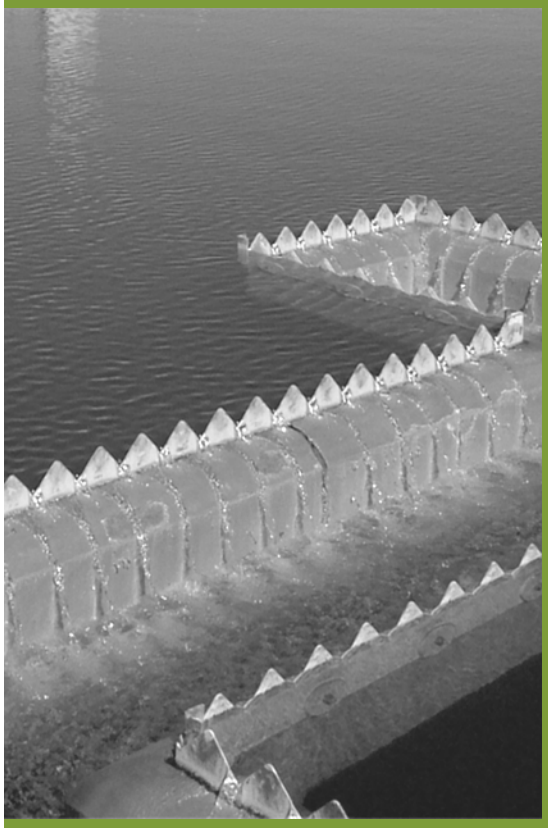
2012



Water Quality Report

City of Lubbock

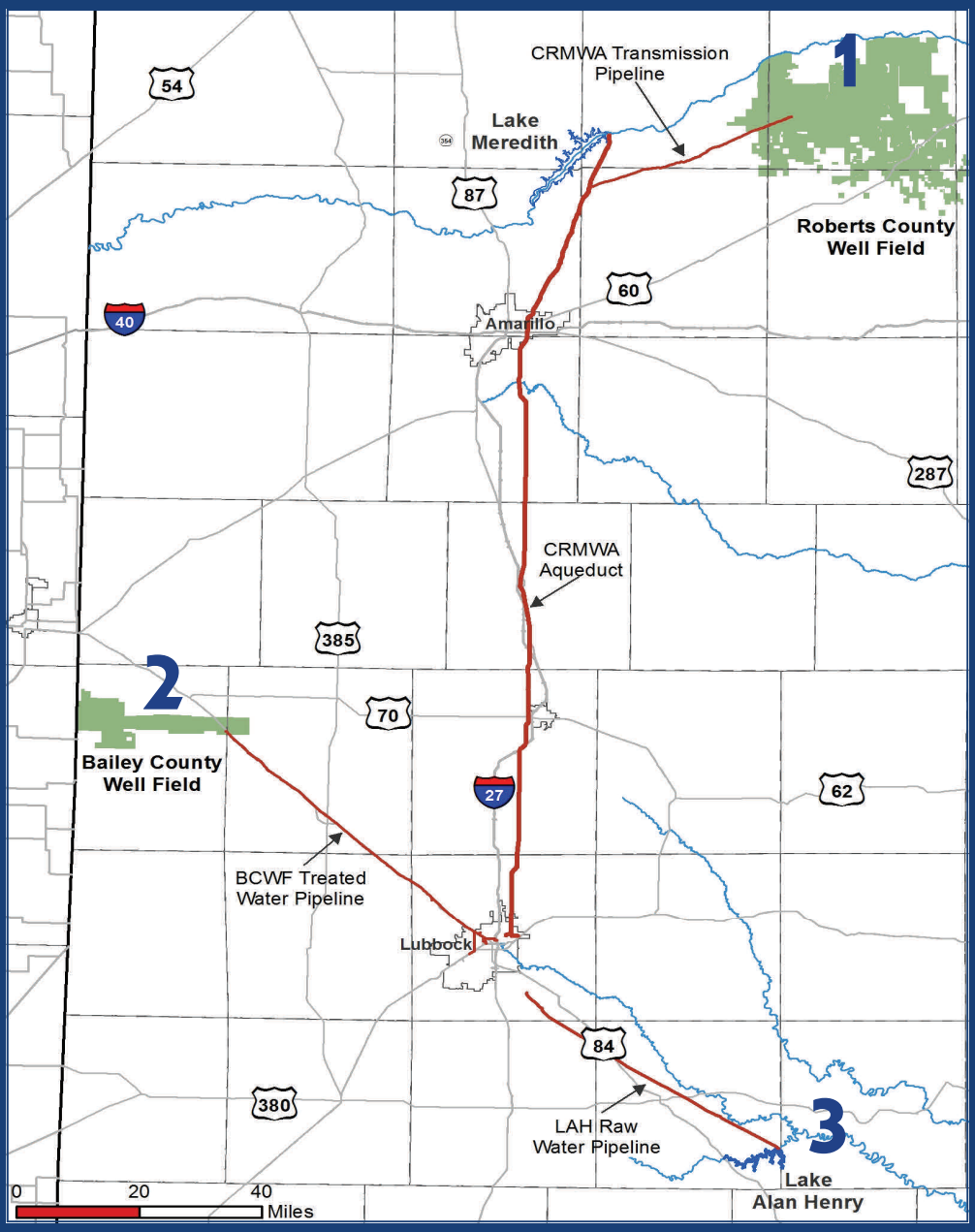
Lubbock's Water Supplies

Lubbock's drinking water comes from three different sources: groundwater is supplied from the Roberts County Well Field (RCWF) and the Bailey County Well Field (BCWF), and surface water is supplied by Lake Alan Henry (LAH).

1 The Canadian River Municipal Water Authority (CRMWA) manages the RCWF. In 2012, CRMWA provided 58% of Lubbock's water supply through the RCWF. CRMWA also manages Lake Meredith. However, by the fall of 2011, insufficient inflows had rendered Lake Meredith unusable as a water supply source.

2 The City owned BCWF provided 40% of the City's water supply in 2012. This water supply has been in use since the 1950s. In the future, the City is planning to reduce our dependence on this well field.

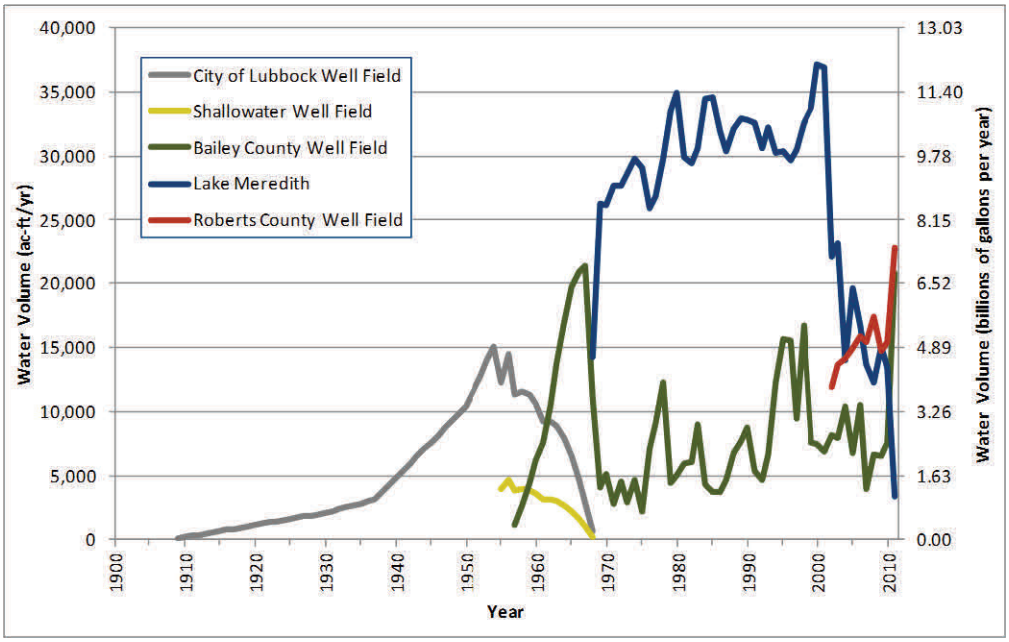
3 The completion of LAH in August 2012 was a significant water supply milestone. In 2012, LAH accounted for roughly 2% of the City's supply. In the future, approximately 17% of the City's needed water supply will come from LAH.



During 2012, the citizens of Lubbock used 13.22 billion gallons of water, with 7.72 billion gallons supplied by CRMWA, 5.31 billion gallons from the BCWF, and 0.19 billion gallons from LAH.

Strategic Water Supply Plan

Water supplies are dynamic. Studying the historic water supply patterns of the City of Lubbock demonstrate change over time. The sources of Lubbock's water supplies have varied between groundwater and surface water since the City was founded in 1909.



This dynamic nature of water supplies highlights the need for continual water supply planning. Every 5 years, the City revises and adopts a new water supply plan. In February of 2013, the City adopted its latest Strategic Water Supply Plan.

The 2013 Plan is comprehensive in scope. The Plan summarizes the City's historic water supplies, discusses our current supplies, and looks forward and evaluates potential water supply strategies that may be implemented in the future in an effort to meet the City's projected water demand. The potential strategies are grouped into four main categories: water conservation, reclaimed water, groundwater, and surface water.

The plan is available on-line at …
http://www.ci.lubbock.tx.us/departmental-websites/departments/water-department/strategic-water-supply

The Strategic Water Supply Plan is a "road map" or guide for the City for the development and implementation of water supplies over the next 100-year planning horizon.

city of lubbock TEXAS

Conservation

because Water's Worth It

Conservation Tips:

1. Only water your lawn as needed. Automatic sprinklers use an average of 1,500-3,000 gallons of water every time they run. Research suggests that watering less frequently but deeply produces the healthiest lawn.

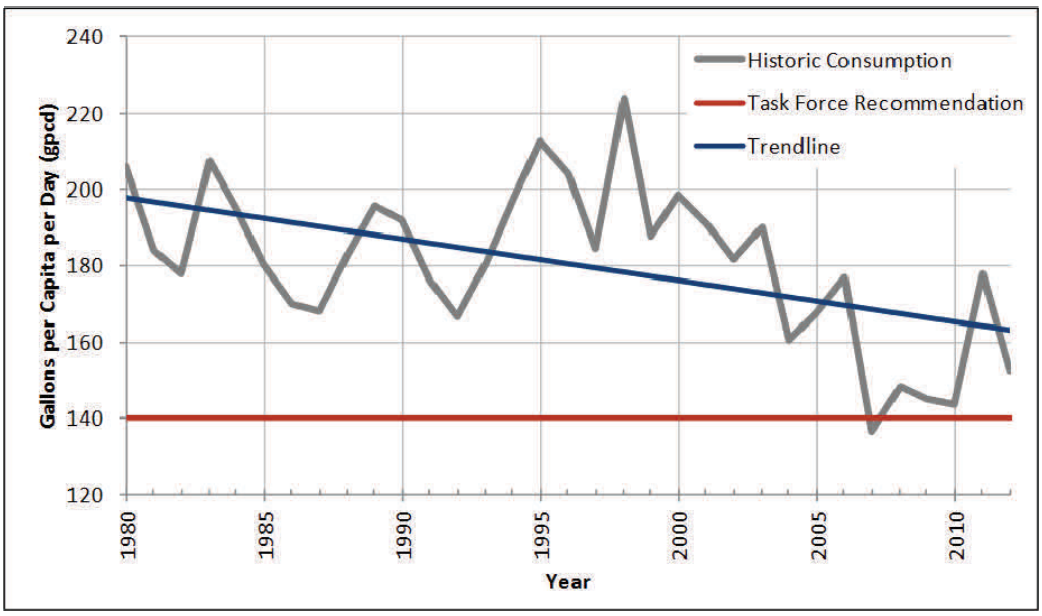
2. Turn off the faucet while brushing your teeth or shaving. This simple action can save over 1,800 gallons of water a year.

3. Wait until the washing machine is full to start a new load. Each load uses between 20-40 gallons of water (depending on the machine). By washing one load less per week, you could save over 2,000 gallons of water a year.

4. Rather than letting the hose run freely, consider using a hose nozzle or using a sponge and bucket when you wash your car at home. You can save 70 gallons of water or more every time you wash your car.

Water conservation plays a key role in the 2013 Strategic Water Supply Plan. Conservation is considered an important water supply strategy because it can effectively delay expensive water supply projects for several decades and decrease the costs of meeting the peak day demand during the summer months.

Lubbock's overall water conservation can be quantified by calculating the change in per capita potable water consumption (measured in gallons per capita per day – gpcd) from year to year. The City's gpcd has declined by approximately 26% from 1980 to 2012 as depicted in the figure below. The red line is a recommended goal of 140 gpcd for cities to seek to achieve set by the State of Texas Water Conservation Task Force. Lubbock is moving closer to this goal each year, even in the middle of drought conditions.



Most of our citizens know that water is a precious resource that is becoming more expensive to find and deliver. While our planning efforts reveal that Lubbock has ample water supplies available to meet needs for decades to come, we must remember that water conservation is the cheapest water supply that we possess.

water conservation + drought restrictions

WATER'S WORTH IT
conserve

Water conservation should be practiced at all times, regardless of climatic conditions. The City's current conservation efforts include educating the public, implementing "waste of water" regulations, developing water rates that promote conservation, and irrigation inspections and consultations.

Every year from April 1 through September 30, the City implements the annual water conservation measures. These measures are outlined below.

Annual Water Conservation Measures

On your scheduled watering days, irrigation is allowed from midnight to 10:00 a.m. and from 6:00 p.m. to midnight.

In other words, no watering is allowed from 10:00 a.m. to 6:00 p.m. on any day from April 1 to September 30.

Irrigation must be applied without significant runoff.

Irrigate less than 1.5 inches of water per week.

Do not irrigate during precipitation events.

city of lubbock TEXAS

DROUGHT CONTINGENCY PLAN
stage 1

The City has a Drought Contingency Plan that is implemented in times of drought or emergency. However, the City is currently choosing to proactively implement the Drought Contingency Plan as a precaution, before any undesired situations arise. We believe preserving our water supplies is the right thing to do.

The City will remain in Stage 1 of the Drought Contingency Plan for the foreseeable future.

Stage 1 Drought Restrictions

Landscape irrigation is allowed during two assigned days per week.

Irrigation schedules will be based on the last digit of the house address. Addresses ending in...

- 0, 3, 4, or 9 water on Monday & Thursday
- 1, 5, or 6 water on Tuesday & Friday
- 2, 7, or 8 water on Wednesday & Saturday

Hand watering (physically holding the hose), drip systems, and soaker hoses are allowed any day at any time.

A variance application for new landscape material is available on-line at water.ci.lubbock.tx.us/waterrestrictions.aspx.

For example,
110 Main Street will water on Mondays and Thursdays.

Residents, city operations, and wholesale customers must adhere to these irrigation restrictions.

Water Quality Data

The sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, and wells. As water travels over the surface of the land or through the ground, it dissolves naturally occurring minerals, and in some cases, radioactive material, and can pick up substances resulting from the presence of animals or from human activity. **Contaminants** that may be present in source water before treatment include: microbes, inorganic contaminants, pesticides, herbicides, radioactive contaminants, and organic chemical contaminants.

Drinking water, including tap water and 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. 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.

Contaminants may be found in drinking water that may cause **taste, color, or odor** problems. These types of problems are not necessarily causes for health concerns. Therefore, contaminants causing taste, color, or odor problems are called secondary constituents. Secondary constituents are regulated by the State of Texas, not the EPA. For more information concerning taste, odor or color of drinking water, please call the City of Lubbock's Water Department at 806-775-2588.

The City of Lubbock tests for nearly 100 different contaminants in our water system. A summary of the 2012 **water quality results** are reported in the following pages. The table below lists several terms and abbreviations that are used in the water industry and should help in understanding this report.

TERM	DEFINITION
AL	**Action Level –** if a contaminant rises above this level, treatment is required
MCL	**Maximum Contaminant Level** – the highest contaminant level legally allowed
MCLG	**Maximum Contaminant Level Goal –** the contaminant level below which there is no known health risk
mrem/yr	**millirems per year**—a measure of radiation absorbed by the body
MRDL	**Maximum Residual Disinfectant Level –** the highest disinfectant level legally allowed
MRDLG	**Maximum Residual Disinfectant Level Goal –** the disinfectant level below which there is no known health risk
NTU	**Nephelometric Turbidity Units –** a measure of the cloudiness of the water
pCi/L	**picocuries per liter –** a measure of radioactivity
ppb	**part per billion –** one part per billion or micrograms per liter
ppm	**part per million –** one part per million or milligrams per liter
range	the lowest and highest contaminant levels measured
TT	**Treatment Technique –** a process intended to reduce the level of a contaminant in drinking water

Special Information for People with Immune Systems Deficiencies

Certain people may be more vulnerable than the general population to certain microbial contaminants, such as Cryptosporidium, in drinking water. Infants, some elderly or immuno-compromised persons such as those undergoing chemotherapy for cancer; those who have undergone organ transplants; those who are undergoing treatment with steroids, and people with HIV/AIDS or other immune system disorders can be particularly at risk from infections. These individuals should seek advice about drinking water from their physician or health care provider. Additional guidelines on appropriate means to lessen the risk of infection by Cryptosporidium are available from the Safe Drinking Water Hotline at 1-800-426-4791.

Water Quality Data

Contaminant	Year	MCL	Highest Level Detected	MCLG	Range	Contamination Source	Compliant
Regulated At Treatment Plant							
Alpha emitters	2011	15 pCi/L	4.7 pCi/L	0	N/A	Erosion of natural deposits	Yes
Arsenic	2011	10 ppb	5.9 ppb	0	2.8 – 5.9 ppb	Erosion of natural deposits, runoff from orchards	Yes
Barium	2011	2 ppm	0.136 ppm	2 ppm	0.104 - 0.136 ppm	Erosion of natural deposits	Yes
Beta/photon emitters	2011	50 pCi/L*	8.4 pCi/L	0	N/A	Decay of natural and man-made deposits	Yes
Chloramines	2012	MRDL = 4.0 ppm	2.7 ppm	MRDLG = 4.0 ppm	0.5 - 3.9 ppm	Disinfectant used to control microbes	Yes
Cyanide	2011	200 ppb	100 ppb	200 ppb	70 - 100 ppb	Erosion of natural deposits	Yes
Fluoride	2011	4 ppm	1.42 ppm	4 ppm	0.61 – 1.42 ppm	Erosion of natural deposits	Yes
Nitrate	2012	10 ppm	1.96 ppm	10 ppm	1.48 - 1.96 ppm	Runoff from fertilizer use, leaching from septic tanks, sewage, erosion	Yes
Selenium	2011	50 ppb	3.4 ppb	50 ppb	0 - 3.4 ppb	Erosion of natural deposits	Yes
Total organic carbon	2012	TT	0.72 ppm	TT	0.39 – 0.72 ppm	Naturally present in environment	Yes
Turbidity	2012	TT = 5 NTU (TT = % of samples <0.3 NTU)	0.09 NTU 100%	0	0.03 - 0.09 NTU	Soil runoff	Yes
Additional Monitoring							
Aluminum	2012	0.05 - 0.2ppm^	0.11 ppm	N/A	N/A	Water treatment chemical	Yes
Ammonia	2012	Not Regulated	0.48 ppm	N/A	N/A	Water treatment chemical	Yes
Calcium	2011	Not Regulated	53 ppm	N/A	N/A	Naturally occurring	Yes
Chloride	2011	300 ppm ^	219 ppm	N/A	N/A	Naturally occurring	Yes
Conductance	2011	Not Regulated	1520 micromhos/cm	N/A	N/A	Naturally occurring	Yes
Hardness	2011	Not Regulated	252 ppm	N/A	N/A	Naturally occurring	Yes
Magnesium	2011	Not Regulated	29 ppm	N/A	N/A	Naturally occurring	Yes
Nickel	2011	Not Regulated	0.002 ppm	N/A	N/A	Erosion of natural deposits	Yes
Sodium	2011	Not Regulated	161 ppm	N/A	N/A	Naturally occurring	Yes
Sulfate	2011	300 ppm ^	119 ppm	N/A	N/A	Naturally occurring	Yes
Total alkalinity	2012	Not Regulated	186 ppm	N/A	N/A	Naturally occurring	Yes
Total dissolved solids	2011	1000 ppm^	749 ppm	N/A	N/A	Naturally occurring	Yes
Zinc	2011	5 ppm^	0.008 ppm	N/A	N/A	Naturally occurring	Yes

Please note: The State allows us to monitor for some substances less than once a year because the concentration of these substances do not change frequently. Therefore, some of our data, though representative, are more than one year old.

Water Quality Data

Contaminant	Year	MCL	Highest Level Detected	MCLG	Range	Contamination Source	Compliant
Regulated At The Customers' Tap							
Copper	2012	1.3 ppm AL	0.113 ppm ~	1.3 ppm	0.012 - 0.288 ppm	Erosion of natural deposits, corrosion of household plumbing systems	Yes
Lead	2012	15 ppb AL	2.02 ppb ~	0	0 – 4.52 ppb	Erosion of natural deposits, corrosion of household plumbing systems	Yes
Regulated In The Distribution System							
Haloacetic acids (5)	2012	60 ppb	2.2 ppb #	N/A	0-5.6 ppb	By-product of drinking water chlorination	Yes
Total coliform	2012	Coliform bacteria present in 5% or more of the monthly samples	1.86%	0	N/A	Naturally present in the environment	Yes
Total trihalomethanes	2012	80 ppb	11.1 ppb #	N/A	0 – 32.2 ppb	By-product of drinking water chlorination	Yes
Unregulated Contaminants							
Bromodichloromethane	2012	N/A	1.5 ppb	N/A	N/A	By-product of drinking water disinfection	Yes
Bromoform	2012	N/A	2.3 ppb	N/A	N/A	By-product of drinking water disinfection	Yes
Chloroform	2012	N/A	None Detected	N/A	N/A	By-product of drinking water disinfection	Yes
Dibromochloromethane	2012	N/A	2.6 ppb	N/A	N/A	By-product of drinking water disinfection	Yes

^ Secondary Constituent Levels set by the Texas Commission on Environmental Quality
* The MCL for beta particles is 4 mrem/year. EPA considers 50 pCi/L to be the level of concern for beta particles.
~ (90th percentile) No sites exceeded AL
# Highest Locational Running Annual Average

Homes with Lead Piping

Elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Lead in drinking water is primarily from materials and components associated with service lines and home plumbing. This water supply is responsible for providing high quality drinking water, but cannot control the variety of materials used in plumbing components. When your water has been sitting for several hours, you can minimize the potential for lead exposure by flushing your tap for 30 seconds to 2 minutes before using water for drinking or cooking. If you are concerned about lead in your water, you may wish to have your water tested. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available from the Safe Drinking Water Hotline or at www.epa.gov/safewater/lead.

Arsenic

While your drinking water meets EPA's standard for arsenic, it does contain low levels of arsenic. EPA's standard balances the current understanding of arsenic's possible health effects against the costs of removing arsenic from drinking water. EPA continues to research the health effects of low levels of arsenic, which is a mineral known to cause cancer in humans at high concentrations and is linked to other health effects such as skin damage and circulatory problems.

Turbidity

Turbidity is a measure of the amount of suspended particles in water. We monitor turbidity because it is an indicator of water quality. High turbidity can hinder the effectiveness of disinfectants.

2012

Where to Find Additional Information about Your Water

The Texas Commission on Environmental Quality publishes a Source Water Susceptibility Assessment for drinking water sources. This information describes the susceptibility and types of constituents that may come into contact with your drinking water source based on human activities and natural conditions. The information contained in the assessment allows us to focus our protection strategies. This source water assessment information is available on Texas Drinking Water Watch at http://dww.tceq.state.tx.us/DWW/. For more information on source water assessments and protection efforts at our system, please contact us.

Water Quality Contact Information

Safe Drinking Water Hotline: 800-426-4791

City of Lubbock Water Treatment Lab: 806-775-2614
Weekdays 7:30 a.m. to 4:30 p.m.

Lubbock Water Utilities Department
General Questions: 806-775-2592
Education and Backflow Compliance: 806-775-3596

City of Lubbock Water Department Website: http://water.mylubbock.us

Water Quality Report

City of Lubbock