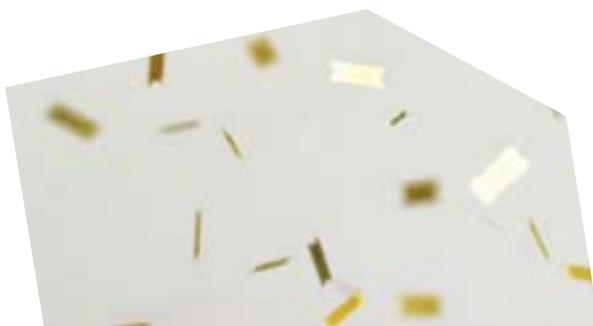
CWEA is made up of 17 sections divided between the Northern and Southern Regions. The City of Santa Ana's water resources division is part of the Santa Ana River Basin Section, or SARBS, one of seven sections here in the Southern Region.

SARBS has its own awards and in 2019 our Santa Ana team entered the competition for the first time. Last June, when the winners were announced, we were honored as "Best Medium Size Sewer Collection System."

The awards are as serious as the work they honor. A panel of expert judges bases its decision on how each system complies with the many regulations governing environmental safeguards, safety, and the quality of staff training (both basic knowledge and ability to use the various tools required for their work).

They look at our fleet vehicles and other equipment, checking to see how well we use modern technology to deliver our services. They also look at our management team to evaluate our financial management as well as how we operate our sewer system.

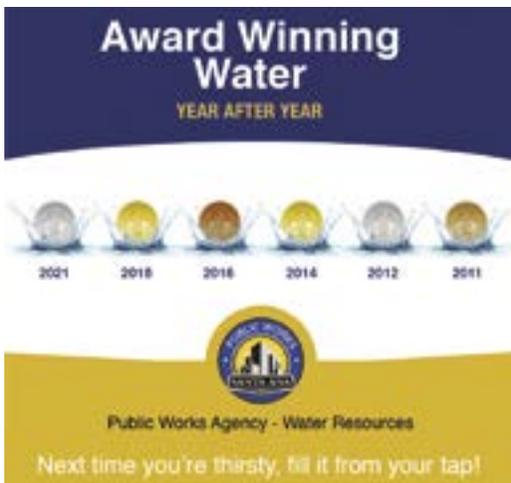
We thank the SARBS judges for the honor. The plaque we received proudly hangs in our offices, signifying that Santa Ana is a leading steward of our environment.



## Santa Ana's Tap: Award Winning Year After Year

Santa Ana recently won the coveted honor of producing some of the "Best Municipal Water in the U.S.,"—second only to the Metropolitan Water District of Southern California—at the 31st Berkeley Springs International Water Tasting. The annual competition is the largest and most prestigious in the world, dedicated to preserving and protecting drinking water.

Over the past 10 years of participating in this competition, the City of Santa Ana has won six awards including the gold medal in 2018 and 2014 as well as the silver and bronze medals in 2012 and 2011, respectively.



This long history of awards reflects Santa Ana's commitment to ensuring a healthy, reliable and safe drinking water supply for residents that exceeds the drinking water health standards requirement by both state and federal agencies.

The next time you think about drinking bottled water, we invite you to turn on the tap, fill your glass and enjoy our award winning water!



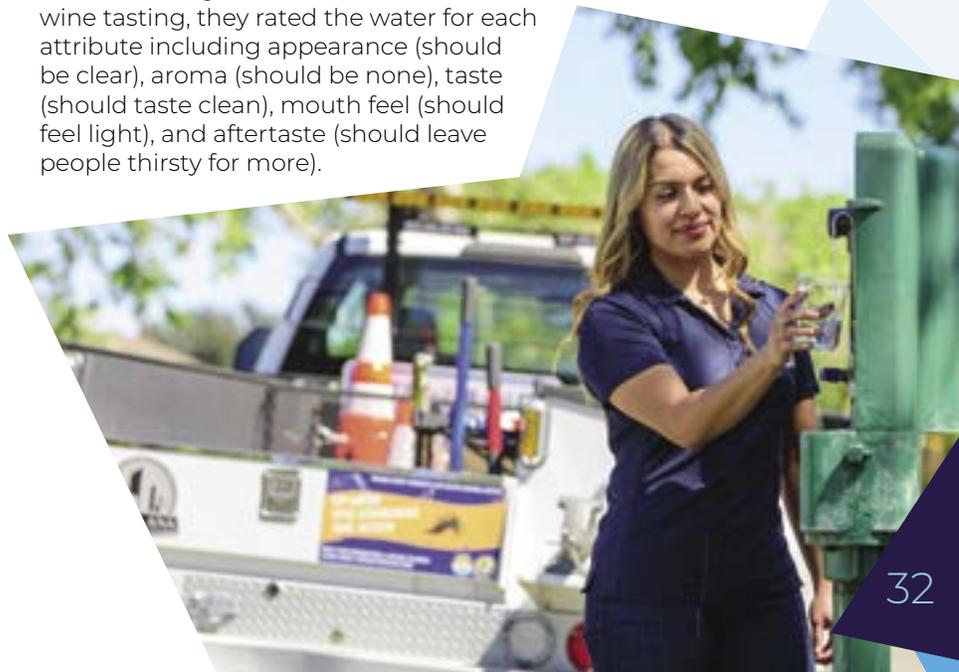
Judging at the 31st annual Berkeley Springs International Water Tasting (Photo credit: Van Smith)

"Winning one of the nation's top awards in our category is phenomenal. Winning the award six times over the past ten years attests to the high standards we set for our tap water and the dedication of our certified specialists who are committed to serving our customers," says Robert Hernandez, Water Services Quality Supervisor for the City of Santa Ana.

While some may take the quality of their drinking water for granted, Santa Ana does not. Behind the scenes, the Water Resources Division performs year-round monitoring, where over 16,000 samples are collected at various sampling points throughout the City's water system to ensure the community enjoys the highest quality tap water possible.

Residents can take pride knowing that the nine judges at the Berkeley Springs International Water Tasting chose Santa Ana's tap water after spending hours tasting and selecting from waters sourced in 19 states, three Canadian provinces and fourteen foreign countries. Similar to a wine tasting, they rated the water for each attribute including appearance (should be clear), aroma (should be none), taste (should taste clean), mouth feel (should feel light), and aftertaste (should leave people thirsty for more).

"The consistency in winners from year to year with different panels of judges validates the choices," remarked Berkeley Springs' water master, Arthur von Wiesenberger. "It also speaks to the impressively high caliber of the waters entered."



# We're Here To Serve You!

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  
714-245-8665  
(call 911 for emergencies)

Public Library  
714-647-5250

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

Public Works Information  
714-647-5690

## Maintenance Services

Curb & Sidewalks  
714-647-3380

Graffiti Removal  
877-786-7824

Graffiti Task Force  
714-245-8769 (Police Department)

## Water Resources

Sewer/Storm Drain Maintenance  
714-647-3380

Water Administration  
714-647-3320

Water & Sewer Permits  
714-647-3320

Water Customer Service and Billing  
714-647-5454

Water Engineering  
714-647-3320

Water Maintenance & Construction  
714-647-3346

Water Production  
714-647-3320

Water Quality & Conservation  
714-647-3500

Water Service & Main Location  
714-647-3320

## Traffic and Transportation

Signal Repairs - 8 a.m.-5 p.m.  
(Weekdays)  
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

New Trash Cart/Order Dumpster  
714-558-7761

Recycle Used Car Oil & Filter  
714-558-7761

## Public Works

General Maintenance and Repairs  
714-647-3380

Sanitation  
714-647-3380

Shopping Cart Removal  
714-667-2780

Street Lights  
714-647-5074

Street Sweeping  
714-647-3380

Trees  
714-647-3380

Weed Abatement  
714-647-3380

## Other Helpful Numbers

Bus Information  
714-636-7433

Noise Complaints  
714-834-4211

Overcrowding  
714-667-2780

Poison 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 E. 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](http://www.santaanaccr.org)



## **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

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[www.santa-ana.org](http://www.santa-ana.org)



[www.santaanaccr.org](http://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. Vui lòng liên hệ với Thành phố Santa Ana, Phòng Tài nguyên Nước theo số 714-647-3320 để được hỗ trợ 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.