

# CITY OF REDWOOD CITY 2019 ANNUAL WATER QUALITY REPORT

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This state-mandated report contains important information about your drinking water. To translate it, or speak with someone who understands it.

Este informe contiene information muy importante sobre su agua potable. Tradúzcalo o hable con alguien que lo entienda bien.



#### **OUR DRINKING WATER SOURCES AND TREATMENT**

The San Francisco Regional Water System's (SFRWS) major water source is in Yosemite National Park and originates from spring snowmelt flowing down the Tuolumne River to storage in Hetch Hetchy Reservoir. The well-protected Sierra water source is exempt from federal and State's filtration requirements. To meet the appropriate drinking water standards for consumption, water from Hetch Hetchy Reservoir receives treatment consisting of ultraviolet light and chlorine disinfection, pH adjustment for optimum corrosion control, fluoridation for dental health protection, and chloramination for maintaining disinfectant residual and minimizing the formation of regulated disinfection byproducts.

The Hetch Hetchy water supply is supplemented with surface water from local watersheds and upcountry non-Hetch Hetchy sources (UNHHS). Rainfall and runoff from the 35,000-acre Alameda Watershed in Alameda and Santa Clara counties are first collected in Calaveras Reservoir and San Antonio Reservoir for storage followed by delivery to the Sunol Valley Water Treatment Plant (SVWTP) for treatment. Rainfall and runoff from the 23,000-acre Peninsula Watershed in San Mateo County are stored in Crystal Springs Reservoir, San Andreas Reservoir and Pilarcitos Reservoir, and are delivered to the Harry Tracy Water Treatment Plant. Water delivered to the two treatment plants is subject to filtration, disinfection, fluoridation, optimum corrosion control, and taste and odor removal to ensure the water supplied to our customers meet the federal and state drinking water standards. SFRWS did not use the UNHHS in 2019.

#### **Watersheds Protection**

The San Francisco Public Utilities Commission (SFPUC) conducts watershed sanitary surveys for the Hetch Hetchy source annually and for the local water sources and UNHHS every five years. The latest local sanitary survey was completed in 2016 for the period of 2011-2015. The last watershed sanitary survey for UNHHS was conducted in 2015 as part of SFRWS's drought response plan efforts. All these surveys together with the stringent watershed protection management activities were completed by the SFPUC with support from partner agencies including National Park Service and US Forest Service. purposes of the surveys are to evaluate the sanitary conditions and water quality of the watersheds and to review results of watershed management activities conducted in the preceding years. Wildlife, stock, and human activities are continued to be the potential contamination sources. You may contact the San Francisco District office of the State Water Resources Control Board's Division of Drinking Water (SWRCB-DDW) at 510-620-3474 for the review of these reports.

# LAWN BE GONE!

Save water by removing your grass! Redwood City residents and businesses are eligible to receive rebates of \$1 per square foot for replacing lawn with a beautiful, water efficient landscape.

## How do I receive a rebate?

Submit an application and receive a Notice to Proceed from your water provider <u>before</u> removing your lawn.

#### **CONTAMINANTS AND REGULATIONS**

Generally, the sources of drinking water (both tap water and bottled water) include rivers, lakes, oceans, 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. Such substances are called contaminants, and may be present in source water as:

**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, which are by-products of industrial processes and petroleum production, and can also come from gas stations, urban stormwater runoff, agricultural application and septic systems,

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

More information about contaminants and potential health effects can be obtained by calling the USEPA's Safe Drinking Water Hotline 800-426-4791, or at <a href="https://www.epa.gov/safewater">www.epa.gov/safewater</a>.

#### **WATER QUALITY**

SFPUC regularly collects and tests water samples from reservoirs and designated sampling points throughout the sources and the transmission system to ensure the water delivered to you meets or exceeds federal and State drinking water standards. In 2019, SFPUC conducted more than 53,650 drinking water tests in the sources and the transmission system. This is in addition to the extensive treatment process control monitoring performed by SFPUC's certified operators and online instruments.

The City of Redwood City also collects and tests water samples from the City's water system and storage reservoirs. Samples are collected weekly, monthly, and quarterly depending on the type of analyses to be performed. The City of Redwood City Water Division staff ensures water delivered within the water system meets or exceeds federal and state drinking water standards.

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 water poses a health risk. In order to ensure that tap water is safe to drink, the United States Environmental Protection Agency (USEPA) and the California State Water Resources Control Board - Division of Drinking Water (SWRCB-DDW) 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.

#### Monitoring of Per- and Polyfluoroalkyl Substances (PFAS)

PFAS is a group of approximately 5,000 man-made chemicals used in a variety of industries and consumer products. These chemicals are very persistent in the environment and human body. The SFPUC conducted a special round of PFAS monitoring of its water sources and transmission system in 2019. The monitoring effort was not under any federal or State order/permit requirements; it was proactively conducted on a voluntary basis with the objective to identify if the SFRWS's water supplies are impacted by PFAS. Using the State's stringent sampling procedures and based on the currently approved/certified method of analysis for 18 PFAS contaminants, SFPUC confirmed no PFAS was detected in its water sources and transmission system. Considering USEPA's recent development of a newer method of analysis for additional PFAS contaminants, SFPUC intends to conduct another round of monitoring when the new analytical method is available at its contract laboratory. For additional information about PFAS, visit The SWRCB-DDW website waterboards.ca.gov/pfas and/or USEPA website epa.gov/pfas.

#### **TO LEARN MORE**

Additional water quality data may be obtained by contacting Justin Chapel at Redwood City Public Works Services (650) 780-7464.

Want to learn more about drinking water regulations? Visit the SWRCB Division of Drinking Water at <a href="https://www.swrcb.ca.gov/drinkingwater">www.swrcb.ca.gov/drinkingwater</a> or the U.S. Environmental Protection Agency at <a href="https://www.epa.gov">www.epa.gov</a>.

Water quality policies are decided at public hearings held at regularly scheduled City Council meetings. For more information visit <a href="https://www.redwoodcity.org">www.redwoodcity.org</a>.

#### **Key Water Quality Terms**

The following are definitions of key terms referring to standards and goals of water quality noted on the data table.

**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.

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 USEPA.

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 (SMCLs) are set to protect the odor, taste, and appearance of drinking water.

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

**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 a contaminant in drinking water.

**Turbidity:** A water clarity indicator that measures cloudiness of the water, and is also used to indicate the effectiveness of the filtration system. High turbidity can hinder the effectiveness of disinfectants.

*Cryptosporidium* is a parasitic microbe found in most surface water. The SFPUC regularly tests for this waterborne pathogen, and found it at very low levels in source water and treated water in 2019. However, current test methods approved by the USEPA do not distinguish between dead organisms and those capable of causing disease. Ingestion of *Cryptosporidium* may produce symptoms of nausea, abdominal cramps, diarrhea, and associated headaches. *Cryptosporidium* must be ingested to cause disease, and it may be spread through means other than drinking water.

KEY			
<u <	= less than / less than or equal to	NL	= Notification level
AL	= Action Level	NoP	= Number of Coliform- Positive Sample
Max	= Maximum	NTU	= Nephelometric Turbidity Unit
Min	= Minimum	ORL	= Other Regulatory level
N/A	= Not Available	ppb	= part per billion
ND	= Non-Detect	ppm	= part per million

**μS/cm** = microSiemens/ centimeter

### **Unregulated Contaminant Monitoring Rule (UCMR)**

#### **Background**

The 1996 Amendments to the Safe Drinking Water Act required the U.S. EPA to establish criteria for a monitoring program for unregulated contaminants and to publish, once every 5 years, a list of no more than 30 contaminants to be monitored by public water systems.

#### **Recent Sampling Event**

The most recent sampling event was UCMR 4 which took place in March through December of 2018. This sampling event requires public water systems to monitor for 10 cyanotoxins and 20 additional chemical contaminants. The City of Redwood City performed 4 quarters of sampling for chemical contaminants. There were 6 chemicals detected at low levels that did not exceed any MCLs. UCMR 4 sampling is not yet complete and monitoring will resume in August of 2020 for cyanotoxins.

Prior to that event was UCMR 3 in which the City of Redwood City performed sampling for 28 potential contaminants and two viruses from August 2014 through May 2015. Of the potential contaminants, only 4 were detected at very low levels. During each event samples were taken from one of our SFPUC source water connections and from various sample points in the City's distribution system.

The results of the detected contaminants can be found in the table on the next page.

#### Reporting

U.S. EPA does not provide guidance on the issue of reporting federal UCMR contaminants beyond the previous calendar year's detections, other than to say it is not required and that data older than 5 years need not be reported. As a result, the State Board recommends systems to report the data for 5 years.

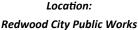
#### For More Information

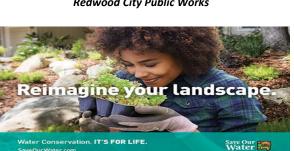
Unregulated contaminant monitoring helps the U.S. EPA and the State Water Resources Control Board to determine where certain contaminants occur and whether the contaminants need to be regulated. To view the results of sampling for the Unregulated Contaminant Monitoring Rule conducted by Redwood City please visit our website at <a href="https://www.redwoodcity.org/waterquality">www.redwoodcity.org/waterquality</a>.

#### Visit Redwood City's

#### Native plant demonstration garden

The Redwood City Parks Department, and volunteers converted this area from turf to a native garden. The volunteers attended a workshop sponsored by Redwood City's Water Conservation Program "How to convert turf to a water efficient landscape", and the result of their work is a garden that's educational, supports wildlife, and uses a lot less water.









# **Unregulated Contaminant Monitoring Rule (UCMR) Results**

UCMR4 Detected Contaminants	Unit	MCL	PHG or (MCLG)	Range or Level Found	Average or [Max]	Major Sources in Drinking Water	
Haloacetic Acids							
Bromochloroacetic Acid (BCAA)	ppb	N/A	N/A	0.374 - 0.977	0.642	Degradation of disinfectant	
Dichloroacetic Acid (DCAA)	ppb	N/A	N/A	12.8 - 32.6	19.8	Degradation of disinfectant	
Monochloroacetic Acid (MCAA)	ppb	N/A	N/A	2.05 - 2.77	2.45	Degradation of disinfectant	
Trichloroacetic Acid (TCAA)	ppb	N/A	N/A	8.28 - 16.20	12.86	Degradation of disinfectant	
HAA5	ppb	60	N/A	31.9 - 37.5	34.75	Degradation of disinfectant	
Metals							
Maganese	ppb	2	N/A	1.33 - 1.99	1.75	Byproduct of drinking water disinfection	
UCMR3 Detected Contaminants	Unit	MCL	PHG or (MCLG)	Range or Level Found	Average or [Max]	Major Sources in Drinking Water	
Strontium	ppb	N/A	N/A	15-47	28	Erosion of natural and pipe deposits	
Vanadium	ppb	50 (NL)	N/A	0.2-0.3	0.25	Erosion of natural and pipe	
Chromium-6	ppb	10	0.02	0.03-0.05	0.04	Erosion of natural deposits; industrial discharges	
Chlorate	ppb	800 (NL)	N/A	94-180	131	Degradation of disinfectant	



City of Redwood City—Water Quality Data for Year 2019 (1)

Detected Contaminants	Unit	MCL	PHG or (MCLG)	Range or Level Found	Average or [Max]	Major Sources in Drinking Water
Turbidity						
Unfiltered Hetch Hetchy Water	NTU	5	N/A	0.3 - 0.7 (2)	[2.1]	Soil Runoff
Filtered Water from Sunol Valley Water Treatment	NTU	1 <sup>(3)</sup> Min 95% of samples	N/A N/A	99.89% - 100%	[1]	Soil Runoff
Plant (SVWTP)	-	≤ 0.3 NTU <sup>(3)</sup>	IN/A	99.09% - 100%		Soli Rulioli
Filtered Water from Harry Tracy Water Treatment	NTU	1 <sup>(3)</sup> Min 95% of samples	N/A	-	[0.1]	Soil Runoff
Plant (HTWTP) (13)	-	≤ 0.3 NTU <sup>(3)</sup>	N/A	100%	-	Soil Runoff
Disinfection Byproducts an	d Precur	sors				
Total Trihalomethanes	ppb	80	N/A	15.6 - 60.3	[43.6] <sup>(4)</sup>	Byproduct of drinking water disinfection
Haloacetic Acids	ppb	60	N/A	13.2 - 62.3	[35.5] (4)	Byproduct of drinking water disinfection
Total Organic Carbon <sup>(5)</sup>	ppm	TT	N/A	1.6 - 2.6	2.1	Various natural and man-made sources
Microbiological						
Total Coliform	-	NoP ≤5.0% of monthly samples	(0)	-	[0.18%]	Naturally present in the environment
Giardia lamblia	Cyst/L	TT	(0)	0 - 0.09	0.02	Naturally present in the environment.
Inorganics						
Fluoride (source water) (6)	ppm	2.0	1	ND - 0.9	0.3 <sup>(7)</sup>	Erosion of natural deposits; water additive to promote strong teeth
Chloramine (as chlorine)	ppm	MRDL=4.0	MRDLG=4	0.04 - 3.24	[2.73] (8)	Drinking water disinfectant added for treatment
Constituents with Secondary Standards	Unit	SMCL	PHG	Range	Average	Major Sources of Contaminant
Aluminum	ppb	200	600	ND - 68	ND	Erosion of Natural Deposits/ Some Surface Water Treatment Residue
Chloride	ppm	500	N/A	<3 - 17	8.9	Runoff / leaching from natural deposits
Color	unit	15	N/A	<5 - 7	<5	Naturally-occurring organic materials
Specific Conductance	μS/cm	1600	N/A	29 - 221	154	Substances that form ions when in water
Sulfate	ppm	500	N/A	0.9 - 29	16	Runoff / leaching from natural deposits
Total Dissolved Solids	ppm	1000	N/A	<20 - 144	82	Runoff / leaching from natural deposits
Turbidity	NTU	5	N/A	ND - 0.3	0.1	Soil runoff
Lead and Copper	Unit	AL	PHG	Range	90th Percentile	Major Sources in Drinking Water
Copper	ppb	1300	300	< 1 - 96 <sup>(9)</sup>	48.5	Internal corrosion of household water plumbing systems
Lead	ppb	15	0.2	<1 - 9.8 <sup>(10)</sup>	2.8	Internal corrosion of household water plumbing systems

## City of Redwood City—Water Quality Data for Year 2019

Other Water Quality					Footnotes:
Parameters					(1) All results met State and Federal drinking water health standards.
	Unit	ORL	Range	Average	(2) These are monthly average turbidity values measured every 4 hours
Alkalinity (as CaCO <sub>3</sub> )	ppm	N/A	3.5 - 97	46	daily.  (3) There is no turbidity MCL for filtered water. The limits are based on
Boron	ppb	1000 (NL)	ND - 107	ND	<ul> <li>the TT requirements for filtration systems.</li> <li>(4) This is the highest locational running annual average value.</li> <li>(5) Total organic carbon is a precursor for disinfection byproduct</li> </ul>
Calcium (as Ca)	ppm	N/A	3.3 - 20	12	formation. The TT requirement applies to the filtered water from the SVWTP only.
Chlorate (12)	ppb	800 (NL)	40 - 220	84	(6) The natural fluoride levels in the upcountry sources were ND. Elevated fluoride levels in the SVWTP and HTWTP raw water are
Chromium (VI) (13)	ppb	NA	0.04 - 0.19	0.12	attributed to the transfer of fluoridated Hetch Hetchy water into the local reservoirs.
Hardness (as CaCO <sub>3</sub> )	ppm	N/A	8.9 - 77	47	(7) In May 2015, the SWRCB recommended an optimal fluoride level of 0.7 ppm be maintained in the treated water. In 2019, the range and
Magnesium	ppm	N/A	0.2 - 6.6	4.2	average of the fluoride levels were 0.2 ppm - 0.9 ppm and 0.7 ppm, respectively.
рН	-	N/A	8.8 - 10.1	9.3	<ul> <li>(8) This is the highest running annual average value.</li> <li>(9) The most recent Lead and Copper Rule monitoring was in 2018. 0 of 31 site samples collected at consumer taps had copper</li> </ul>
Potassium	ppm	N/A	0.3 - 1.2	0.8	concentrations above the AL.  (10) The most recent Lead and Copper Rule monitoring was in 2018. 0 of
Silica	ppm	N/A	4.9 - 8	6.1	31 site samples collected at consumer taps had lead concentrations above the AL.
Sodium	ppm	N/A	2.8 - 21	14	(11) The detected chlorate in the treated water is a degradation product of sodium hypochlorite used by the SFPUC for water disinfection.
Strontium	ppb	N/A	13 - 230	107	(12) The detected chlorate in the treated water is a degradation product of sodium hypochlorite used by the SFRWS for water disinfection.
					(13) Chromium (VI) has a PHG of 0.02 ppb but no MCL. The previous
6	M	y Wo	ater	MCL of 10 ppb was withdrawn by the SWRCB-DDW on September 11, 2017. Currently, the SWRCB-DDW regulates all chromium through a MCL of 50 ppb for Total Chromium, which was not detected in our water in 2019.	



My Water, Redwood City's customer water use portal and mobile app brings your water use, water outages and billing information to your fingertips. Conservation made easy! My Water's core purpose is to empower customers through better customer service so that we all may use water more wisely, and in turn, save money and

help the environment.

My Water allows you to:

- View hourly water use
- Sign up for notifications
  - Leak Alerts
  - Outages
- View your bill
- Compare use with others

#### **EVERYTHING JUST GOT** A LOT EASIER

Now you can manage your account through our brand new Customer Portal

✓ Register Today

Or download the mobile app!





To get started, visit www.mywater.redwoodcity.org and register using your account number.

#### SPECIAL HEALTH NEEDS

# FLUORIDATION AND DENTAL FLUOROSIS

Some people may be more vulnerable to contaminants in drinking water than the general population. Immunocompromised persons, such as those with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly people and infants, can be particularly at risk from infections.

Mandated by State law, water fluoridation is a widely accepted practice proven to be safe and effective for preventing and controlling tooth decay. The fluoride target level in the water is 0.7 milligram per liter (mg/L, or part per million, ppm), consistent with the May 2015 State regulatory guidance on optimal fluoride level. Infants fed formula mixed with water containing fluoride at this level may still have a chance of

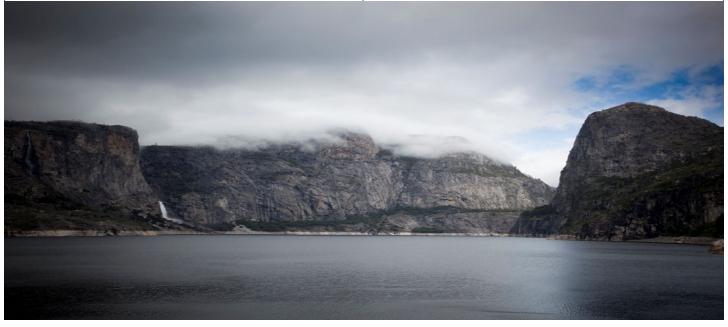
These people should seek advice about drinking water from their healthcare providers. USEPA/CDC guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* and other microbial contaminants are available from the USEPA's Safe Drinking Water Hotline 800-426-4791 or at <a href="https://www.epa.gov/saf">www.epa.gov/saf</a>

#### **Boron Detection Above Notification Level in Source Water**

In 2019, boron was detected at a level of 1.49 ppm in the raw water stored in Pond F3 East, one of SFRWS's approved sources in Alameda Watershed. A similar level was also detected in the same pond in 2017. Although the detected value is above the California Notification Level of 1 ppm for source water, the corresponding level in the treated water from the SVWTP was only 0.1 ppm. Boron is an element in nature, and is typically released into air and water when soils and rocks naturally weather.

practice proven to be safe and effective for preventing and controlling tooth decay. The fluoride target level in the water is 0.7 milligram per liter (mg/L, or part per million, ppm), consistent with the May 2015 State regulatory guidance on optimal fluoride level. Infants fed formula mixed with water containing fluoride at this level may still have a chance of developing tiny white lines or streaks in their teeth. These marks are referred to as mild to very mild fluorosis, and are often only visible under a microscope. Even in cases where the marks are visible, they do not pose any health risk. The Centers of Disease Control (CDC) considers it safe to use optimally fluoridated water for preparing infant formula. To lessen this chance of dental fluorosis, you may choose to use low-fluoride bottled water to prepare infant formula. Nevertheless, children may still develop dental fluorosis due to fluoride intake from other sources such as food, toothpaste and dental products.

Contact your healthcare provider or SWRCB-DDW if you have concerns about dental fluorosis. For additional information about fluoridation or oral health, visit the SWRCB-DDW website <a href="https://www.waterboards.ca.gov/drinking\_water/certlic/drinkingwater/Fluoridation.shtml">www.waterboards.ca.gov/drinking\_water/certlic/drinkingwater/Fluoridation.shtml</a>, or the CDC website <a href="https://www.cdc.gov/fluoridation">www.cdc.gov/fluoridation</a>.



# DRINGKING WATER AND LEAD

Exposure to lead, if present, can cause serious health effects in all age groups, especially for pregnant women and young children. Infants and children who drink water containing lead could have decreases in IQ and attention span and increases in learning and behavior problems. Lead exposure among women who are pregnant increases prenatal risks. Lead exposure among women who later become pregnant has similar risks if lead stored in the mother's bones is released during pregnancy. Recent science suggests that adults who drink water containing lead have increased risks of heart disease, high blood pressure, kidney or nervous system problems.

Lead in drinking water is primarily from materials and components associated with service lines and home plumbing. There are no known lead service lines in our water distribution system. We are responsible for providing high quality drinking water, but we cannot control the variety of materials used in plumbing components. You share the responsibility for protecting yourself and your family from the lead in your home plumbing. You can take responsibility by identifying and removing lead materials within your home plumbing and taking steps to reduce your family's risk. Before drinking, flush your pipes for several minutes by running your tap, taking a shower, doing laundry or a load of dishes. You can also use a filter certified to remove lead from drinking water. If you are concerned about lead in your water you may wish to have your water tested, call your city phone (650) 780-7462 for lead test. Information about lead in drinking water, testing methods, and steps you can take to minimize exposure is available at <a href="https://www.epa.gov/safewater/lead">www.epa.gov/safewater/lead</a>.

As previously reported in 2018, the SFPUC completed an inventory of lead user service lines (LUSL) in our system and there are known or no known pipelines and connectors between water mains and meters made of lead. The City of Redwood City is currently conducting a service line inventory of all service lines in the water system to confirm pipe material. A plan for replacement of pipe of unknown material and any known lead service lines must be submitted to the State of California Division of Drinking Water by July 1, 2020. The City of Redwood City has currently has no known lead service lines.







City of Redwood City Water Utility Services 1400 Broadway Redwood City, CA 94063-2505 Phone: 650-780-7464

www.redwoodcity.org

6 My Water