

Water Quality Report

2022



The Las Vegas Valley Water District is a not-for-profit water utility

Water delivered by the Las Vegas Valley Water District meets or surpasses all State of Nevada and Federal Safe Drinking Water Act standards.

Your water was analyzed more than $318_{9}000$ times in 2021. It's monitored in "real time," 24 hours a day, 365 days a year. It travels through nearly $7_{9}000$ miles of pipelines, to arrive at... The 1 place that matters most: Your home.

That means it's more than numbers to us.

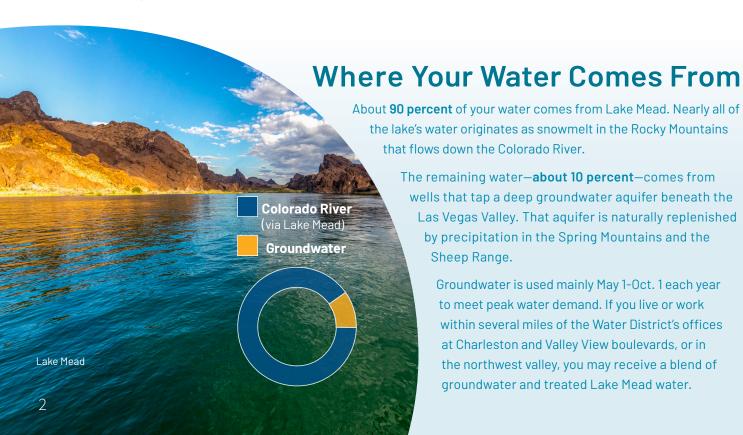
We are proud to provide you and our community with exceptional quality drinking water and to provide you with this annual water quality report.

Your tap water is treated and delivered through one of the most advanced and reliable municipal systems in the nation. The Las Vegas Valley Water District takes a proactive approach to maintaining and upgrading our network of reservoirs, pumping stations and pipelines: The District's \$600 million, multiyear capital plan helps safeguard both water quality and reliability by keeping long-term costs and system disruptions low.

Amid a historic drought, we're also doing our part to maintain the highest system energy and water efficiency possible. Our main break rates are eight times lower than the national average, which significantly reduces water losses, while solar power generating systems at five of our large water reservoirs reduce our energy needs and demand on community power supplies. We're also a multiyear recipient of Government Green Fleet Awards, with more than 90 percent of our fleet vehicles powered by alternative fuels.

We encourage you to read this report and visit **Ivvwd.com** to learn more about your water quality and about how you can do your part to conserve our community's most precious resource—water.

This report is based on data collected during the **2021 calendar year**, unless noted otherwise, and is provided in accordance with the Safe Drinking Water Act. Please see the last page for more consumer resources.



How We Monitor, Test and Treat Your Water

In 2021, we conducted more than **318,000** analyses on more than **55,360** water samples from Lake Mead, our storage reservoirs and 367 sampling stations

throughout our community—including stations in customers' meter boxes. We go beyond tough state and federal Safe Drinking Water Act requirements to ensure water quality, all the way to your meter.

Water drawn from the Las
Vegas Valley groundwater aquifer is naturally filtered, so it is simply treated with chlorine as it enters the water distribution system.
Water drawn from Lake Mead is treated at the Southern Nevada Water Authority's two advanced was

Authority's two advanced water treatment facilities with a leading-edge combination of **ozonation**, **filtration and chlorination**.

State-of-the-art ozonation is our primary water treatment. Ozone provides a very powerful disinfectant with a superior ability to kill bacteria, *Cryptosporidium* and microscopic organisms that may be present. Multistage filtration systems remove particles from the water, and we add chlorine as water leaves the treatment facilities, protecting water on the way to your tap. Chlorination is used throughout Southern Nevada's distribution systems: It's extremely effective at destroying viruses and microorganisms during treatment and maintaining disinfection throughout the system.

Additional corrosion-control efforts also help maintain water quality through Water District pipelines—all of them lead-free.

Understanding Test Results

In 2021, we monitored for 91 U.S. EPA-regulated contaminants; 76 of these have "primary" standards and are listed in this report if they were detected in our water supply. We also monitored for more than 75 unregulated contaminants and for *Cryptosporidium*, which is required by the EPA for water systems that treat surface water. *Cryptosporidium*, a naturally occurring organism that can cause gastrointestinal distress, was not detected in any 2021 source (untreated) water samples. Please visit Ivvwd.com for a complete Water Quality Summary showing additional monitoring results not required in this report.

Does drought affect our water quality?

Reduced Colorado River flows into Lake Mead, a result of drought and climate change, can impact water quality

due to increased pollutant concentrations and warmer surface water. That's why it's important to be able to draw our allotted water from **greater depths**, where water quality is **optimal**—and we have that ability here in Southern Nevada.

To provide long-term protection of our water stored in Lake Mead, the Southern Nevada Water Authority constructed Intake No. 3 to draw drinking water from deep within the lake. Intake No. 3 began delivering water to our treatment facilities in fall 2015. In tandem with a new Low Lake Level Pumping Station, completed in 2020, we are ensuring the community can continue to access high-quality water during unprecedented drought conditions.

Continued declines in Lake Mead's water level are expected as the Colorado River Basin and Southern Nevada experience a permanent transition to a more arid future.

You can be part of the solution by being water smart: • · · · Conserving water helps protect our water quality, our economy and our way of life.

How can I conserve water?

Make the biggest impact by conserving water **OUTDOORS!** Here are our **TOP 3 tips!**



SUMMER

DAYS USS

Watering schedule!

It's not "just" the law:

Water smart and you

can SAVE UP TO \$300

a year on water bills!

- Report water waste at Ivvwd.com or on the go with our free LVVWD App.
- Ditch the grass. Enroll in the Water Smart Landscapes program at snwa.com. Or scan this QR code to get started!



Earn CASH (up to \$3/sq. ft.) when you replace useless grass with plants—and enjoy big water savings.

Water Qual	ity Tes	t Resu	ults	WA	VEGAS VAL TER DISTR BUTION SY	ICT	LAS VEGA WATER D GROUNDWAT	ISTRICT		ED MERRITT FER TREATM FACILITY (1)			TER MOUNTA TER TREATM FACILITY (1)		contaminants in the treated water supply, based on 2021 data, except where noted. Visit lvvwd.com for a complete Water Quality Summary.
REGULATED CONTAMINANTS	UNIT	MCL (EPA Limit)	MCLG (EPA Goal)	MINIMUM	MAXIMUM	AVERAGE	MINIMUM	MAXIMUM	MINIMUM	MAXIMUM	AVERAGE	MINIMUM	MAXIMUM	AVERAGE	POSSIBLE SOURCES
Alpha Particles	pCi/L	15	0	Entry l	Point Monitorin	g Only	0	16 (2)(3)	N/D	N/D	N/D	N/D	N/D	N/D	Erosion of natural deposits of certain minerals that are radioactive and may emit a form of radiation known as alpha radiation
Arsenic	ppb	10	0	Entry Point Monitoring Only		0.7	4.0	1	2	1	2	2	2	Erosion of natural deposits	
Barium	ppm	2	2	Entry Point Monitoring Only		0.03 (4)	0.08	0.1	0.1	0.1	0.1	0.1	0.1	Erosion of natural deposits; discharge from metal refineries; discharge of drilling wastes	
Bromate	ppb	10	0	Entry Point Monitoring Only		N/A (groundwater is not treated with ozone)		2	13 (5)	4 (6)	3	13 (5)	6 (6)	By-product of drinking-water disinfection by ozonation	
Chromium (total)	ppb	100	100	Entry l	Point Monitorin	g Only	N/D	6 (2)	N/D	N/D	N/D	N/D	N/D	N/D	Discharge from steel and pulp mills; erosion of natural deposits
Copper (7)	ppm	1.3 ⁽⁸⁾ (Action Level)	1.3	N/D ⁽⁹⁾	1.4 (9)	0.8 ⁽⁹⁾ (90th% value)	Distribution Syste	m Monitoring Only	Distributi	on System Monito	oring Only	Distribution System Monitoring Only			Corrosion of household plumbing systems; erosion of natural deposits
Fluoride	ppm	4.0	4.0	0.3	0.7	0.6	0.1	0.5	0.7	0.8	0.7	0.3 (10)	0.8	0.7	Erosion of natural deposits; water additive (11)
Free Chlorine Residual	ppm	4.0 ⁽¹²⁾ (MRDL)	4.0 ⁽¹²⁾ (MRDLG)	0.07	2.1	1.0 (6)	Distribution Syste	Distribution System Monitoring Only Distribution System Monitoring Only Distribution System Monitoring Only				oring Only	Water additive used to control microbes		
Haloacetic Acids	ppb	60	N/A (13)	N/D	45	35 (14)	Distribution Syste	m Monitoring Only	Distributi	on System Monit	oring Only	Distribution System Monitoring Only			By-product of drinking-water disinfection
Lead (7)	ppb	15 ⁽⁸⁾ (Action Level)	0	N/D ⁽⁹⁾	5.6 ⁽⁹⁾	3.9 ⁽⁹⁾ (90th% value)	Distribution Syste	m Monitoring Only	Distributi	on System Monit	oring Only	Distribution System Monitoring Only			Corrosion of household plumbing systems; erosion of natural deposits
Nitrate (as Nitrogen)	ppm	10	10	Entry I	Point Monitorin	g Only	0.4	5.6 (15)	0.3	0.4	0.4	0.4	0.5	0.4	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
Selenium	ppb	50	50	Entry l	Point Monitorin	g Only	N/D	3 (2)	2	2	2	2	2	2	Erosion of natural deposits; discharge from mines; component of petroleum
Radium 226 and Radium 228 (combined)	pCi/L	5	N/A	Entry I	Point Monitorin	g Only	N/D	3.7	N/D	N/D	N/D	N/D	N/D	N/D	Erosion of natural deposits
Total Coliforms	percent positive per month	5%	0	0%	0.3%	0%	Distribution Syste	Distribution System Monitoring Only Distribution System Monitoring Only Distribution S		ion System Monit	oring Only	Naturally present in the environment			
Total Trihalomethanes	ppb	80	N/A (13)	2	82 (16)	68 (14)	Distribution Syste	m Monitoring Only	Distribution System Monitoring Only Distribution System Monitoring Only		oring Only	By-product of drinking-water disinfection			
Turbidity	NTU	95% of samples <0.3 NTU ⁽¹⁷⁾	N/A	Treatment Facility Monitoring Only			Treatment Facility Monitoring Only		100% of samples were below 0.3 NTU. Maximum NTU was 0.08 on Sept. 8, 2021.			100% of samples were below 0.3 NTU. Maximum NTU was 0.08 on Jan. 26, 2021.			Soil runoff
Uranium	ppb	30	0	Entry I	Point Monitorin	g Only	2	3	3	4	3	3	4	3	Erosion of natural deposits

Key Terms

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

AMSWTF: Alfred Merritt Smith Water Treatment Facility

Disinfection by-product (DBP): A substance created by the chemicals or processes used to destroy potentially harmful microorganisms.

Locational running annual average: The average of sample results taken at a particular monitoring location for the previous four consecutive quarters.

LVVWD: Las Vegas Valley Water District

Maximum Contaminant Level (MCL): 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.

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 allow for a margin of safety.

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 contamination.

N/A: Not applicable

N/D: Not detected. Does not equate to zero, but refers to an amount below analytical reporting limits.

Nephelometric Turbidity Unit (NTU): A measurement of water's clarity.

Ozonation: An advanced water treatment process that involves the addition of ozone, a very powerful gaseous disinfectant, to water to destroy bacteria, *Cryptosporidium* and other pathogens. Ozonation processes began at AMSWTF and RMWTF in 2003.

Part per billion (ppb): A unit used to describe the levels of detected contaminants. Equivalent to 1 cent in \$10 million.

Part per million (ppm): A unit used to describe the levels of detected contaminants. Equivalent to 1 cent in \$10,000.

Picocuries per liter (pCi/L): A measure of the radioactivity in water. Low levels of radiation occur naturally in many water systems, including the Colorado River.

Running annual average: The average of sample results for 12 consecutive months or four consecutive quarters, based on the monitoring requirements.

RMWTF: River Mountains Water Treatment Facility

Treatment Technique: A required process intended to reduce the level of a contaminant in drinking water.

Turbidity: A measure of water clarity, which serves as an indicator of the treatment facility's performance.

Footnotes

- (1) Some Safe Drinking Water Act (SDWA) regulations require monitoring from the distribution system, while other SDWA regulations require monitoring at the entry points to the distribution system (LVVWD wells, AMSWTF, RMWTF).
- (2) Annual monitoring not required, data from 2017.
- (3) This result is not a violation of the MCL. The MCL for alpha particles is based on net alpha particle activity, which excludes uranium's contribution to alpha particle activity. One well in 2017 had a gross alpha particle result of 16 pCi/L. In that sample, uranium's contribution to alpha activity was 1.6 pCi/L. When the uranium contribution was subtracted from the gross alpha particle activity, the net alpha particle activity was 14 pCi/L (below the MCL). SDWA regulations require additional monitoring for radium 226 if gross alpha particle results are greater than 5 pCi/L; all radium 226 test results were below the detection limit (1 pCi/L).
- (4) Annual monitoring not required, data from 2020.
- (5) Maximum levels greater than the MCL are allowable as long as the running annual average does not exceed the MCL.

(6) This value is the highest running annual average reported in 2021. Reports are filed quarterly.

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- (7) Samples are from LVVWD customers' taps.
- (8) Lead and copper are regulated by a Treatment Technique (TT) that requires systems to control the corrosiveness of their water. If more than 10% of tapwater samples exceed the Action Level, water systems must take additional steps. For copper the Action Level is 1.3 ppm, and for lead it is 15 ppb.
- (9) Annual monitoring not required, data from 2019.
- (10) RMWTF fluoridation system was out of service at time of collection. Follow-up sampling took place when the fluoridation system returned to service and results were within normal operation range.
- (11) By state law, the Southern Nevada Water Authority is required to fluoridate the municipal water supply. This law is not applicable to groundwater.
- (12) Chlorine is regulated by MRDL, with the goal stated as a MRDLG.
- (13) Although there is no collective MCLG for this contaminant group, there are individual MCLGs for some of the individual contaminants. Trihalomethanes: bromodichloromethane (zero)

bromoform (zero); dibromochloromethane (60 ppb); chloroform (70 ppb). Haloacetic acids: dichloroacetic acid (zero); trichloroacetic acid (20 ppb); monochloroacetic acid (70 ppb). Bromoacetic acid and dibromoacetic acid are regulated with this group but have no MCLGs.

These results represent levels of **regulated**

- (14) This value is the highest locational running annual average reported in 2021. Reports are filed quarterly.
- (15) While your drinking water meets EPA standards for nitrate, it does contain low levels of nitrate. Nitrate in drinking water at levels above 10 ppm is a health risk for infants of less than six months of age. High nitrate levels in drinking water can cause blue baby syndrome. Nitrate levels may rise quickly for short periods of time because of rainfall or agriculture activity. If you are caring for an infant, you should ask for advice from your health care provider.
- (16) Maximum levels greater than the MCL are allowable as long as the locational running annual average does not exceed the MCL.
- (17) Turbidity is regulated by a Treatment Technique (TT) requirement: 95% of all samples taken after filtration each month must be less than 0.3 NTU.

 Maximum turbidity cannot exceed 1.0 NTU.

MCLGs for some of the individual contaminants.

Trihalomethanes: bromodichloromethane (zero);

Maximum turbidity



Additional Test Results

Many large water systems, including ours, also monitor for specific constituents that the U.S. EPA is considering for regulation in drinking water. We provide information to the EPA as part of the Unregulated Contaminant Monitoring Rule (UCMR)—a hallmark of the 1996 amendments to the Safe Drinking Water Act to further protect water quality. The rule has benefited the environment and public health for more than 20 years by providing the EPA with scientifically valid data on contaminants of interest, but not yet regulated, in drinking water.

UCMR 4 monitoring took place in 2018 and 2019; we will report these results over multiple years. Learn more at epa.gov/dwucmr.

ADDITIONAL UCMR 4 (Data from 2019)	LTS -	WAT	/EGAS VA TER DISTI BUTION S	RICT	WAT ENTRY	VEGAS VA TER DISTE POINTS T BUTION S				
MONITORED CONTAMINANTS (18)	UNIT	MCL (EPA Limit)	MCLG (EPA Goal)	MINIMUM	MAXIMUM	AVERAGE	MINIMUM	MAXIMUM	AVERAGE	POSSIBLE SOURCES
HAA 5 ⁽¹⁹⁾	ppb	60	N/A (20)	N/D	41	26	N/A	N/A	N/A	By-product of drinking-water disinfection
HAA 6 Br	ppb	N/A	N/A	N/D	29	21	N/A	N/A	N/A	By-product of drinking-water disinfection
HAA 9	ppb	N/A	N/A	N/D	96	44	N/A	N/A	N/A	By-product of drinking-water disinfection
Manganese	ppb	N/A	N/A	N/A	N/A	N/A	2.2	11.0	6.6	Erosion of natural deposits

Footnotes

(18) Monitoring for each of the monitored contaminants in the UCMR 4 table was conducted to comply with the Unregulated Contaminant Monitoring Rule 4 (UCMR 4) set by the U.S. EPA Safe Drinking Water Act. Per the rule, monitoring is conducted within the distribution system and at entry points to the distribution system. Unregulated contaminant monitoring helps the U.S. EPA to determine where certain contaminants occur and whether the agency should consider regulating those contaminants

in the future. With the exception of HAA 5, these contaminants have no MCLs or MCLGs.

(19) HAA 5 refers to five specific haloacetic acids that may be found in drinking water. Results for this regulated contaminant in the UCMR 4 table are different from the results in the Water Quality Test Results table because UCMR 4 monitoring required separate locations and monitoring periods than those used for HAA 5 compliance monitoring. Monitoring for the

HAA 5 compounds, in conjunction with UCMR 4 Assessment Monitoring, is required under the authority provided in Section 1445(a)(1)(A) of the SDWA

(20) No collective MCLG but there are MCLGs for some of the individual contaminants. Haloacetic Acids: dichloroacetic acid (0), trichloroacetic acid (300 ppb).

Precautions for Vulnerable Populations

Some people may be more vulnerable to contaminants in drinking water than the general population. Those with compromised immune systems such as cancer patients undergoing chemotherapy, people who have had organ transplants, those with HIV/AIDS or other immune-system disorders, some elderly and infants can be particularly at risk from infections. These people should seek advice from their health-care providers about drinking water.

Call the Safe Drinking Water Hotline at **800-426-4791** for Environmental Protection Agency/Centers for Disease Control guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* and other microbial contaminants.

Source Water Assessment

The federal Safe Drinking Water Act was amended in 1996 and requires states to develop and implement source water assessment programs to analyze existing and potential threats to the quality of public drinking water throughout the state. A summary of the Las Vegas Valley Water District's susceptibility to potential sources of contamination was initially provided by the state of Nevada. The summary of this source water assessment was originally included in an LVVWD Water Quality Report and now may be accessed online at Ivvwd.com. Call 702-258-3930 if you have questions. Learn more about the Nevada Source Water Assessment Program at ndep.nv.gov/water/source-water-protection.

More About Your Source Water

All water originates from a source. Sources for 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 minerals and—in some cases—other contaminants, and can pick up substances resulting from the presence of animals or from human activity.

Tap water as well as bottled water may reasonably be expected to contain at least small amounts of some contaminants—any substances that are not $\rm H_2O$. It's important to understand that the presence of contaminants does not necessarily indicate that water poses a health risk—particularly in light of claims made by some home water-treatment companies and reports about water quality or the environment.

Before the Las Vegas Valley Water District delivers your tap water, it undergoes a multistage treatment process. We test your water rigorously to ensure it meets strict Safe Drinking Water Act standards. Our goal is to effectively treat and manage contaminants that may be present in source (untreated) water, including:

Microbial contaminants such as viruses and bacteria that may come from wastewater discharges or animal wastes from urban or agricultural runoff;

Inorganic contaminants such as salts and metals that can occur naturally or result from industrial or domestic wastewater discharges, farming or mining;

Pesticides and herbicides that may come from urban stormwater runoff from agricultural and residential uses;

Organic chemical contaminants including synthetic or volatile organic chemicals that are by-products of industrial processes and can come from gas stations, industrial discharges and stormwater runoff;

Radioactive contaminants that can occur naturally or as a result of industrial activities.

To ensure tap-water safety, EPA regulations limit the amount of certain contaminants in water provided by public water systems. Learn more by calling the EPA Safe Drinking Water Hotline at 800-426-4791 or visit the Nevada Division of Environmental Protection website at ndep.nv.gov/water.

Food and Drug Administration regulations establish limits for contaminants in bottled water, which must provide similar protection for public health.

Lead and Copper Education Notice

The Las Vegas Valley Water District's water infrastructure does NOT contain lead service lines. The state of Nevada and the EPA require public education for lead and copper, and the Water District monitors for both.

Your water meets state and federal requirements for lead, but if present at elevated levels, 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 Water District is responsible for providing high-quality

drinking water but cannot control the variety of materials used in home plumbing components. Homes built before 1986 are more likely to have lead-based plumbing components.

When your water has been sitting for several hours, 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 tap water, have your water tested by a private laboratory. For more information, call the EPA Safe Drinking Water Hotline, 800-426-4791, or visit epa.gov.

In December 2021, the U.S. EPA took a series of actions to improve the Lead and Copper Rule that are intended to better protect families and communities in years to come, particularly those that have been disproportionately impacted by lead in drinking water. Learn more about focus areas, including additional tap sampling and lead service line replacements, at **epa.gov**, and depend on your Water Quality Report to keep you informed.

Make It Taste Great!

It's a fact: Las Vegas has hard water, thanks to our primary water source, the mineral-rich Colorado River. Naturally abundant, harmless calcium and magnesium dissolve into river flows, and a bit of that taste may remain. But your hard water (approximately 265 parts per million or 15 grains per gallon) poses NO health risk and meets ALL water-guality standards.

Home water-treatment systems aren't necessary but may improve taste and hardness. Have questions? Contact the Southern Nevada Water Authority for a **free** Consumer Reports® filter buying guide and fact sheets (snwa.com). Here are a few easy tips to make water taste great:

- CHILL: Refrigerate a pitcher of tap water to boost flavor and zap chlorine perceptions.
- FLAVOR: Add a citrus slice for zest.
- **FILTER:** Try an activated carbon filter, like those in carafe systems.
- MAINTAIN: If you have an in-home filtration system, follow its recommended maintenance schedule, including filter replacement.



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Inside: Rely on your water the 1 place it matters most



2022 Water Quality Report

WATER MATTERS: Learn More!

Las Vegas Valley Water District

Website, Report Water Waste Ivvwd.com
Customer Care 702-870-4194
Water Quality 702-258-3215
Public Information 702-258-3930

Conservation Incentives and Coupons (SNWA)

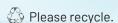
Website snwa.com
English 702-258-SAVE (7283)
En español 702-258-AGUA (2482)

Environmental Protection Agency

Website **epa.gov**Safe Drinking Water Hotline **800-426-4791**

Nevada Division of Environmental Protection

Website **ndep.nv.gov/water**Bureau of Safe Drinking Water **775-687-9521**



FP0 FSC logo

Getting Involved

Open, public meetings of the LVVWD Board of Directors are held at 9 a.m. on the first Tuesday of each month at the Clark County Government Center, 500 S. Grand Central Pkwy. Agendas are posted at least three days before each meeting on Ivvwd.com. Other questions? Email us via the Ivvwd.com "Contact Us" link or send mail to:

Las Vegas Valley Water District Public Services Department 1001 S. Valley View Blvd., MS 780 Las Vegas, NV 89153

LVVWD Board of Directors

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Noticia en Español

Este reporte contiene información muy importante acerca de la calidad del agua. Para recibir una copia en español, llama al **702-258-3838** o visita **Ivvwd.com**.