Presented By

CORAL SPRINGS IMPROVEMENT DISTRICT

CORAL SPRINGS, FLORIDA — ESTABLISHED JULY 1978

ANNUAL WATER QUALITY REPORT

WATER TESTING PERFORMED IN 2017

Este informe contiene información muy importante sobre su agua potable. Si usted quiere recibir este folleto en español o recibir asistencia en traducirlo, por favor llame al telefono 954-753-0380 o visite: www.csidfl.org.

PWS ID#: 4060291

Quality First

Once again we are pleased to present our annual water quality report covering the period between January 1 and December 31, 2017. As in years past, we are committed to delivering the best-quality drinking water possible. To that end, we remain vigilant in meeting the challenges of new regulations, source water protection, water conservation, and community outreach and education while continuing to serve the needs of all of our water users. Thank you for allowing us the opportunity to serve you and your family.

We encourage you to share your thoughts with us on the information contained in this report. After all, well-informed customers are our best allies.

Community Participation

Our homeowners are invited to attend the monthly Board Meetings with your comments and ideas about anything relating to our utility. We meet the 3rd Monday of each month beginning at 4:00 p.m. at the Coral Springs Improvement District, Administration Building Board Room, 10300 N.W. 11th Manor, Coral Springs, Florida. The meeting schedule is also on our Web site at www.csidfl.org under Meeting Dates, as dates may need to be changed due to holidays, etc.

Your Coral Springs Improvement District Board of Supervisors

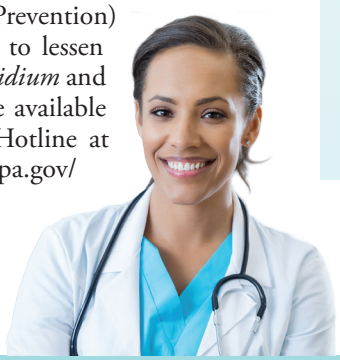
Dr. Martin Shank, President

Duane Holland, Vice President

Nick St. Cavish, Secretary

Important Health Information

Some people may be more vulnerable to contaminants in drinking water than the general population. Immunocompromised persons such as those with cancer undergoing chemotherapy, those who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly, and infants may be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. The U.S. EPA/CDC (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 or http://water.epa.gov/drink/hotline.



Substances That Could Be in Water

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 from human activity.

Contaminants that may be present in source water include:

Microbial Contaminants, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife.

Inorganic Contaminants, such as salts and metals, which 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, which 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, which are by-products of industrial processes and petroleum production and can also come from gas stations, urban stormwater runoff, and septic systems.

Radioactive Contaminants, which can be naturally occurring or be the result of oil and gas production and mining activities.

In order to ensure that tap water is safe to drink, the U.S. EPA prescribes regulations that limit the amount of certain contaminants in water provided by public water systems. The Food and Drug Administration (FDA) regulations establish limits for contaminants in bottled water that must provide the same protection for public health.

Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate that the water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the Environmental Protection Agency's Safe Drinking Water Hotline at (800) 426-4791.

Where Does Our Water Come From?

The source water for the Coral Springs Improvement District (CSID) comes from a stable ground water supply called the Biscayne Aquifer. This aquifer is the source of fresh water for all of Broward, Dade, and parts of Palm Beach Counties. The Biscayne Aquifer is a relatively thin layer of semi-permeable coral rock, sand, and limestone that ranges from a few feet in thickness on its western side to about 240 ft. thick as water flows slowly southeast towards the ocean. The Biscayne Aquifer is replenished by rainfall that percolates down through soil and rock into the aquifer. Because south Florida receives a great deal of rainfall each year, the Biscayne Aquifer is a stable and constant supply of water. CSID pumps water from the Biscayne Aquifer (utilizing eleven wells located throughout the District) to the treatment plant. We have seven wells on standby generator power to ensure we can provide drinking water even during severe storm events. CSID has spent over a million dollars in the last couple of years on improvements in the well field, including rehabilitations, as well as two new replacement wells. The wells, an essential part of our process, are where it all begins. The water is pumped from the wells to the Reverse Osmosis water treatment plant, where it is treated and distributed.

34 BILLION The number of gallons of water produced daily by public water systems in the U.S.

Water Conservation

You can play a role in conserving water and save yourself money in the process by becoming conscious of the amount of water your household is using and by looking for ways to use less whenever you can. It is not hard to conserve water. Here are a few tips:

- Automatic dishwashers use 15 gallons for every cycle, regardless of how many dishes are loaded. So get a run for your money and load it to capacity.
- Turn off the tap when brushing your teeth.
- Check every faucet in your home for leaks. Just a slow drip can waste 15 to 20 gallons a day. Fix it and you can save almost 6,000 gallons per year.
- Check your toilets for leaks by putting a few drops of food coloring in the tank. Watch for a few minutes to see if the color shows up in the bowl. It is not uncommon to lose up to 100 gallons a day from an invisible toilet leak. Fix it and you save more than 30,000 gallons a year.
- Use your water meter to detect hidden leaks. Simply turn off all taps and water-using appliances. Then check the meter after 15 minutes. If it moved, you have a leak.

What's Your Water Footprint?

You may have some understanding about your carbon footprint, but how much do you know about your water footprint? The water footprint of an individual, community, or business is defined as the total volume of freshwater that is used to produce the goods and services that are consumed by the individual or community or produced by the business. For example, 11 gallons of water are needed to irrigate and wash the fruit in one half-gallon container of orange juice. Thirty-seven gallons of water are used to grow, produce, package, and ship the beans in that morning cup of coffee. Two hundred and sixty-four gallons of water are required to produce one quart of milk, and 4,200 gallons of water are required to produce two pounds of beef.

According to the U.S. EPA, the average American uses over 180 gallons of water daily. In fact, in the developed world, one flush of a toilet uses as much water as the average person in the developing world allocates for an entire day's cooking, washing, cleaning, and drinking. The annual American per capita water footprint is about 8,000 cubic feet; twice the global per capita average. With water use increasing six-fold in the past century, our demands for freshwater are rapidly outstripping what the planet can replenish.

To check out your own water footprint, go to http://goo.gl/QMoIXT.

Source Water Assessment

In 2017 the Department of Environmental Protection performed a Source Water Assessment on our system. The assessment was conducted to provide information about any potential sources of contamination in the vicinity of our wells. According to the assessment, seven potential sources of contamination were identified for this system with low to moderate susceptibility levels. The assessment results are available on the FDEP Source Water Assessment and Protection Program Web site at www.dep.state.fl.us/swapp, or call Joe Stephens, Chief of Water Operations, at (954) 796-6665.

QUESTIONS?

For more information about this report, or for any questions relating to your drinking water, please call Joe Stephens, Chief of Water Operations, at (954) 796-6665, or he can be reached via email at joes@fladistricts.com. You can also visit our Web site at www.csidfl.org, which contains helpful information about our utility.

The Coral Springs Improvement District's Water Treatment Process

We have been operating our Reverse Osmosis (RO) process for over four years now. This process is a low-pressure reverse osmosis system where we purify water using cross-linked fully aromatic polyamide composite membranes. This design and process provides the greatest level of protection for the public water supply. In fact, we became one of only a few certified 4-log virus inactivation facilities in Broward County starting in 2016.

Our source water comes from the Biscayne Aquifer and is pumped to the plant from our 11 wells throughout the district. Once the water arrives at the plant, it flows through three stainless steel Sand Strainers. Each strainer is equipped with six stainless steel filter elements that filter out any particulate larger than 50 microns. (The eye of an average needle is 1,230 microns.) After leaving the sand strainers, the water flows to the next pretreatment process, known as Cartridge Filtration. Just before the water flows to the cartridge filters, it is chemically conditioned to optimize treatment. Three cartridge filter vessels, each containing 176 individual filter elements, filter out impurities that are 5 microns or larger in size. These three cartridge filter vessels are capable of processing a total flow rate of over 10 million gallons per day of what is then known as pretreated water.

Next, the water flows to the front of the Membrane Vessels, where 250-hp Feed Pumps increase the system pressure to about 100 pounds per square inch (psi). This pressure provides the driving force needed to overcome the natural osmotic pressure of the water and allows the RO process to begin. As this process continues, Membrane Elements inside the vessels separate out impurities down to 0.0005 microns in size to produce water with little or no physical contaminants. Each membrane element measures 8 in. in diameter and is 40 in. long. There are 7 elements in each vessel, and 50 vessels per Process Train (350 elements per train). The plant is equipped with 3 process trains that are capable of producing a total of 6.75 million gallons of potable water per day. This treated water is known as permeate. We bypass 10-15 percent of our water to blend with our permeate in order to raise the alkalinity and hardness back up to desirable drinking water standards. This stream receives all of the same pre- and post-treatment benefits as the water that is treated through the membranes. Our plant is permitted to produce up to 7.4 million gallons of potable drinking water per day, although it is capable of producing more, which can be done to help out neighboring cities in times of need with proper notification to our governing agencies.

> **"This design and process provides the greatest level of protection for the public water supply."**

Since the RO process does not remove dissolved gasses, such as hydrogen sulfide and carbon dioxide, the permeate water flows upward to the next process, known as degasification. Water flows downward through these towers through a type of filter media resembling Wiffle Balls. Air is forced upward through the cascading water to remove any volatile gasses.

The water then flows into a Transfer Pump Station. As the water is pumped out of the transfer pump station and into the ground storage tanks, it is chemically treated with sodium hypochlorite, orthophosphate, sodium hydroxide, and ammonium sulfate to provide disinfection and stabilization. The on-site storage tanks allow contact time for disinfection and stabilization to occur. The water is then pumped out to the distribution system through our 8 high-service pumps. We also add a small amount of fluoride, which is required, before the water leaves our facility and reaches the first customer.

Lead in Home Plumbing

If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Lead in drinking water is primarily from materials and components associated with service lines and home plumbing. We are responsible for providing high-quality drinking water, but we cannot control the variety of materials used in plumbing components. When your water has been sitting for several hours, you can minimize the potential for lead exposure by flushing your tap for 30 seconds to 2 minutes before using water for drinking or cooking. 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 is available from the Safe Drinking Water Hotline or at www.epa.gov/lead.

Test Results

Coral Springs Improvement District routinely monitors for contaminants in your drinking water according to Federal and State laws, rules, and regulations. Except where indicated otherwise, this report is based on the results of our monitoring for the period of January 1 to December 31, 2017. Data obtained before January 1,2017, and presented in this report is from the most recent testing done in accordance with the laws, rules, and regulations.

PRIMARY REGULATED CONTAMINANTS

Inorganic Contaminants

CONTAMINANT AND UNIT OF MEASUREMENT	DATE OF SAMPLING (MO./YR.)	MCL VIOLATION (YES/NO)	LEVEL DETECTED	RANGE OF RESULTS	MCLG	MCL	LIKELY SOURCE OF CONTAMINATION
Barium (ppm)	3/15/2017	No	0.00172	NA	2	2	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits
Fluoride (ppm)	3/15/2017	No	0.512	NA	4	4.0	Erosion of natural deposits; discharge from fertilizer and aluminum factories; water additive that promotes strong teeth when at the optimum level of 0.7 ppm
Sodium (ppm)	3/15/2017	No	13.5	NA	NA	160	Salt water intrusion; leaching from soil

Disinfectants

DISINFECTANT AND UNIT OF MEASUREMENT	DATE OF SAMPLING (MO./YR.)	MCL VIOLATION (YES/NO)	LEVEL DETECTED	RANGE OF RESULTS	MRDLG	MRDL	LIKELY SOURCE OF CONTAMINATION
Chloramines (ppm)	1/2017–12/2017	No	2.73	1.50–3.60	4	4.0	Water additive used to control microbes

DISINFECTION BY-PRODUCTS

CONTAMINANT AND UNIT OF MEASUREMENT	DATE OF SAMPLING (MO./YR.)	MCL VIOLATION (YES/NO)	LEVEL DETECTED	RANGE OF RESULTS	MCLG	MCL	LIKELY SOURCE OF CONTAMINATION
Haloacetic Acids (five) [HAA5] (ppb)	8/7/2017	No	10.62	8.10–10.62	NA	60	By-product of drinking water disinfection
TTHM [Total trihalomethanes] (ppb)	8/7/2017	No	14.52	11.59–14.52	NA	80	By-product of drinking water disinfection

Lead and Copper (Tap water samples were collected from sites throughout the community.)

CONTAMINANT AND UNIT OF MEASUREMENT	DATE OF SAMPLING (MO./YR.)	AL EXCEEDANCE (YES/NO)	90TH PERCENTILE RESULT	NO. OF SAMPLING SITES EXCEEDING THE AL	MCLG	AL (ACTION LEVEL)	LIKELY SOURCE OF CONTAMINATION
Copper [tap water] (ppm)	6/15/2017	No	0.0645	0	1.3	1.3	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives
Lead [tap water] (ppb)	6/15/2017	No	1.34	0	0	15	Corrosion of household plumbing systems; erosion of natural deposits

Definitions

AL (Action Level): The concentration of a contaminant that, if exceeded, triggers treatment or other requirements that a water system must follow.

LRAA (Locational Running Annual Average): The average of sample analytical results for samples taken at a particular monitoring location during the previous four calendar quarters. HAAs and TTHMs Level Detected values are reported as LRAAs.

MCL (Maximum Contaminant Level): The highest level of a contaminant that is allowed in drinking water. MCLs are set as close to the MCLGs as feasible using the best available treatment technology.

MCLG (Maximum Contaminant Level Goal): The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs allow for a margin of safety.

MRDL (Maximum Residual Disinfectant Level): 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.

MRDLG (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.

NA: Not applicable

ppb (parts per billion): One part substance per billion parts water (or micrograms per liter).

ppm (parts per million): One part substance per million parts water (or milligrams per liter).