

2019 WATER QUALITY REPORT

Investing In Our Water Infrastructure.
Investing In Our Community.



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 FOG and rebate programs, latest news, useful telephone numbers and more.



Our work continues and so does our commitment to Santa Ana's long-term sustainability, economic development and quality of life.

A Message From Nabil Saba

I think we can all agree, that we are living in challenging times. Never in our lives have we experienced a global crisis nor dealt with a pandemic response on this scale. Certainly, people are concerned about their health, safety and economic impact of this response since the onset of COVID-19.

Amidst the uncertainty, there are three things you can count on: the essential services we provide, the long-term sustainability of our water infrastructure and water quality.

As the newly appointed Public Works Director, I want to assure you that the essential services we provide to our community have and will continue as this pandemic response evolves. The City of Santa Ana has planned ahead and is well prepared. We have implemented decisive measures to help prevent the spread of COVID-19 and protect the health and safety of all, while carrying out essential Public Works functions including water quality, water distribution, wastewater and trash collection. We accomplish this through flexible work schedules, multiple shifts, and rotation of work shifts to allow for sufficient "sheltering at home" of critical staff.

The importance of long-term planning and capital improvement projects to ensure our water supply remains reliable and sustainable for generations to come is not diminished during the pandemic response. Now that the Water Enterprise has secured funding for future capital improvement projects, we have updated our Water and Sewer Master Plans and will begin to make timely re-investments in our critical infrastructure such as establishing additional groundwater sources with new wells, pipelines, water tanks and pump stations.

As always, we strive to better leverage our resources and improve our efficiencies. This means we will be strategic about planning other public works improvements, such as our streets, in conjunction with water and sewer infrastructure upgrades. In this way, when we replace aging underground pipelines, we will repave streets and repair gutters, curbs and sidewalks.

In this Water Quality Report, you will read more about the improvements to Santa Ana's infrastructure as well as exciting plans to advance important initiatives and pursue new opportunities that will benefit our residential and business community. You'll also learn about the work performed by our Water Quality staff in maintaining high water quality standards and ensuring the safety of your drinking water.

As challenging as these times may be, we have a lot to appreciate in friends, family, coworkers and, in particular, our health care workers, first responders and essential workers. I would like to thank our talented and dedicated staff who ensure that services essential to the community's well being are provided each and every day.

The community of Santa Ana is resilient and I am confident we will pull through this together! On behalf of the Santa Ana Public Works Agency, thank you for your continued trust in allowing us to serve you.

Sincerely,

Nabil Saba P.E.

Executive Director
Public Works Agency





A Message From Cesar Barrera

The City of Santa Ana Public Works Agency takes pride in operating and maintaining a first-rate system that guarantees safe, clean water is available at your tap whenever you need it, even in the midst of the COVID-19 pandemic.

Providing reliable drinking water is a job we take seriously, and one that requires a dedicated and knowledgeable staff to operate equipment, engineer new projects, build infrastructure and test the water that runs through it.

The City's utility has completed several important projects over the last year to maintain and improve our water system.

We recently finished a renovation of the 1950s-era Walnut Pump Station, which is fed by three wells and houses a 6-million-gallon storage tank. The station now operates with state-of-the-art automation and more efficient controls that reduce the amount of energy required to pump water to the downtown area.

This forward-looking project, which received a Building Excellence, Shaping Tomorrow (BEST) Award from the American Public Works Association, is a prime example of the planning and work necessary to provide high-quality water and reliable service for our community.

With 20 percent of our infrastructure at the end of its useful life and knowing that number will double over the next 20 years, we must be prepared. As part of that effort, we have restored six wells and plan to construct a new well and many miles of new pipe to better serve you.

We are committed to protecting the public's investment in water and sewer system assets and understand the financial impacts to the community.

Over the past two years we have pursued and were awarded \$4.75 million in grant funds to help us complete projects like those detailed above.

We have enhanced training for our staff, so that all operators, engineers and managers spend equal time working on the water and sewer sides of the business. This innovative team approach is one of the keys to our success and helped us win a Best Sewer Collection System award from the California Water Environmental Association.

Water is an essential service and will continue to be delivered to your tap. The City of Santa Ana has taken steps to protect the health of our employees, minimize potential exposure and avoid widespread impacts to our workforce, using teleworking, holding some critical staff in reserve, and micro-teams. Through our pandemic action and business continuity plans, we are prepared to ensure water safety and reliability as conditions evolve. The solidarity of our workforce, and its ability to quickly adapt, is one of the ways we've been able to successfully deal with the significant challenges posed by the COVID-19 pandemic.

We will continue to safeguard our employees and your water supply – the most essential of services. You can rest assured that even in this unprecedented time, the Santa Ana Public Works Agency will deliver your water without fail.

Sincerely,

Cesar Barrera P.E.

Acting Deputy Director of Public Works
Water Resources Manager



We are committed to protecting the public's investment in water and sewer system assets and understand the financial impacts to the community.

Learn more about COVID-19 and water:

EPA: www.epa.gov/coronavirus/coronavirus-and-drinking-water-and-wastewater

CDC: www.cdc.gov/coronavirus/2019-ncov/php/water.html



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 focal point 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.

Your tap water met all U.S. EPA and State drinking water health standards in 2019. Santa Ana vigilantly safeguards 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.

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 following questions and answers, will explain the important elements of the data tables and more.

Where does Santa Ana get its water?

The City of Santa Ana relies on two sources for the 12.5 billion gallons of water it supplies 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.

Groundwater — Groundwater accumulates and is stored beneath the surface of the earth and then pumped to the surface by 20 city-owned wells.

Imported — MWD brings Colorado River water from Lake Havasu through the 242-mile Colorado River Aqueduct. It also transports water from 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.

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. We have listed groundwater and imported water in separate tables. An additional table lists the water quality standards for Santa Ana's water distribution system.



What's in my drinking water?

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. The column marked "Chemical" lists the substances found in the water Santa Ana delivers.

What are the maximum allowed levels for constituents in drinking water?

Health agencies have maximum contaminant levels (MCL) 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.

Why are some of the constituents listed in the section labeled "Primary Standards" and others in the "Secondary Standards"?

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.





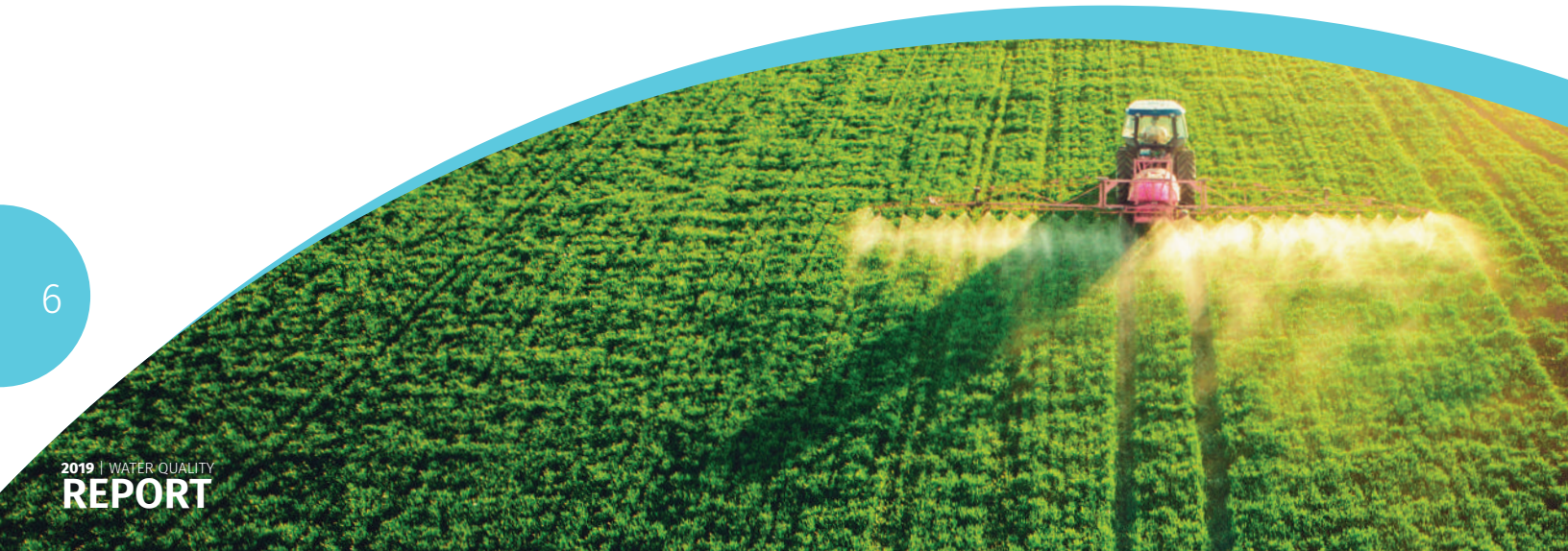
How do I know how much of a constituent is in my water and if it is at a safe level?

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.

How do constituents get into our water supply?

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. Contaminants that may be present in source water include:

- **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.
- **Microbial contaminants**, such as viruses and bacteria that may come from sewage treatment plants, septic systems, agricultural livestock operations and wildlife.





Are there any potential sources of contamination in our system?

Groundwater—An assessment of the drinking water wells for the City of Santa Ana was completed in December 2019. 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/stores, 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.

Imported Water—Every five years, MWD is required by the Division of Drinking Water (DDW) to examine possible sources of drinking water contamination in its State Water Project and Colorado River source waters. MWD submitted to DDW its most recent Watershed Sanitary Surveys: 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 Metropolitan at 213-217-6000.

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 Metropolitan and the City of Santa Ana invest resources to support improved watershed protection programs to safeguard our groundwater.

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.





Water Quality

Water & Your Health

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 calling the U.S. EPA's Safe Drinking Water Hotline at 800-426-4791.

In order to ensure that tap water is safe to drink, the U.S. EPA and the State Water Resources Control Board (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 (www.bit.ly/BottledWaterFAQs).

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

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

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, person 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 Safe Drinking Water Hotline at 800-426-4791.



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.

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 Resources Control Board (SWRCB). 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 or visit bit.ly/ADA_flouride.

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.

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.





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. We've all encountered PFOA and PFOS in our daily lives. They were popular for their resistance to water, stains and food sticking, which made them particularly useful in cookware. They were also used in fire-fighting foams, cleaning products and industrial uses. 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.



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

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, including PFOA and PFOS. These results can partially be explained by 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. While these are locations that can introduce PFOA and PFOS into the water system, it is important to remember that people can also be exposed to PFAS through food, food packaging, consumer products, and house dust.

What has been done to regulate PFAS?

In the 2000s, manufacturers began voluntarily phasing out use of PFOA and PFOS under a federal Environmental Protection Agency program. Although most PFAS chemicals are no longer manufactured in the United States, they still are produced in other countries and products that contain them may be imported, such as carpets, leather and apparel, textiles, paper and packaging, coatings, rubber, and plastics.





What are the Federal regulations governing PFAS?

Scientific studies have shown that long-term exposure to PFOA and PFOS at high levels can cause health issues, particularly for those who have weaker immune systems. In May 2016, the United States Environmental Protection Agency (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, DDW revised its previous interim Notification Levels surrounding PFOA and PFOS. The current established levels for PFOA and PFOS are 5.1 parts-per-trillion and 6.5 parts-per-trillion, respectively, as well as a health advisory response level of 10.0 parts-per-trillion for PFOA and 40.0 parts-per-trillion for PFOS, which offers 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.

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. Santa Ana voluntarily stopped serving the water from Well 38 in September 2018 and this well has remained out of service since then.

In March 2019, the California Division of Drinking Water (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, 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 by conducting quarterly sampling of these sources.
- 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 Orange County Water District.



Glossary

Use this glossary to understand the terms, abbreviations, quality standards 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 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 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 2019, we collected 16,125 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 ($\mu\text{g/L}$)

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

Micromhos per centimeter ($\mu\text{mho/cm}$)
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.

Quality Standards

Primary Standards

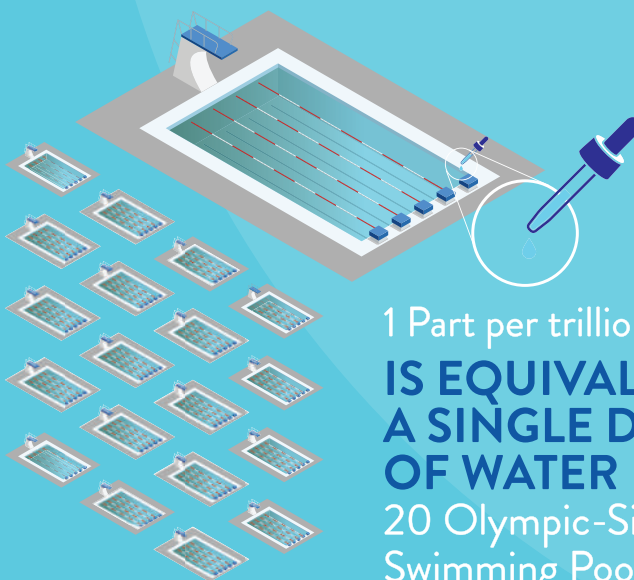
Mandatory health-related standards that may cause health problems in drinking water.

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.



1 Part per trillion (ppt)
**IS EQUIVALENT TO
A SINGLE DROP
OF WATER IN
20 Olympic-Sized
Swimming Pools**



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. MCLG is the goal level for that substance (this may be lower than what is allowed).
- 3 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.





2019 CITY OF SANTA ANA DISTRIBUTION SYSTEM WATER QUALITY

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Type	MCL (MRDL/MRDLG)	Average Amount	Range of Detections	MCL Violation?	Typical Sources in Drinking Water
DISINFECTANT RESIDUAL AND DISINFECTION BY-PRODUCTS					
Chlorine Residual (ppm)	(4 / 4)	0.9	ND - 2.92	No	Disinfectant Added for Treatment
Total Trihalomethanes (ppb) ¹	80	25	ND - 40	No	Byproducts of Chlorine Disinfection
Haloacetic Acids (ppb) ¹	60	9	ND - 20	No	Byproducts of Chlorine Disinfection
AESTHETIC QUALITY					
Color (color units)	15*	<3	ND - .5	No	Naturally-occurring organic materials
Odor (threshold odor number)	3*	1	1 - 2	No	Naturally-occurring organic materials
Turbidity (ntu)	5*	<0.1	ND - 0.5	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.

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

Microbiological	MCL	MCLG	Highest Monthly Percent Positives	MCL Violation?	Typical Sources in Drinking Water
Total Coliform Bacteria ²	5.0	0	0.5%	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 in Drinking Water
Lead (ppb) ³	15	0.2	ND	0 / 135	No	Internal corrosion of household water plumbing systems; discharges from industrial manufacturers; erosion of natural deposits
Copper (ppm) ³	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 2019, 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 100 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 2019, the City of Santa Ana Water Resources Division and Santa Ana Unified School District voluntarily sampled for lead at 73 schools.

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	1.1	ND - 2.7	2019
Bromodichloroacetic acid (ppb)	NA	NA	0.55	ND - 1.4	2019
Chlorodibromoacetic acid (ppb)	NA	NA	0.41	ND - 1.1	2019
Dibromoacetic acid (ppb)	NA	NA	1.03	ND - 2.6	2019
Dichloroacetic acid (ppb)	NA	MCLG = 0	1.2	ND - 3.1	2019
Monobromoacetic acid (ppb)	NA	NA	0.18	ND - 0.6	2019
Trichloroacetic acid (ppb)	NA	MCLG = 20	0.45	ND - 1.3	2019

** 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.



2019 Water Quality Tables



2019 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 - 0.8	No	2019	Discharge from Industrial Chemical Refineries
Radiologicals							
Gross Alpha (pCi/L)	15	(0)	<3	ND - 13.98	No	2019	Erosion of Natural Deposits
Uranium (pCi/l)	20	0.43	2.84	ND - 8.18	No	2019	Erosion of Natural Deposits
Inorganic Chemicals							
Barium (ppm)	1	2	< 0.1	ND - 0.14	No	2019	Erosion of Natural Deposits
Fluoride (ppm)	2	1	0.35	0.18 - 0.49	No	2019	Erosion of Natural Deposits
Nitrate (ppm as N)	10	10	1.9	ND - 4.1	No	2019	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	ND - 4.1	No	2019	Runoff and Leaching from Fertilizer Use; Leaching from Septic Tanks and Sewage; Erosion of Natural Deposits
Perchlorate (ppb)	6	1	<4	ND - 5	No	2019	Discharge from Industrial Operations
Secondary Standards*							
Chloride (ppm)	500*	NA	54	19.3 - 98.9	No	2019	Erosion of Natural Deposits
Color (color units)	15*	NA	<1	ND - 3	No	2019	Naturally-Occurring Organic Materials
Specific Conductance (umho/cm)	1,600*	NA	694	525 - 1,140	No	2019	Substance That Forms Ions When In Water
Sulfate (ppm)	500*	NA	90.7	61.8 - 125	No	2019	Erosion of Natural Deposits
Total Dissolved Solids (ppm)	1,000*	NA	412	292 - 602	No	2019	Erosion of Natural Deposits
Turbidity (ntu)	5*	NA	<0.1	ND - 0.3	No	2019	Soil Runoff
Unregulated Constituents							
Alkalinity, total (ppm as CaCO3)	Not Regulated	NA	167	155 - 186	NA	2019	Erosion of Natural Deposits
Bicarbonate (ppm as HCO3)	Not Regulated	NA	203	189 - 227	NA	2019	Erosion of Natural Deposits
Boron (ppm)	NL = 1	NA	<0.1	ND - 0.22	NA	2019	Erosion of Natural Deposits
Calcium (ppm)	Not Regulated	NA	76	52.5 - 114	NA	2019	Erosion of Natural Deposits
Hardness, total (grains/gal)	Not Regulated	NA	15	11 - 22	NA	2019	Erosion of Natural Deposits
Hardness, total (ppm as CaCO3)	Not Regulated	NA	252	180 - 372	NA	2019	Erosion of Natural Deposits
Magnesium (ppm)	Not Regulated	NA	14.7	11.7 - 21.5	NA	2019	Erosion of Natural Deposits
Perfluoro octane sulfonic acid (ppt)	NL = 6.5	NA	13	11.8 - 15.1	NA	2019	Industrial Discharge
Perfluoro octanonic acid (ppt)	NL = 5.1	NA	8.9	8.1 - 10.1	NA	2019	Industrial Discharge
pH (pH units)	Not Regulated	NA	7.9	7.7 - 8.1	NA	2019	Acidity, Hydrogen Ions
Potassium (ppm)	Not Regulated	NA	2.2	1.6 - 3	NA	2019	Erosion of Natural Deposits
Sodium (ppm)	Not Regulated	NA	45	34.5 - 69.9	NA	2019	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	0.138	0.065 - 0.298	2019
Manganese (ppb) **	SMCL = 50	NA	0.2	ND - 1	2019
Total Organic Carbon (Unfiltered) (ppm)	NA	NA	0.28	0.11 - 0.57	2019

** 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.



2019 MWD TREATED SURFACE WATER

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Chemical	MCL	PHG (MCLG)	Average Amount	Range of Detections	MCL Violation ?	Typical Source in Drinking Water
Inorganic Chemicals - Tested in 2019						
Aluminum (ppm)	1	0.6	0.124	ND - 0.065	No	Treatment Process Residue, Natural Deposits
Bromate (ppb)	10	0.1	2	ND - 5.9	No	Byproduct of Drinking Water Disinfection
Fluoride (ppm)	2	1	0.7	0.1 - 0.9	No	Water Additive for Dental Health
Nitrate as N (ppm)	10	10	0.5	0.5	No	Fertilizers, Septic tanks, Natural Deposits
Secondary Standards - Tested in 2019						
Aluminum (ppm)	200*	600	124	ND - 65	No	Treatment Process Residue, Natural Deposits
Chloride (ppm)	500*	NA	56	53 - 58	No	Runoff or Leaching from Natural Deposits
Color (color units)	15*	NA	ND	ND - 1	No	Naturally-occurring Organic Materials
Odor (threshold odor number)	3*	NA	ND	ND - 1	No	Naturally-occurring Organic Materials
Specific Conductance (µmho/cm)	1,600*	NA	514	508 - 521	No	Substances That Form Ions In Water
Sulfate (ppm)	500*	NA	91	89 - 93	No	Runoff or Leaching from Natural Deposits
Total Dissolved Solids (ppm)	1,000*	NA	304	296 - 312	No	Runoff or Leaching from Natural Deposits
Unregulated Constituents - Tested in 2019						
Alkalinity, total as CaCO ₃ (ppm)	Not Regulated	NA	72	69 - 74	NA	Runoff or Leaching from Natural Deposits
Boron (ppm)	NL=1	NA	0.12	0.12	NA	Runoff or Leaching from Natural Deposits
Calcium (ppm)	Not Regulated	NA	30	29 - 30	NA	Runoff or Leaching from Natural Deposits
Hardness, total as CaCO ₃ (ppm)	Not Regulated	NA	127	124 - 130	NA	Runoff or Leaching from Natural Deposits
Hardness, total (grains/gallon)	Not Regulated	NA	7.4	7.3 - 7.6	NA	Runoff or Leaching from Natural Deposits
Magnesium (ppm)	Not Regulated	NA	14	13 - 14	NA	Runoff or Leaching from Natural Deposits
Perfluorohexanoic Acid (ppt)	Not Regulated	NA	2.3	2.2 - 2.3	NA	Industrial Discharge
pH (pH units)	Not Regulated	NA	8.4	8.4 - 8.5	NA	Hydrogen Ion Concentration
Potassium (ppm)	Not Regulated	NA	2.8	2.6 - 2.9	NA	Runoff or Leaching from Natural Deposits
Sodium (ppm)	Not Regulated	NA	56	54 - 57	NA	Runoff or Leaching from Natural Deposits
Total Organic Carbon (ppm)	TT	NA	2.4	1.8 - 2.6	NA	Various Natural and Man-made Sources
Turbidity - combined filter effluent Metropolitan Water District Diemer Filtration Plant		Treatment Technique	Turbidity Measurements		TT Violation?	Typical Source of Chemical
1) Highest single turbidity measurement		0.3 NTU	0.05		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
Bromide (ppm)	NA	NA	0.138	0.065 - 0.298	2019
Manganese (ppb) ***	SMCL = 50	NA	0.2	ND - 1	2019
Total Organic Carbon (Unfiltered) (ppm)	SMCL = 50	NA	2.2	0.8 - 3.3	2019

*** 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.

Eight 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 2019, 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 100 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 2019, the City of Santa Ana Water Resources Division and Santa Ana Unified School District voluntarily sampled for lead at 73 schools.

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 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.





The Cost of Clean, Reliable Water

Securing new alternative water sources, improving our infrastructure, employing the most advanced water treatment processes and implementing new services comes at a cost.

So does constant monitoring, sampling, testing and maintenance by our state certified operators who make certain the water coming out of your tap is not only safe to drink but good tasting too. And yet, we manage to deliver a clean, reliable water supply right to your home for less than a cent per gallon.

We do this by making strategic investments in our water and sewer infrastructure, striving to better leverage City resources, improve efficiencies, and reduce over construction costs to maximize your dollars.

We put your dollars to work by looking at new technologies and projects to better manage our water resources, improve customer service and curb water rate increases while meeting your water needs today and for generations to come.

Earlier this year, we updated our Water and Sewer Master Plans and secured funding for future capital improvement projects (CIP)—approximately \$12 to \$17 million dollars worth of projects each year—which will include establishing additional groundwater sources with new wells, pipelines, water tanks and pump stations to meet the future needs of our water system.

In conjunction with this funding, the City Council approved a rate adjustment for the next 5 years to sustain our operations and make these timely re-investments in our critical infrastructure. We also modified our rate structure to ensure a more equitable rating scale that is proportionate to usage.

This includes supporting regional projects like the expansion of the Orange County Water District's Groundwater Replenishment System (GWRS) to reduce our reliance on imported water.

In these ways and more, we remain vigilant in meeting the challenges of source water protection, water conservation, environmental compliance, sustainability and community education while continuing to serve the needs of all our water users.





Investing In Our Water Infrastructure

The City's water infrastructure serves all of Santa Ana's residents and businesses over its 27.2 square mile service area. Our existing infrastructure includes 21 ground water wells, 7 import water connections, 7 pump stations, 10 reservoirs, and 480 miles of transmission and distribution pipelines.

Our Capital Improvement Program (CIP) projects exemplify our stewardship of our infrastructure. Through these projects, we are building resilience in our water supply by constructing new wells, adding on-demand generators to critical wells to maintain water supply even during power outages, and systematically rehabilitating our existing wells, reservoirs, pump stations and water distribution system to keep the City's infrastructure operating efficiently and increase our capacity to meet future demand. We are also installing new Advanced Metering Infrastructure (AMI), which will allow the City personnel and customers access to real-time water consumption data.

State-Of-The-Art Walnut Pumping Station

The completion of the Walnut Pumping Station last year marked the most significant rehab project in the city's water infrastructure.

It is now a new state-of-the-art facility certified for its water and energy efficiency and awarded a silver rating by Envision, a third-party rating system used to evaluate and rate the community, environmental and economic benefits of construction projects. It will improve the reliability of the Santa Ana's water system and help ensure the City can handle emergencies such as fires.

Recycled Water Master Plan

Our current recycled water system is owned and operated by the Orange County Water District (OCWD). Known as the Green Acres Project (GAP), it is limited in its scope and only serves a small portion of the city. The City of Santa Ana has introduced a new Recycled Water Master Plan to expand the infrastructure of our current system to bring recycled water deeper into the city. The benefits of building and operating our own recycled water system are many:

- It will provide the City a water supply that is not subject to water use restrictions typically mandated by the state during times of drought, an inevitable reality we face in the future.
- It will reduce our reliance on higher cost imported water, which is currently at twenty-four percent of the thirty million gallons we deliver each day.
- It reduces demand on our groundwater basin and preserves this potable water supply for other uses.
- It allows the City to maintain green medians, parks and sports fields for the community.
- There is no fiscal or environmental impact associated with the master plan.

The new Recycled Water Master Plan creates a blueprint for a sustainable future, positioning Santa Ana as a greener, more environmentally responsible city.

Strengthening Reliability

- Replacing five miles of aging pipeline each year. We carefully assess the health and functionality of pipelines connected to facilities that provide vital services to our community, such as hospitals, schools and public spaces.
- Upgrading and modernizing the water distribution and storage system to ensure groundwater is pumped and delivered through our pipelines to your tap with reliability.
- Drilling two new wells.
- Upgrading the division's supervisory control and data acquisition system (SCADA), a \$3 million project.



Pulling The Curtain Back: The Man Who Keeps Santa Ana's Water System Operating

The Water Resources Division thrives on its commitment to delivering a reliable supply of water to Santa Ana residents. Operators work 24/7, monitoring every station to regulate water pressure and handle any emergencies that may arise.

"When things go wrong with a well pump or a power outage, my job is to get everything up and running so residents are not affected by an interruption in service or a drop in water pressure," says Water Services Production Supervisor Juan Ramirez. "We plan for contingencies and have strategies to mitigate impact to residents, such as backup generators and operators who are on call."

Water Production & Flow

Juan safeguards our water infrastructure and manages the production of water that supports the entire city. It's a big job. He and his team operate and maintain Santa Ana's complex system of 7 pumping stations, 10 reservoirs and 21 wells. They maintain the constant operation of all the pumping stations, which draw water from the reservoirs and directly into the city's distribution system. Many of these pumping stations are equipped with variable-frequency drives (VFDs), which stabilize the pressure in the City's water system, reducing the impact of any surges and the number of system breakdowns.

They are responsible for tracking the city's reservoir levels to ensure there is a 15% reserve for fire fighters. Using an instrument called a hydrostatic pressure transmitter and a SCADA (supervisory control and data acquisition) system, operators remotely monitor all water facilities and sites for security, flows, pressures, valves and water quality.

Juan understands the city's system well. He served as an instrument technician and ran the SCADA system for 10 years before being promoted to Water Services Production Supervisor.

Water Quality

Juan and his team also manage onsite water chlorination generators to ensure the right level of disinfectant is added to groundwater to remove viruses as well as bacteria and other pathogens according to state and federal regulations. He and his team take meticulous care about the biology of the water, he says, and its application. Proper levels of chlorine not only impact drinking water taste and odor, but is particularly important for people undergoing dialysis therapy.

Wastewater Conveyance

In addition to managing the operations of Santa Ana's water production and water service, Juan oversees the city's two lift systems. These lift systems pump wastewater into two main trunks that feed into the Santa Ana River Interceptor (SARI) Line, a 23-mile-long wastewater pipeline to the Orange County Sanitation District (OCSd) sewage treatment plant in Fountain Valley.

"What keeps me up at night are those two lift stations," adds Juan. "If there is a spill, sewage can back up into people's homes." It's a responsibility and a commitment that Juan takes seriously, like being a good father.

Born in Jalisco, Mexico and raised in East Los Angeles, Juan is a father to five daughters—four who have completed college and the youngest who is on her way. He takes pride in being able to support their higher education goals, recognizing the importance of college in advancing their careers. With the support of his supervisor, Nabil Saba, Juan decided to continue his education 13 years ago and pursue a degree in electrical engineering and instrumentation.

He has earned certifications by the State of California State Water Resources Control Board in water distribution and water treatment, as well as an electrical/instrumentation certification by the California Water Environmental Association. He also attended Santiago Canyon Community College and completed a Water Utility Science certificate program.

"I'm thankful to the City of Santa Ana for all their support and to my family for being there for me. Now is the time to focus my energy on becoming a great supervisor and giving the Santa Ana residents the best of me," he says.

It's easy to take for granted that water flows from the tap. But how many people understand the process required to make that happen and keep Santa Ana's water system afloat?

Juan Ramirez
Water Services
Production Supervisor
(Pictured here at
the Walnut Street
Pumping Station.)





Protecting Our Watershed

The City of Santa Ana sits on Southern California's largest watershed, covering nearly 3,000 square miles of mountains, foothills and valleys.

What is a watershed? It's an area of land that drains rainfall to a common outlet such as a reservoir or ocean. Watersheds consist of surface water like lakes, streams, reservoirs, and wetlands. These water bodies supply our drinking water, water for agriculture and manufacturing, offer opportunities for recreation and provide habitat to numerous plants and animals.

Since water flow is interconnected, what we do on the land affects the quality of our water for everyone else and can have a big impact on our natural systems, including the plants, animals, and fish that depend on them. That is why protecting our watershed is important to our community.

When it rains, storm drains carry rainwater to our creeks, streams and eventually the ocean without any filtering or cleaning. Storm drains are designed to drain excess water from solid surfaces such as paved streets, parking lots, sidewalks and roofs.

Along the way to the storm drains, water picks up trash, debris, and chemicals found on the ground. If we are not careful, our daily activities can lead directly to water pollution problems. By taking personal responsibility, you can prevent water pollution and help keep our creeks, rivers, bays and ocean healthy:

1. Don't litter. Recycle soda cans and throw candy wrappers in the trash.
2. Take used motor oil and old paint to a recycling center.
3. Use a broom to sweep instead of hosing off sidewalks and driveways. This will help prevent ocean pollution and save water.
4. Never use fertilizer and pesticides before rain. It can wash harmful chemicals into storm drains that lead directly to the ocean.
5. Pick up after your pets; throw waste in the trash.
6. Volunteer to help clean up your local watershed.



Santa Ana River Watershed

Snow from the San Bernardino Mountains melts and flows down the Santa Ana River and its many streams and creeks—called “tributaries”—feeding the Santa Ana River Watershed. The largest tributary within Orange County is Santiago Creek.

Education

Last year, Santa Ana Water Resources Division collaborated with more than 10 agencies including state, county and city governments to underwrite, produce and install Santa Ana River Watershed displays in over 50 park locations throughout the basin. In the City of Santa Ana alone, five displays are installed at Centennial Park, Civic Center, Santiago Creek Nature Center and the Heritage Museum of Orange County.

The purpose of these displays is to educate the public about the importance of our watershed and promote sustainable landscaping, water conservation and pollution prevention. This project is part of our public outreach initiative to ensure a more sustainable water future for the community of Santa Ana.



- 1 Santiago Creek Nature Center
- 2 Civic Center
- 3 Centennial Park
- 4 Heritage Museum of Orange County
- 5 Carl Thornton Park



Protecting Our Ecosystem: Bring Back OC Natives!

Protecting our local watershed is not only important to our ecosystem, so is preserving the natural flora that is unique to our region.

With over 80% of Orange County developed, much of our natural flora and native habitats have been destroyed.

We're not referring to "California-friendly" or "California Native" plants. We're talking about the 806 species of plants that are unique to our region, called Orange County (OC) Natives. These "endemic plants" have co-evolved with our ecosystem and adapted to our unique climate and soil, which is why they are found nowhere else in the world...only here in Orange County!

Landscaping with OC Natives not only gives these indigenous species a place to live and thrive, but they also provide habitats for native pollinators and butterflies. What's more, OC Natives are ideal for water conservation because once they're established—which takes three months after transplanting from flat or pot into soil—many need almost no irrigation beyond normal rainfall. While saving water is a benefit that most commonly sparks people's interest, especially during drought years, OC natives are also beautiful. Examples of some species include lemonade berry, ambrosia, California everlasting, prickly pear, California buckwheat, goldenbush, California sagebrush and Coast Live Oak.

Few nurseries carry true OC Natives, the closest one for Santa Ana residents is the Tree of Life Nursery located in San Juan Capistrano. Be sure to specifically ask for OC Natives. You'll be glad you did once you begin to enjoy your beautiful, maintenance free garden...humming with pollinators and adorned by butterflies!

Our Mediterranean climate is unique. There are only 5 places on our planet where similar climates exist – certain parts of Chile, Australia, South Africa, Mediterranean Basin, and of course Southern California. The Mediterranean climate in Southern California is different from those found in other parts of the world because it is the driest one of all.





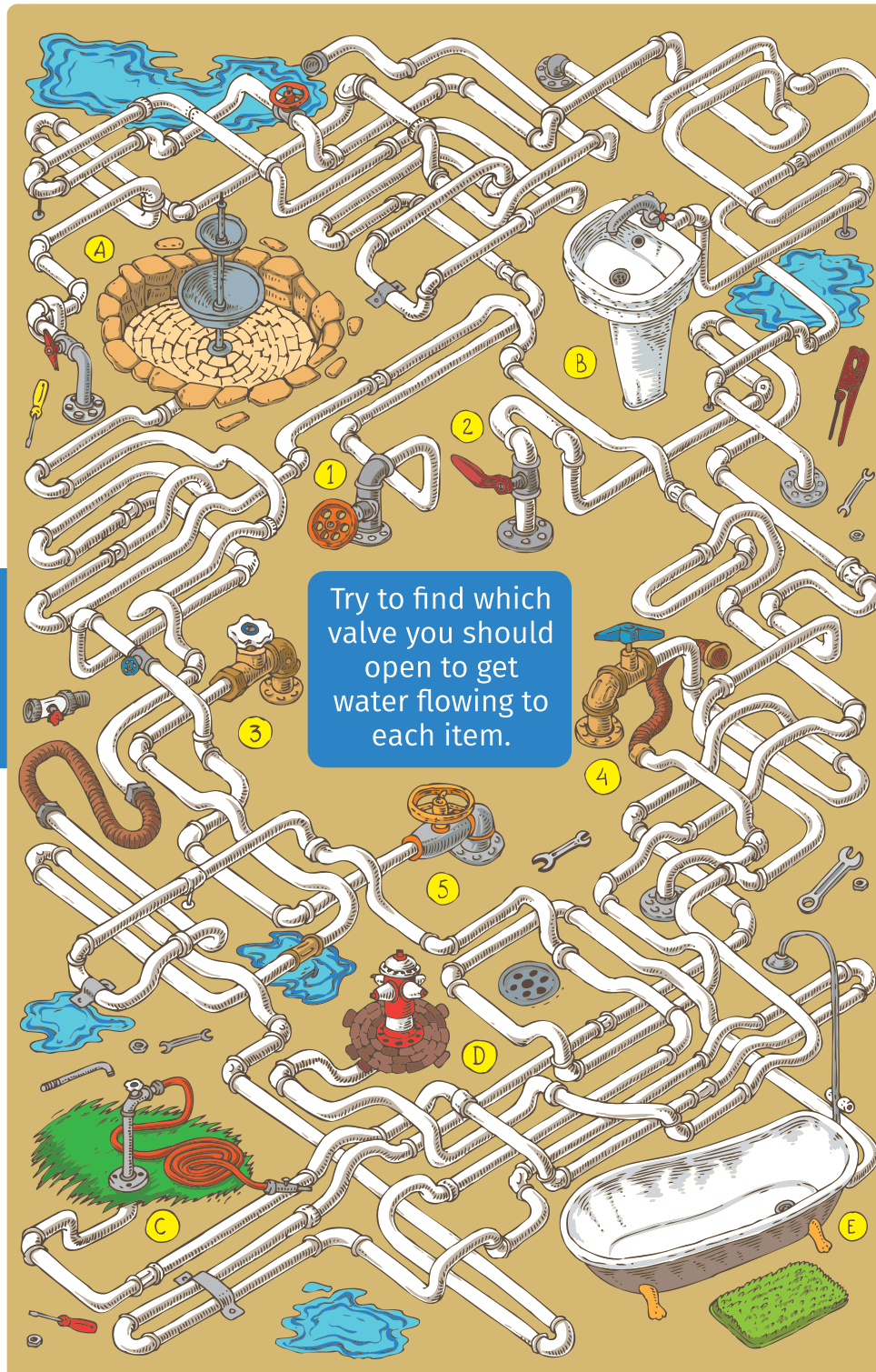
Word Scramble

Unscramble the words, then match them to each item in the picture that uses water.

efir yrhtdan _____

thbuabt _____ iufoannt _____

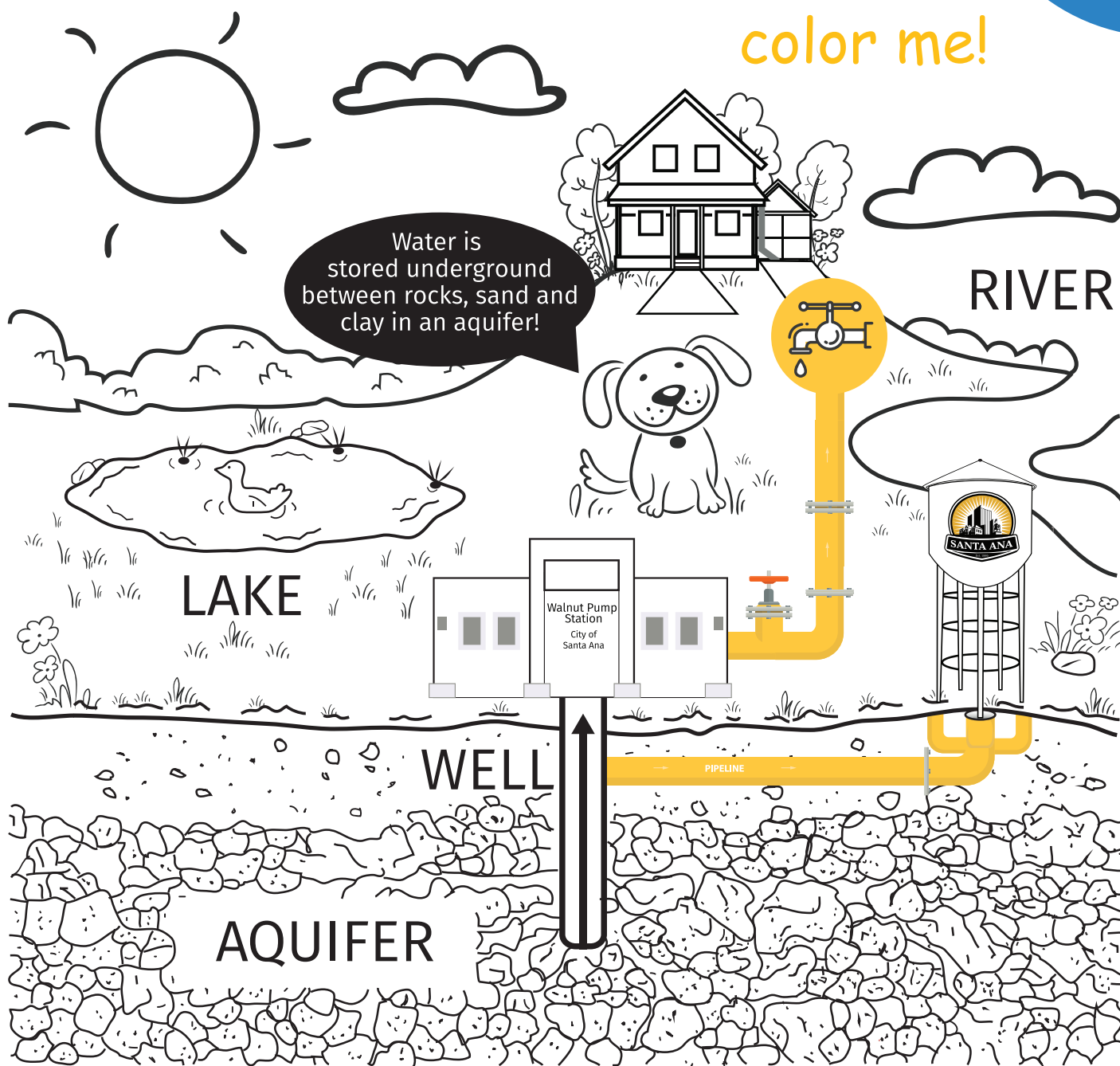
oesh _____ insk _____





From Source To Tap

color me!



Drinking water comes from lakes, rivers and streams (surface water) or under the ground (groundwater). Surface water can get dirty, so before we drink it, it must be cleaned at a treatment plant. Groundwater is naturally filtered as it passes through the earth into underground reservoirs called aquifers. Tap water travels from a water treatment plant or wells to your faucet through a distribution system of pipelines.



Santa Ana Students Learn the Value of Clean, Accessible Water

The Youth Water Poster Contest, held each year by the City of Santa Ana Water Resources Division, concluded on January 31, 2020 with 250 colorful entries! Choosing the winning posters was a difficult task for the judges because all entries were simply amazing!

This year's theme, "Imagine A Day Without Water," sparked each student's imagination and creativity to illustrate how their lives would be impacted without accessible, clean water. Could they shower or brush their teeth to get ready for school? Toilets wouldn't flush. With no water to use in cooking, what would they be eating for dinner? In time, they wouldn't have clean clothes to wear and, with no more water to help produce electricity, there would be no electricity to power the lights, the refrigerator and all the other appliances in their homes.

These are only some of the ways that water is essential to our day-to-day lives. Through this creative project, students recognized how access to clean water is taken for granted, reinforcing their commitment to valuing and conserving this precious resource.

Due to the COVID-19 stay at home mandate, the special awards ceremony and reception were canceled. However, all participants received a special certificate by mail. Trophies and prizes, ranging from gift certificates to Nintendo Switches and iPads, were delivered to the 12 finalists and grand prize winners. Congratulations to the talented winners ages 5-18 for their achievement!

A big shout out to this year's judges:

- **Rosa Garcia**
Arts & Culture Commissioner
- **Gabriela Cramer**
Administrative Aide, Community Development Arts & Culture Office
- **Claudia Fernandez-Shaw**
Loan Specialist, Community Development City of Santa Ana

2020 WINNERS

Santa Ana Announces This Year's Youth Water Poster Contest Winners!

Our appreciation to all our judges, the Santa Ana Arts & Culture Commission and Santa Ana Unified School District, which, for the past five years, has supported our annual Youth Water Poster Contest. Thank you for helping us make this important educational initiative a success!

Ages 5-8

Duoc Man Tue Nguyen, 6
Grand prize winner (Jim Thorpe Fundamental Elementary)

Sebastian G. Godoy, 8
Finalist (Esqueda Elementary)

Adrian Alexander Flores, 8
Finalist (Washington Elementary)

Ages 9-12

Juliana Solis, 11
Grand prize winner (Pio Pico Elementary)

Aarik Ramirez, 10
Finalist (Monroe Elementary)

Marisole A. Gonzalez, 10
Finalist (Martin Luther King Jr. Elementary)

Ages 13-14

Nazanin Sukula, 14
Grand prize winner (Romero-Cruz Academy)

Nathaly Chirinos, 13
Finalist (Lathrop Intermediate)

Laisha Rodriguez, 14
Finalist (Saddleback High)

Ages 15-18

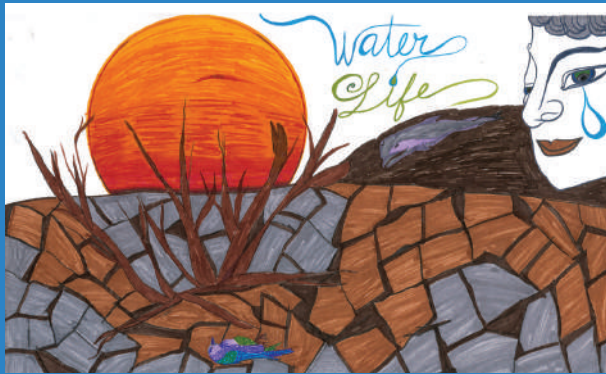
Vanessa Cardenas, 16
Grand prize winner (Century High)

Guadalupe Roman Sanchez, 15
Finalist (Segerstrom High)

Ana Sanchez, 17
Finalist (Century High)



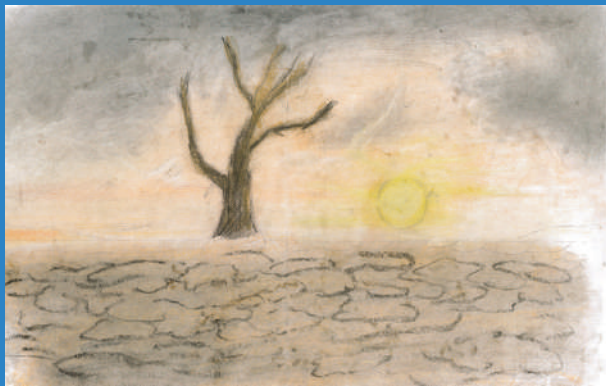
Grand Prize Winners



Duoc Man Tue Nguyen, 6



Nazanin Sukula, 14



Juliana Solis, 11



Vanessa Cardenas, 16

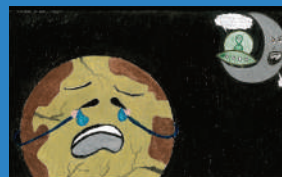
Finalists

Ages 5-8



Sebastian G. Godoy

Ages 9-12



Aarik Ramirez

Ages 13-14

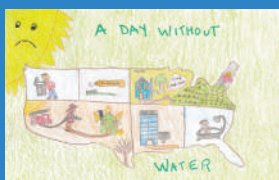


Nathaly Chirinos

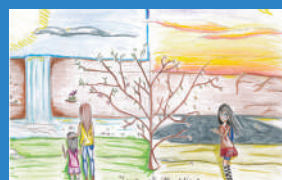
Ages 15-18



Guadalupe Roman Sanchez



Adrian Alexander Flores



Marisole A. Gonzalez



Laisha Rodriguez



Ana Sanchez



Santa Ana's Tap Water Grabs Another Award

Earlier this year, we won the coveted honor of producing among the world's best tasting and highest quality tap water. Santa Ana placed 4th in the "Best Municipal Water" category at the 30th annual Berkeley Springs International Water Tasting, the largest and longest running competition dedicated to preserving and protecting drinking water.



Santa Ana claimed 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.

Santa Ana's tap water comes primarily from the vast groundwater basin under northern and central Orange County, one of the largest in Southern California providing most of the water needs for 2.5 million people in Orange County. We work closely with the Orange County Water District (OCWD), which manages the groundwater basin, to ensure water is not only high in quality but a reliable and plentiful source.




It's As Easy As 1-2-3!

There's nothing worse than a clogged drain that backs up the plumbing in your home. The same holds true for the city's sewer lines. When fatty waste from cooking is poured down the drain, it can solidify and block sewer lines, causing raw sewage to overflow on to our streets, into our storm water drain system and waterways, polluting our city and ocean.

Through Santa Ana's comprehensive fats, oils and grease (FOG) Control Program, less fats, oils and grease are being poured into our drains, thanks to all the restaurants and food service establishments that adhere to our program guidelines and to residents who are aware of the potential health and environmental hazards. These program guidelines and additional resources are available by visiting the City's website at www.santa-ana.org/pw/water-and-sewer/fats-oils-and-grease-fog-control-program.

It's important to remember that fats, oils and grease do not break down in water, and even most soaps and other agents, like drain cleaner or detergent, can't dissolve grease effectively enough to keep the sewer system clear.

Following these simple steps will not only save you an emergency call to the plumber, but will help protect our natural resources.

- 
SCRAPE
grease solids, directly into a lined trash can.
- 
POUR
cooled liquid grease into a sealable container.
- 
WIPE
remaining grease and debris with a paper towel.



Water Services Quality Inspector Nadiya Balukh checks a grease interceptor at MainPlace Mall with a dipstick to determine if it needs to be pumped and cleaned to keep FOG out of the wastewater system. Interceptors are installed to channel sink water from a Food Service Establishment (FSE) and to capture any FOG that may cause clogs in sewer pipes.

Save Water. Save Money.

In partnership with the Metropolitan Water District of Southern California, the City of Santa Ana funds the SoCal Water\$mart program to offer you money-saving rebates. By taking advantage of these rebates, you'll not only save when buying high-efficiency appliances, products and devices, but you'll see a difference in your water and energy bill too!

Remember to check the list of appliances and products that qualify for rebates before purchasing.*

Indoor Rebates

Together, toilets and clothes washers account for approximately 45% of the water used inside your home. Replace your inefficient clothes washer or toilet to save water and money.

Outdoor Rebates

Up to 70% of California's entire residential water supply is applied to home landscapes. The following outdoor products and devices are designed to reduce waste, usage and homeowner costs.

*Customers must not have already received a rebate for the same product at the same address.

Applying For A Rebate

Be sure to apply for a rebate within 3 months from the date of purchase. The item must be currently available at the time you apply. To receive a rebate, you must complete the following steps:

1. Apply online at www.socalwatersmart.com/en/residential/rebates/apply-online/
2. Within 60 days of your online submission, send in the following:
 - Copy of the online application confirmation page.
 - Copy of a recent water bill.
 - Copy of your receipt showing the product was paid for in full. It must also include brand, model, and individual price.
3. Mail, fax, or email your documentation to SoCal Water\$mart. Information is available on your application confirmation page.





Useful Telephone Numbers

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

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the application
and begin
cleaning your
neighborhood today...

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., Acting 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



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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. 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.