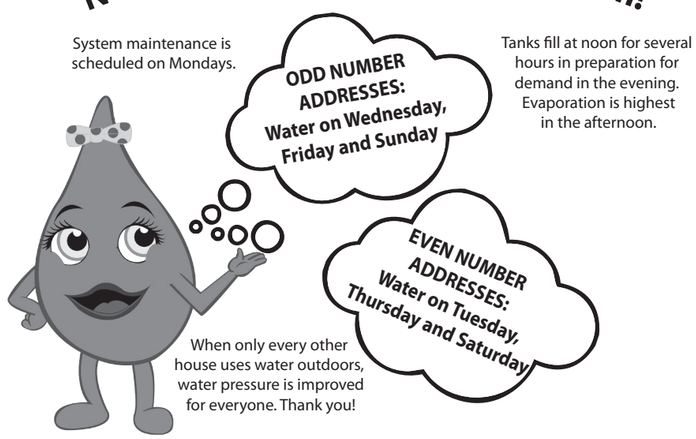
WATER CONSERVATION PROGRAM

The City of Modesto would like to thank its customers for conserving! For the past 10 years the City has focused on decreasing water use and improving water efficiency throughout its water system. With help from the public, informational materials and outreach events, the city has significantly decreased water use. Modesto's goal is to reach 228 gallons per-capita per day by the year 2020 which coincides with the State's mandatory reduction of 20%. With your involvement, we can reach this goal by continuing to conserve water all year round. Please continue to follow the Stage One Water Restrictions:

NO watering on MONDAYS!
NO watering between Noon & 7 pm!



Did you know… In 2011, water customers used an average of 90.88 million gallons of water per day during the month of August. In January, the usage was as low as 30 mgd. Sixty-five percent of summer water use goes to outdoor irrigation.

For more ways to conserve water, go to:
http://www.modestogov.com/pwd/water/conservation

Take Advantage of Available Rebates

To encourage water conservation in the home, the City of Modesto has established a toilet rebate program where old high water use toilets are replaced. This can save 1-2 gallons per flush. *Some restrictions apply.*

The City is working on establishing a clothes washer rebate program next fiscal year. Check the City's rebate webpage in the near future for more information.

Please check out this great resource of information we have put together for you! Go to ***http://www.modestogov.com/pwd/water/conservation/Rebates.***

CONTACT US

FIELD SERVICES
WATER CONSERVATION
WATER QUALITY
EMERGENCIES (24 HOURS)

209.342.2246

UTILITY BILLING, PAYMENTS, SERVICE ON OR OFF

209.577.5395

WEB SITE:

modestogov.com/pwd/water

MAILING ADDRESS

City of Modesto
Water Division
PO Box 642
Modesto, CA 95353

GET INVOLVED

You are always welcome to participate in City Council meetings and voice your opinions about drinking water.

For more information on how you can get involved, visit:
www.modestogov.com/council

MODESTO
CALIFORNIA

MODESTO
CALIFORNIA

2011 ANNUAL DRINKING WATER QUALITY REPORT

CERES #5010031

CITY STAFF ARE PROUD TO PRESENT THIS REPORT TO OUR CUSTOMERS.
This report is prepared in accordance with the Federal EPA and California Regulations under the Safe Drinking Water Act that requires water utilities to provide detailed water quality information to their consumers.

This report contains important information about your drinking water. If the report is not available in your native language, we encourage you to identify someone who understands it and can translate for you.

Este informe contiene informacion importante sobres su agua potable. Traduzcalo o hable con alguien que lo entienda bien. Para informacion en espanol, llame por favor al (209) 342-2246.

WHAT IS THIS REPORT ABOUT?

The City of Modesto supplies you with clean, reliable drinking water and we are extremely pleased to have provided you with water that met or surpassed U.S. Environmental Protection Agency standards for safety.

The City works diligently to comply with emerging environmental issues and drinking water regulations to meet the needs of our region. This is an important document about your drinking water and we hope you find it to be helpful.

IS MY WATER SAFE TO DRINK?

Yes! In order to ensure your tap water is safe to drink, the California Department of Public Health (CDPH) and the Federal Environmental Protection Agency (EPA) set regulations which limit the amount of certain contaminants in water provided to public water systems. The City of Modesto's Water Operations Division treats and delivers water according to the CDPH regulations.

Water taste can vary within the water system depending on the age of the pipes in the system or the home, minerals in the water, time of the year, the percent of well water mixing with surface water and the process of disinfection. Read more in the "What's In My Drinking Water" section.

Drinking water, including bottled water, may reasonably be expected to contain small amounts of some contaminants. The presence of these EPA 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 EPA's Safe Drinking Water Hotline at 1.800.426.4791.

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

Did you know…
Adding a slice of lemon, lime or cucumber can add zest and improve the taste of your water!

HOW DO I GET MY DRINKING WATER?

The City of Modesto supplies drinking water to residents in Modesto, Empire, Salida, Waterford, Hickman, Grayson, Del Rio, parts of Ceres and Turlock, and county areas adjacent to the City's system. About 265,000 residents receive their drinking water from the City system and are billed by either a rate structure or by water meter.

For many years, the City's water customers in all communities received all of their water from wells pumping drinking water from the Modesto Basin. To continue to deliver clean, dependable water to its customers, the City partnered with the Modesto Irrigation District in the early 1990s to construct a surface water treatment plant at the Modesto Reservoir and treats surface water from the Tuolumne River. This treated water is distributed to City water customers at an average of 30 million gallons per day (mgd). Average daily water consumption has exceeded 74 mgd, peak demand days have been as high as 133 mgd, and peak hourly demands have reached 187 mgd in past years. Using surface water where possible protects and preserves our ground water for customers.

The plant's treatment process ensures that the water supply meets or exceeds all state and federal drinking water standards now and in the future.

WATER SYSTEM IMPROVEMENTS

The City of Modesto plans and implements projects to improve the quality of life, protect the quality of our water supply and ensure a continued reliable water supply for the present and future. Some of the ways the City is accomplishing this include:

MID SURFACE TREATMENT PLANTS

The MRWTP currently treats water from the Modesto Reservoir and conveys it to the City's service area to combine with groundwater sources to meet the City's water supply needs. The MRWTP began operation in 1995, significantly reducing the City's reliance on groundwater pumping and also eliminating the groundwater overdraft condition.

The City and the Modesto Irrigation District (MID) have been working on the expansion of the MRWTP from its existing average annual daily delivery of 30 mgd to 60 mgd.

The Phase Two Expansion project is needed to provide existing customers with a continued reliable water source and to keep pace with the City's projected growth. The project will double the current water plant capacity.

DOWNSTREAM IMPROVEMENTS

The City of Modesto has completed improvements to fully integrate the MRWTP expansion with the City's distribution system. These improvements consist of additional storage reservoirs, transmission water mains, and pressure regulating valves (PRVs) to control the flow of water between the MID owned pipelines and the City's system.

The MID connection points will be equipped with pressure regulating and/or flow control valves allowing for controlled water flows from the MID system into the City system. Additional transmission mains and distribution pipelines are needed to move water from these new tanks throughout the City's system.

These downstream improvements include a total of 14 miles of pipeline, 24 connection point modifications and 3 storage tanks/booster pump stations.

INFRASTRUCTURE IMPROVEMENTS

Pipes, valves and services in older areas in the water system are upgraded and replaced to prevent leaks, property damage, improve water quality and fire flow pressure. Projects recently completed were in the Beard, Covey, Queens, Roble, Roseburg and San Juan vicinities. Scheduled for fall of 2012, the City will be focusing on the Airport Neighborhood. This project will replace 16,000 feet of under sized water mains, 350 services and 21 fire hydrants which should greatly improve the water system in that area.

SURFACE WATER SUPPLY PROJECT

Additional water is needed in the South Modesto area since some of the existing groundwater supply cannot be used due to water quality issues and developing new wells has been difficult in this area. The City is looking at a surface water treatment plant which would be a long term, reliable source of water. Treated surface water would be delivered to the participating communities via a system of pipelines and the construction of a terminal facility at the end of the proposed pipeline.

WATER WELL UPGRADES

The City has 97 active wells in the regional water system which are inspected regularly. Some wells are replaced and new wells are drilled in developing areas which will improve system pressure and supply. Several wells have been inactivated due to contamination and are scheduled to be removed during the next few years. Plans are underway for new well locations in Del Rio, Hickman and Waterford. A new well in each of these locations will greatly assist in optimal water pressure and allow adequate water flow on high demand days ensuring adequate fire protection.

Did you know… The City has a leak prevention program to help identify areas that need repair or upgrades. This helps prevent water loss and insures adequate water pressures for fire protection.

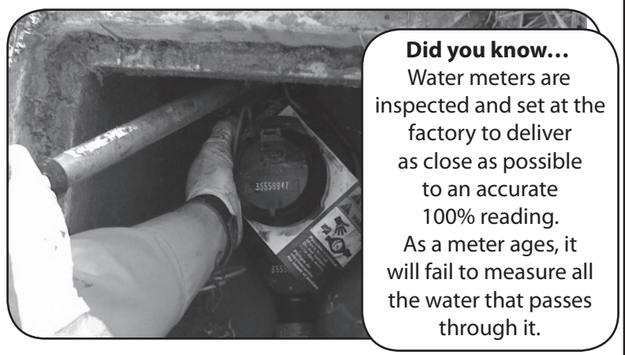
WATER METER PROGRAM

In September 2004, State Assembly Bill 2572 became law, requiring the installation of water meters on all water connections and mandating that all metered customers be billed based on the actual volume of water used. Volume-based billing began in 2010 and meters must be installed on all residences by 2025.

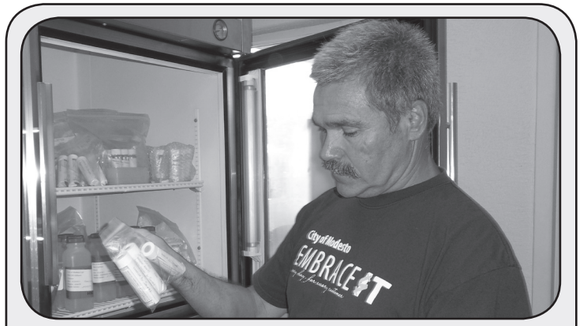
The City developed a plan to install water meters on all water connections and the work began in 2006. By the year 2025, more than 76,000 water meters will be in operation. As of March 31, 2012, the City has 54,332 meters installed.

Once a water meter is installed, the meter measures how much water is used. Studies by the California Public Utilities Commission have shown that communities with metered water systems use 7-20 percent less water than non-metered areas. In addition, city services are more cost effective and operate more efficiently with an automated water metering system in place. By metering water use and billing customers accordingly, we can begin working together to conserve water, which is our most precious natural resource.

For more information, please visit *www.modestogov.com/pwd/utilities/water/meters/installation_map.asp* or call (209) 342-2246.



Did you know… Water meters are inspected and set at the factory to deliver as close as possible to an accurate 100% reading. As a meter ages, it will fail to measure all the water that passes through it.



WHAT'S IN MY DRINKING WATER?

The sources of City of Modesto drinking water (both tap water and bottled water) include rivers, streams, reservoirs, and wells. As water travels over the surface of the land or through the ground, it dissolves naturally-occurring minerals and some radioactive materials, and substances resulting from the presence of animals or from human activity. Watershed sanitary surveys and inspections by the California Department of Health Services are conducted regularly to ensure that all of our source water protection activities are optimized. Contaminants that may be present in the source water include:

- 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.
- 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.
- Microbial contaminants, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife.
- Pesticides and herbicides, which may come from a variety of sources such as agriculture, urban stormwater runoff, and residential uses.
- Radioactive contaminants, which can be naturally-occurring or be the result of oil and gas production or mining activities.

WATER SAMPLING/TREATMENT

On an annual basis, the City takes more than 11,000 water samples which tests for approximately 170 contaminants. A sampling schedule is continuously updated based on previous findings and State mandated requirements.

Lead and Copper is one such sampling. Since the early 1990's, the City is required to sample certain homes every three years for lead and copper. These minerals are rarely found in source water, but can enter tap water through corrosion of plumbing materials. Some older homes have lead and copper pipes, fixtures and solder and water is corrosive to metal plumbing materials to some degree, resulting in the leaching of lead and copper into the water. No sample exceeded the Maximum Contaminant Level (MCL).

For more detailed information, we have provided you with a table showing what type of contaminants have been tested, the State MCLs and results of those water samples.

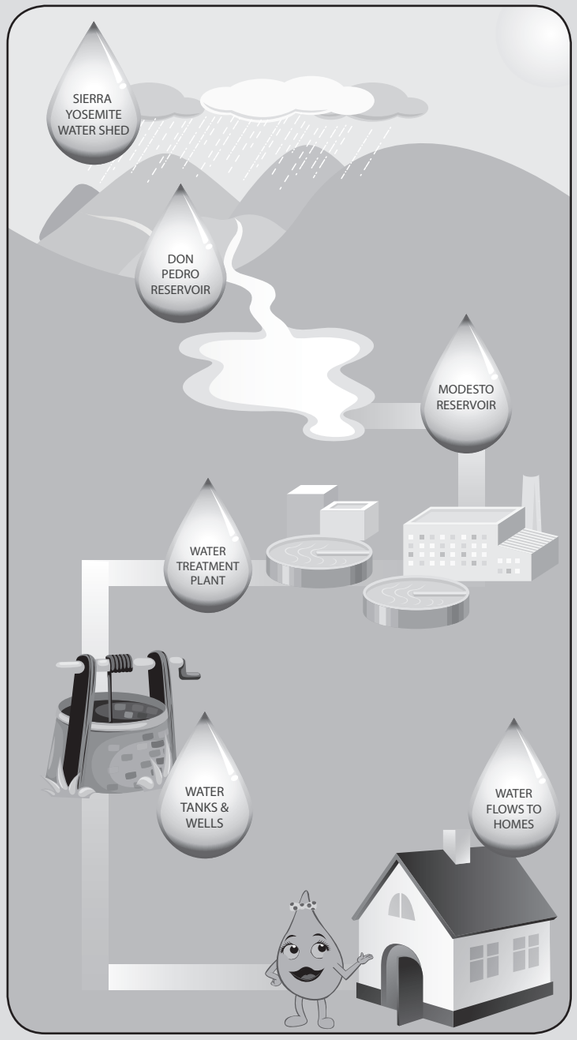
WHERE DOES MY WATER COME FROM?

1. Water from Modesto Reservoir flows by gravity into the water treatment plant where ozone is added for the first round of disinfection.
2. Two additives (liquid alum and polymers) are mixed rapidly into the disinfected water to attract suspended particles in the water and cause them to come together into a substance known as floc.
3. The water then flows into sedimentation basins to allow the floc to settle at the bottom before the water goes to the filters.
4. Next, the water moves through a filter of anthracite coal and gravel where any remaining floc is removed.
5. Chlorine is added as the final disinfection.
6. Next, lime and carbon dioxide are added to make the water less corrosive to water pipes and more compatible with the groundwater it is about to be mixed with.
7. Treated water is then moved into water storage reservoirs, pumped into the distribution system and delivered to our water customers.

The treated drinking water travels more than 15 miles from the water plant to Modesto and into two large tanks where it is pumped out as needed into what are called transmission lines. These transmission lines are spread throughout Modesto and feed into smaller water mains that go to the different neighborhoods. The mains feed into service lines that take the drinking water directly to homes and you get to drink it, cook with it, bathe with it, etc.

Did you know… As in past years, there were **NO VIOLATIONS** of drinking water standards in this system during 2011!

Did you know… Your body is approximately 70% water by weight... Have you filled up your tank today?



How to Read the Tables

The table below lists contaminants which: 1) have associated primary Maximum Contaminant Levels (MCLs) that are regulated and 2) were detected by the City of Modesto's Water Services Division. Contaminants were detected below, at or above the California Department of Public Health's Detection Limits for Purposes of Reporting (DLR) during the 2009 calendar year. *The presence of these contaminants in the drinking water does not necessarily indicate that the water poses a health risk.* More information about contaminants and potential health risks can be obtained by calling the U.S. Environmental Protection Agency (EPA) at (800) 426-4791 or visiting the agency's Web site at *www.epa.gov/safewater.hfacts.html*. California action levels are available on the Department of Public Health Web site at *www.cdph.ca.gov*.

Table 1 lists all regulated contaminants with Primary MCLs that the City of Modesto's Water Services Division detected in the drinking water below, at or above the state DLR.
Table 2 lists regulated contaminants with Secondary MCLs that were detected at or above the state DLR.
Table 3 lists disinfection residuals and disinfection by-products that were detected in the treated water.

Definitions of Terms

AL (action level): *the concentration of a contaminant that, if exceeded, triggers treatment or other requirements that a water system must follow.*

MCL (maximum contaminant level): *the highest level of a contaminant that is allowed in drinking water. Primary MCLs are set as close to the PHGs or MCLGs as feasible using the best available treatment technology. Secondary MCLs are set to protect the odor, taste and appearance of drinking water.*

MCLG (maximum contaminant level goal): *the level of a contaminant in drinking water below which there is no known/expected health risk. 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 contamination.*

TT (treatment technique): *a required process intended to reduce the level of a contaminant in drinking water.*

Abbreviations

CDPH: California Department of Public Health
DLR: detection limit for reporting
mg/L: number of milligrams in one liter of water
n/a: not applicable
NTU: nephelometric turbidity units
pCi/L: picocuries per liter (a measure of radiation)
ppb: parts per billion
ppm: parts per million
ppt: parts per trillion
TT: treatment technique
µS/cm: micro-siemens/cm
<: less than
>: greater than

CERES #5010031

TABLE 1 - DETECTED REGULATED CONTAMINANTS WITH MCL'S

INORGANIC CONSTITUENTS

CONTAMINANT	UNITS	MCL	PHG	CDPH DLR	AVG	RANGE	YEAR SAMPLED	VIOLATION	TYPICAL SOURCE OF CONTAMINANTS
Arsenic	ppb	10	0.004	2	2.8	n/a	2009	No	Erosion of natural deposits; runoff from orchards; glass and electronics production wastes
Barium	ppm	1	2	0.1	0.21	n/a	2009	No	Erosion of natural deposits; discharges of oil drilling wastes and from metal refineries
Nitrate	ppm	45	45	2	3.1	n/a	2011	No	Erosion of natural deposits; runoff/leaching from fertilizer use, septic tanks and sewage
Selenium	ppb	50	30	5	5.1	n/a	2009	No	Discharge from petroleum/glass/metal refineries; erosion of natural deposits; discharge from mines and chemical manufacturers; runoff from livestock lots (feed additive)

RADIOACTIVE CONSTITUENTS

CONTAMINANT	UNITS	MCL	PHG (MCLG)	CDPH DLR	AVG	RANGE	YEAR SAMPLED	VIOLATION	TYPICAL SOURCE OF CONTAMINANTS
Gross Alpha	pCi/L	15	(0)	3	3.98	n/a	2010	No	Erosion of natural deposits
Uranium	pCi/L	20	0.43	1	3.2	n/a	2010	No	Erosion of natural deposits

AT THE TAP CONTAMINANTS

CONTAMINANT	UNITS	ACTION LEVEL	PHG	CDPH DLR	# OF SAMPLES	90TH % CONCENTRATION	YEAR SAMPLED	#SAMPLES > ACTION LIMITS	TYPICAL SOURCE OF CONTAMINANTS
Copper	ppm	1.3	0.3	0.05	7	0.027	2011	0	Internal corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives
Lead	ppb	15	0.2	5	7	ND	2011	0	Internal corrosion of household water plumbing systems; discharges from industrial manufacturers; erosion of natural deposits

TABLE 2 - DETECTED REGULATED CONTAMINANTS WITH SECONDARY MCL'S

INORGANIC CONTAMINANTS

CONTAMINANT	UNITS	STANDARD	PHG	CDPH DLR	AVG	RANGE	YEAR SAMPLED	VIOLATION	TYPICAL SOURCE OF CONTAMINANTS
Chloride	ppm	500	n/a	n/a	320	n/a	2009	No	Runoff and leaching from natural deposits; seawater influence
Specific Conductance	uS/cm	1600	n/a	n/a	1100	n/a	2009	No	Substances that form ions when in water; seawater influence
Total Dissolved Solids	ppm	1000	n/a	n/a	720	n/a	2009	No	Runoff/leaching from natural deposits

ADDITIONAL INORGANIC CONSTITUENTS

CONTAMINANT	UNITS	MCL	PHG	CDPH DLR	AVG	RANGE	YEAR SAMPLED	VIOLATION	TYPICAL SOURCE OF CONTAMINANTS
Hardness (as CaCO3)	ppm	n/a	n/a	n/a	270	n/a	2009	No	n/a
pH	units	n/a	n/a	n/a	8	n/a	2009	No	n/a
Sodium	ppm	n/a	n/a	n/a	130	n/a	2009	No	n/a

TABLE 3 - DETECTED DISINFECTION BY PRODUCTS AND DISINFECTION RESIDUAL

DISINFECTANT RESIDUAL

CONTAMINANT	UNITS	MRDL	MRDLG	CDPH DLR	AVG	RANGE	YEAR SAMPLED	VIOLATION	TYPICAL SOURCE OF CONTAMINANTS
Chlorine	mg/L	4.0	4	n/a	0.53	0.23-0.83	2011	No	Drinking water disinfectant added for treatment