City of Millbrae
2018 Water Quality Report
Consumer Confidence

The City of Millbrae, Public Works Department is pleased to present you the 2018 Water Quality Report. Pursuant to federal regulations mandated by the Safe Drinking Water Act, all water consumers are to be provided annual information about their water and its sources.

This report explains the origin of the drinking water supply and the specific treatment(s) it receives by the City of Millbrae, Public Works, Utilities & Operations staff and the San Francisco Public Utilities Commission (SFPUC).

The City of Millbrae believes it is in everyone's interest to obtain a high quality and reliable water supply because it is integral to personal health, environmental integrity and community prosperity.

PLEASE USE WATER WISELY

Please see last page of this report for water use guidelines and water-wise tips and resources.

For More Information

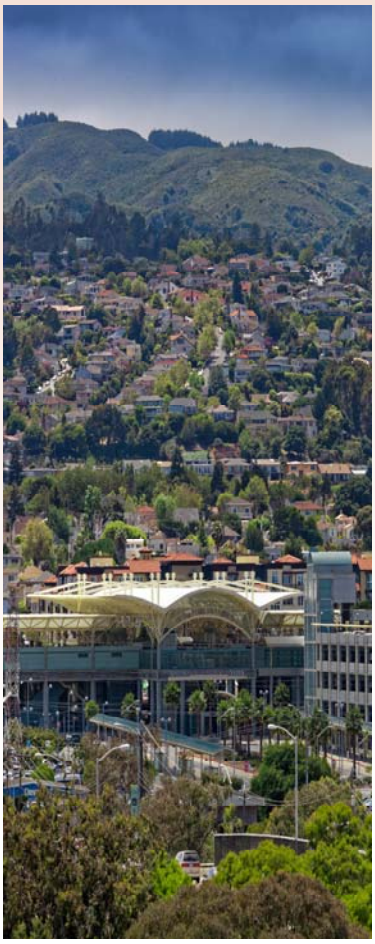
City of Millbrae
Public Works Department
(650) 259-2339
www.ci.millbrae.ca.us

SF Public Utilities Commission
Customer Service
(415) 551-3000
www.sfwater.org

State Water Resources Control Board
Drinking Water
(916) 449-5577
www.swrcb.ca.gov

US Environmental Protection USEPA
Safe Drinking Water Hotline
(800) 429-4791
www.epa.gov

American Water Works Assoc.
AWWA Contact Line
(800) 926-7337
www.awwa.org



Water Quality and You

Water quality is extremely important, because we cannot survive without a clean and reliable source of it. The City of Millbrae; our water supplier, the San Francisco Public Utilities Commission (SFPUC); the California Department of Public Health (CDPH); & the United States Environmental Protection Agency (USEPA) are all working simultaneously to ensure that we provide the highest quality water and to educate water consumers and encourage their involvement in relevant decisions. Consumers who familiarize themselves with the basic drinking water information contained in this report will be able to participate more effectively in these decision making process. Together, we can be a great force to promote programs that will aid us in continuing to deliver water that meets the highest possible standards.

Millbrae Water Quality Assurance Program

The Millbrae Water Division conducts a comprehensive water quality assurance program. We collect and report over forty samples a month throughout our system to regularly monitor water quality. We send samples to a state certified laboratory for testing and are pleased to report that all samples have tested negative for coliforms and that the City had zero violations related to any maximum contaminant level (MCL) in the calendar year 2018.

Other water samples are collected periodically to check for levels of lead and copper, disinfection by-[rproducts trihalomethanes and haloacetic acids (THMs and HAAs) and general physical components as required by state and federal regulations. The City of Millbrae received a waiver for asbestos sampling.

The City of Millbrae continually monitors all five main entry points to our distribution system and also other key points in the distribution system such as our tank sites and pump stations. These sites are monitored by our computerized SCADA (Supervisory Control and Data Acquisition) system that provides our Water Division managers with continuous automated water quality information.

In addition, the Millbrae water division, along with the San Mateo County Environmental Health Dept. administers and manages a cross-connection prevention program to eliminate possible contamination to our drinking water through backflow prevention devices. The program includes yearly testing of all city-owned backflow devices and monitoring of compliance on privately owned backflow devices*.

** A note to residents and business owners who have backflow prevention devices: State regulations require that all backflow prevention devices be tested annually by a certified inspector*

Our Drinking Water Sources and Treatment

Supplied by the San Francisco Regional Water System (SFRWS), which is owned and operated by the San Francisco Utilities Commission (SFPUC), our major water source originates from spring Yosemite National Park snowmelt flowing down the Tuolumne River to storage in Hetch Hetchy Reservoir. The well protected Sierra water source is exempt from filtration requirements by the United States Environmental Protection Agency (USEPA) and the State Water Resources Control Board's Division of Drinking Water (SWRCB-DDW). Water from Hetch Hetchy Reservoir receives the following treatment to meet the appropriate drinking water standards for consumption: 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 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 collected in Calaveras Reservoir and San Antonio Reservoir before delivery to the Sunol Valley Water Treatment Plant (SVWTP). 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. In 2018, the UNHHS was not used. Water at the two treatment plants is subject to filtration, disinfection, fluoridation, optimum corrosion control, and taste and odor removal.

Water Quality

The SFPUC's Water Quality Division (WQD) regularly collects and tests water samples from reservoirs and designated sampling points throughout the system to ensure the water delivered to you meets or exceeds federal and state drinking water standards. In 2018, WQD staff conducted more than 57,690 drinking water tests in the source, transmission, and distribution system. This is in addition to the extensive treatment process control monitoring performed by the SFPUC's certified operators and online instruments.

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 USEPA and 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.

Fluoridation and Dental Fluorosis

Mandated by State law, water fluoridation is a widely accepted practice proven to be safe and effective for preventing and controlling tooth decay. Our 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 www.waterboards.ca.gov/drinking_water/certlic/drinkingwater/Fluoridation.shtml or the CDC website www.cdc.gov/fluoridation.

Watersheds Protection

The SFPUC conducts watershed sanitary surveys for the Hetch Hetchy source annually and the local water sources as well as 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 the SFPUC's drought response plan efforts. These surveys evaluate the sanitary conditions, water quality, potential contamination sources and the results of watershed management activities. With support from partner agencies including National Park Service and US Forest Service, these surveys identified wildlife, stock, and human activities as potential contamination sources. You may contact the San Francisco District office of SWRCB-DDW at 510-620-3474 for review of these reports.

Special Health Needs

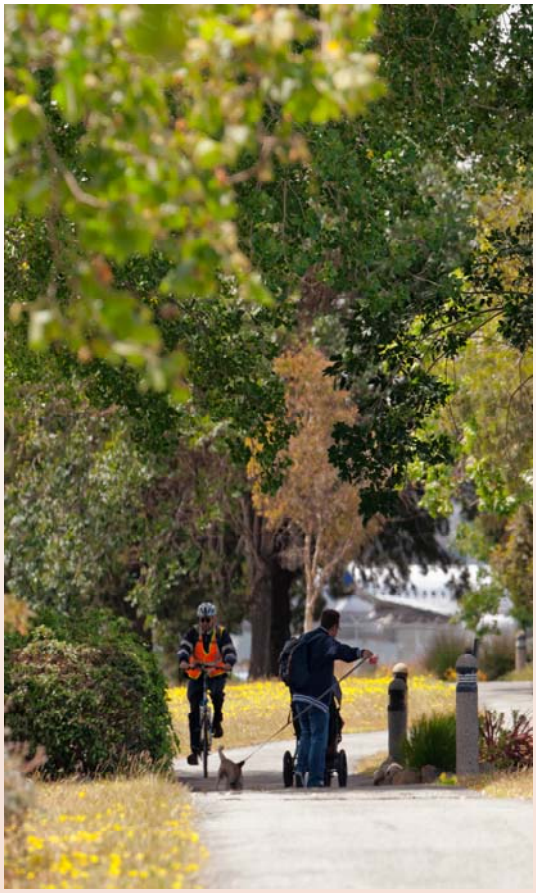
Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised persons, such as those with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly people and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

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 www.epa.gov/safewater.

Drinking Water & Lead

The SFPUC's annual monitoring of the water sources in 2018 continues to demonstrate that there is no lead detected. There are no known lead service lines in our distribution system. If lead was detected in tap water, it 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. It is possible that lead levels at your home in the community may be higher than at others because of plumbing materials used in your property.

If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Infants and young children are typically more vulnerable to lead in drinking water than the general population. You can minimize the potential for lead exposure, when your water has been sitting for several hours, by flushing your tap for 30 seconds to 2 minutes (or until the water temperature has changed) before using water for drinking or cooking. Additional information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available form the USEPA's Safe Drinking Water Hotline 800-426-4791, or at www.epa.gov/lead



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 byproducts 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 ***www.epa.gov/safewater.***

City of Millbrae
Water Quality Data for Year 2018

The table below lists all 2018 detected drinking water contaminants and the information about their typical sources. Contaminants below detection limits for reporting are not shown, in accord with regulatory guidance. The SFPUC holds a SWRCB-DDW monitoring waiver for some contaminants and therefore their monitoring frequencies are less than annual.

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	0.3-0.8 [2]	[1.8]	Soil runoff
Filtered Water from Sunol Valley Water Treatment (SVWTP)	NTU	1 [3]	N/A	-	[1]	Soil runoff
	-	Min 95% of samples ≤ 0.3 NTU [3]	N/A	99.96% - 100%	-	Soil runoff
Filtered Water from Harry Tracy Water Treatment Plant (HTWTP)	NTU	1 [3]	N/A	-	[0.7]	Soil runoff
	-	Min 95% of samples ≤ 0.3 NTU [3]	N/A	100%	-	Soil runoff
DISINFECTION BYPRODUCTS AND PRECURSOR						
Total Trihalomethanes	ppb	80	N/A	12.6 - 47.3	29.95	Byproduct of drinking water disinfection
Haloacetic Acids	ppb	60	N/A	4.4 - 39	21.7	Byproduct of drinking water disinfection
Total Organic Carbon [5]	ppm	TT	N/A	1.2 - 2.9	2.2	Various natural and man-made sources
MICROBIOLOGICAL						
TOTAL Coliform [6]	-	NoP ≤ 5.0% of monthly samples	(0)	-	N/A	Naturally present in the environment
Giardia lamblia	cyst/L	TT	(0)	0 - 0.24	0.03	Naturally present in the environment
INORGANICS						
Flouride (source water) [7]	ppm	2.0	1	ND - 0.7	0.3 [8]	Erosion of natural deposits; water additive to promote strong teeth
Chloramine (as chlorine)	ppm	MRDL = 4.0	MRDL = 4	1 - 3.3	2.2	Drinking water disinfectant added for treatment

CONSTITUENTS WITH SECONDARY STANDARDS	Unit	SMCL	PHG	Range	Average	Major Sources of Contaminant
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	.01	Soil runoff

LEAD AND COPPER	Unit	AL	PHG	Range	90th Percentile	Major Sources in Drinking Water
Copper	ppb	1300	300	0 - 55 mg/l	48mg/1	Internal corrosion of household water plumbing systems
Lead	ppb	15	0.2	0.25.5 - ug/l	5.3ug/l	Internal corrosion of household water plumbing systems

OTHER WATER QUALITY PARAMETERS	Unit	ORL	Range	Average
Alkalinity (as Ca CO_3)	ppm	N/A	<3 - 132	51
Boron	ppb	1000(NL)	ND - 104	ND
Bromide	ppb	N/A	<5 - 27	7
Calcium (as Ca)	ppm	N/A	2.9 - 18	11
Chlorate [12]	ppb	800 (NL)	42 - 230	124
Chromium (VI) [13]	ppb	N/A	0.031 - 0.1	0.068
Hardness (as $CaCo_3$)	ppm	N/A	15 - 68	47
Magnesium	ppm	N/A	<0.2 - 6.2	4.0
pH	-	N/A	8.6 - 9.8	9.4
Potassium	ppm	N/A	0.2 - 1.0	0.6
Silica	ppm	N/A	2.8 - 7.1	5.0
Sodium	ppm	N/A	2.3 - 20	14
Strontirum	ppb	N/A	12 - 199	99

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

Footnotes:

(1) All results met State and Federal drinking water health standards

(2) These are monthly average turbidity values measured every 4 hours daily

(3) There is no turbidity MCL for filtered water. The limits are based on the TT requirements for filtration systems.

(4) This is the highest locational running annual average value.

(5) Total organic carbon is a precursor for disinfection byproduct formation. The TT requirement applies to filtered water from the SVWTP only.

(6) In May 2015, the SWRCB recommended an optimal fluoride level of 0.7 ppm be maintained in the treated water. In 2018, the range and average of the fluoride levels were 0.6 ppm - 1.0 ppm and

(7) The natural fluoride level in the Hetch Hetchy supply was ND. Elevated fluoride levels in SVWTP and HTWTP raw water are attributed to the transfer of fluoridated Hetch Hetchy water into the local

(8) This is the highest running annual average value.

(9) The most recent Lead and Copper Rule monitoring was in 2016. 0 of 30 site samples collected at consumer taps had copper concentrations above the AL.

(10) The most recent Lead and Copper Rule monitoring was in 2016. 0 of 30 site samples collected at consumer taps had lead concentrations above the AL.

(11) The detected chlorate in the treated water is degradation product of sodium hypochlorite used by the SFPUC for water disinfection.

(12) Chromium (VI) has a PHG of 0.02 ppb but no MCL. The previous MCL of 10 ppb was withdrawn by the SWRCB-DDW on September 11, 2017. Currently, SWRCB-DDW regulates all chromium

KEY WATER QUALITY TERMS

The following are definitions of key terms referring to standards and goals for 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 as is economically and technologically feasible. Secondary MCLs (SMCLs) are set to protect the order, 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 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. We regularly test for this waterborne pathogen and found it at very low levels in source water and treated water in 2018. 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.

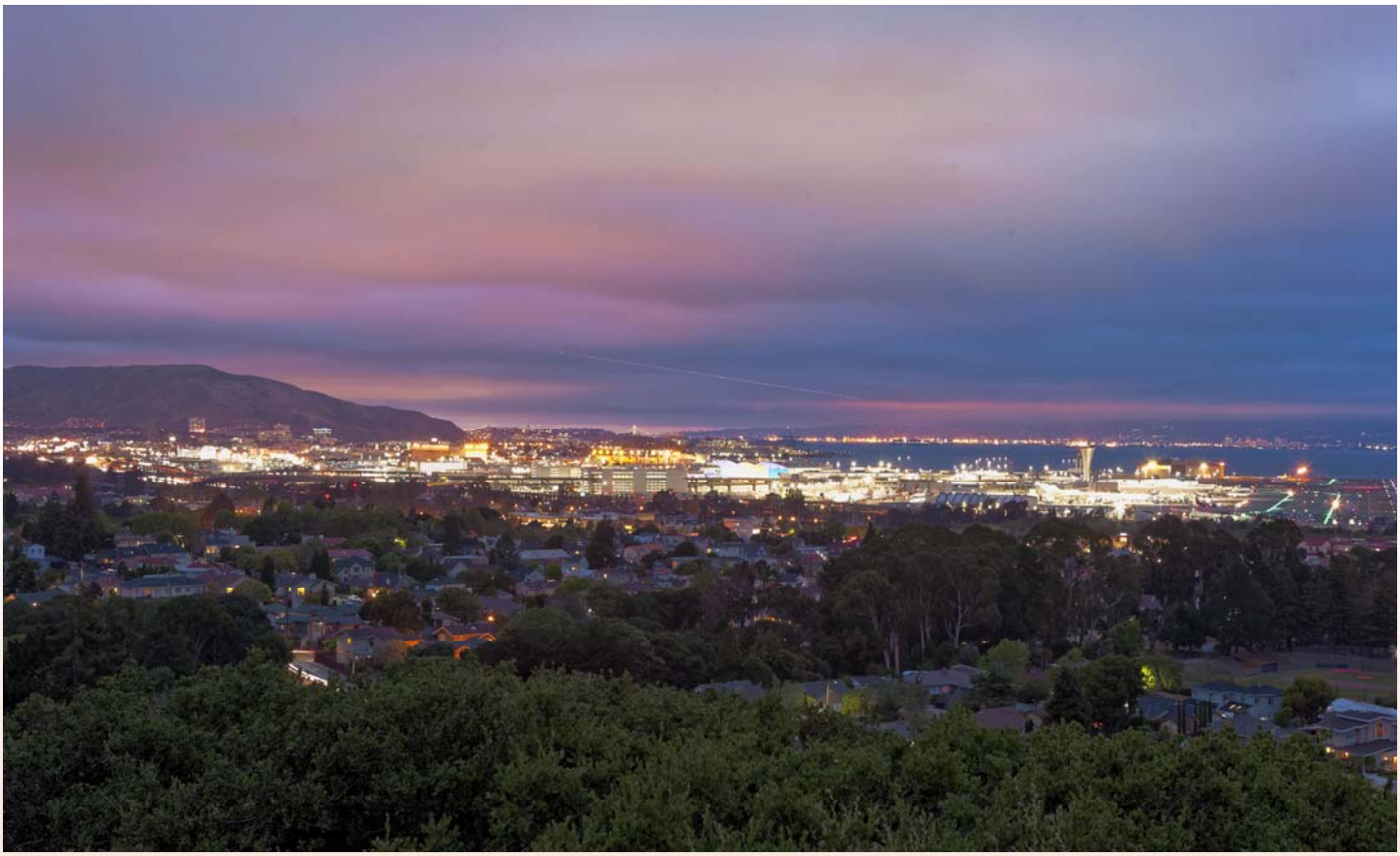
Taste and Odor Treatment at SVWTP

In response to an increase in the magnitude and frequency of algal blooms in Calaveras Reservoir and San Antonio Reservoir, the SFPUC initiated a taste and odor (T&O) control program for the SVWTP in 2018. The program will address seasonal taste and odor resulting from algal blooms in the reservoirs. The first component of this program is to a Powdered Activated Carbon facility to mitigate the occurrence of taste and odor compounds. A secondary benefit of using carbon for treatment will reduce the color of the water and formation of disinfection byproducts. The long-term component of the program is an ozonation treatment facility that is currently in design phase.

This report contains important information about our drinking water. Please contact Public Works at 650-259-2374 for assistance.

Este informe contiene información muy importante sobre su agua para beber. Favor de comunicarse [insert your agency's name and contact phone number] para asistirlo en español con alguien que lo entienda bien.

此份水質報告，內有重要資訊。請找他人為你翻譯和解說清楚。



WATER CONSERVATION

Please Use Water Wisely!

Please continue to conserve water. While the drought has ended, following the guidelines and water saving tips below are important as California is prone to droughts. This will also help to prepare for future State water conservation regulations.

For more information and regulation updates, please visit
www.ci.millbrae.ca.us/waterconservation.

Millbrae Water Use Guidelines – Refer to the City's Municipal Code for additional regulations

- Use of water is not allowed which results in flooding or runoff in gutters, driveways, or streets.
- Hoses used for any purpose must be fitted with shut off nozzles.
- Repair leaks right away.
- Place covers over swimming pools to reduce water lost to evaporation.

WATER SAVING TIPS & RESOURCES

1) Install a low flow showerhead and take a 5 minute of less shower. *Free showerheads and timers are available.*
2) Catch water in a watering can or bucket while waiting for water to get hot.
3) Replace your toilet with high-efficiency model or place a water displacement bag in each toilet tank. *Free displacement bags are available.*
4) Fix all leaky toilets, faucets and pipes. Install low flow faucet aerators in the kitchen and bathroom. *Free low flow aerators are available*.
5) Scrape plates and run the garbage disposal less frequently. Compost food scraps instead.
6) Turn off water while brushing your teeth and shaving.
7) Run only full loads in dishwashers and clothes washers. Replace these appliances with water efficient machines.
8) Water lawn and landscaping between 6pm and 10am. Be sure not to over water landscaping. Check and adjust sprinkler heads seasonally. Plant drought-tolerant and native plants.
9) Use carwash facility or use a bucket of water and one short rinse to wash your car; wash on a permeable surface (grass or gravel).
10) Sweep (never house) driveways, patios and sidewalks.

Pick up free water saving devices at City Hall's Public Works counter, Monday - Friday, 8:30 AM to 5:00 PM: showerheads, faucet aerators, shower timers, toilet leak tablets, and water-wise and garden landscaping guides. Rebates are available for high-efficiency toilets, rain barrels and cisterns.

For more information and tips, visit www.ci.millbrae.ca.us/waterconservation **or call (650) 259-2348. Also visit:** http://saveourwater.com