

City of Oviedo

2006 Annual Drinking Water Quality Report

July 1, 2006



West Mitchell Hammock Road Water Treatment Facility



We're pleased to present to you this year's Annual Water Quality Report. This report is designed to inform you about the quality water and services we deliver to you every day. Our constant goal is to provide you with a safe and dependable supply of drinking water. We want you to understand the efforts we make to continually improve the water treatment process and protect our water resources. We are committed to ensuring the quality of your water! Your water is obtained from ground water sources. We use Chloramines for disinfection purposes, and then fluoridate for dental health purposes.

Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised persons such as persons with cancer undergoing chemotherapy, persons 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. EPA/CDC guidelines on appropriate means to lessen the risk of infection by Cryptosporidium and other microbiological contaminants are available from the Safe Drinking Water Hotline (800-426-4791).

Maximum Contaminant Levels or MCLs are set at very stringent levels. To understand the possible health effects described for many regulated constituents, a person would have to drink 2 liters of water every day at the MCL level for a lifetime to have a one-in-a-million chance of having the described health effect.

Contaminants that may be present in source water include:

- (A) *Microbial contaminants*, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife.
- (B) *Inorganic contaminants*, such as salts and metals, which can be naturally-occurring, or result from urban storm water runoff, industrial or domestic wastewater discharges, oil and gas production, mining, or farming.
- (C) *Pesticides and herbicides*, which may come from a variety of sources such as agriculture, urban storm water runoff, and residential uses.
- (D) *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 storm water runoff, and septic systems.
- (E) *Radioactive contaminants*, which can be naturally-occurring or be the result of oil and gas production and mining activities.

In order to ensure that tap water is safe to drink, the EPA prescribes regulations, which limit the amount of certain contaminants in water provided by public water systems. The Food and Drug Administration (FDA) regulations establish limits for contaminants in bottled water, which must provide the same protection for public health. 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 the water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the Environmental Protection Agency's Safe Drinking Water Hotline at 1-800-426-4791.

In the following tables you will find many terms and abbreviations you might not be familiar with. To help you better understand these terms we've provided the following definitions:

Non-Detects (ND) – means not detected and indicates that the substance was not found by laboratory analysis. Parts per million (ppm) or Milligrams per liter (mg/l) - one part by weight of analyte to 1 million parts by weight of the water sample.

Parts per billion (ppb) or Micrograms per liter (ug/l) - one part by weight of analyte to 1 billion parts by weight of the water sample.

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

Maximum Contaminant Level or 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 or 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 contaminants.

Picourie per liter (pCi/L) - measure of the radioactivity in water.

The City of Oviedo routinely monitors for contaminants in your drinking water according to Federal and State laws. The following tables show the results of our monitoring for the period of January 1st to December 31st, 2005. The state allows us to monitor for some contaminants less than once per year because the concentrations of these contaminants do not change frequently. *It's important to remember that the presence of these contaminants does not necessarily pose a health risk.* Some of our data, though representative, may be more than one year old.



TEST RESULTS TABLE							
Contaminant and Unit of Measurement	Date of sampling (mo./yr.)	MCL Violation Y/N	The Highest Single Measurement	The Lowest Monthly Percentage of Samples Meeting Regulatory Limits	MCLG	MCL	Likely Source of Contamination
Radiological Contaminants							
Alpha emitters (pCi/L)	01/2002	N	2.6	1.1-2.6	0	15	Erosion of natural deposits
Radium-226 or combined radium (pCi/L)	07/2003	N	2.6	1.1-2.6	0	5	Erosion of natural deposits
Contaminant and Unit of Measurement	Dates of sampling (mo./yr.)	MCL Violation Y/N	Level Detected	Range of Results	MCLG	MCL	Likely Source of Contamination
Inorganic Contaminants							
Barium (ppm)	2/18/05	N	0.015	0-0.015	2	2	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits
Chromium (ppb)	2/18/05	N	8.0	6.0-8.0	100	100	Discharge from steel and pulp mills; erosion of natural deposits
Fluoride (ppm)	2/18/05	N	0.865	0.849-0.865	4	4	Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories
Nickel (ppb)	2/18/05	N	0	0-0	N/A	100	Pollution from mining and reining operations. Natural occurrence in soil.
Selenium (ppb)	2/18/05	N	4.0	3.0-4.0	50	50	Discharge from petroleum and metal refineries; erosion of natural deposits; discharge from mines
Sodium (ppm)	2/18/05	N	38.4	37.7-38.4	N/A	160	Salt water intrusion, leaching from soil
Contaminant and Unit of Measurement	Dates of sampling (mo./yr.)	MCL Violation Y/N	Level Detected	Range of Results	MCLG or MRDLG	MCL or MRDL	Likely Source of Contamination
Stage 1 Disinfectant/Disinfection By-Product (D/DBP) Parameters							
Chloramines and Chlorine (ppb)	2005	N	2.36 (annual average)	0.9-4.2	MDRL =4	MRDL =4.0	Water additive used to control microbes
Haloacetic Acids (five) (HAA5) (ppb)	2005	N	25.0 (annual average)	14.7-36.1	N/A	MCL= 60	By-product of drinking water disinfection
TTHM [Total trihalomethanes] (ppb)	2005	N	49.2 (annual average)	50.2-66.6	N/A	MCL= 80	By-product of drinking water disinfection
Contaminant and Unit of Measurement	Dates of sampling (mo./yr.)	AL Violation Y/N	90 th Percentile Result	No. of sampling sites exceeding the AL	MCLG	AL (Action Level)	Likely Source of Contamination
Lead and Copper (Tap Water)							
Copper (tap water) (ppm)	2005	N	0.195	0	1.3	1.3	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives
Lead (tap water) (ppb)	2005	N	0	0	0	15	Corrosion of household plumbing systems, erosion of natural deposits

There was a reporting violation for the 2005 Annual Drinking Water Report, which was a late C.C.R. submitted to the Florida Department of Environmental Protection.

Saving Water for Oviedo's Future



Saving Florida's water resources is a vital responsibility that will take all of Oviedo's water customer's participation to be successful. Water conservation may seem unnecessary in a state surrounded by water and dotted with lakes, but not all of that water is available for drinking or irrigation.

Though Florida usually receives about 50 inches of rain each year, only about 13 inches of water seeps into the ground deep enough to replenish the underground aquifers. The Florida aquifer is where the City of Oviedo gets its water supply. This is where the fresh water residents drink, bath with, irrigate with and play in comes from. Every day more demand is placed on the aquifer and if left unregulated the supply could get so low that salt water intrusion could occur destroying the supply of fresh water.

In an effort to alleviate the growing demand on the Florida Aquifer, the City of Oviedo Water Conservation Department enforces the water conservation rules. This is accomplished by patrolling the City and offering all of its citizens educational materials on ways to conserve water.

The Rules of Water Conservation

Homes or businesses with **EVEN** numbered addresses (i.e.: 3282, 1244) may irrigate on Thursday and Sunday **ONLY** between 12 midnight and 10:00am and from 4:00pm to 12 midnight.

Homes of businesses with **ODD** (i.e.: 3181, 1233) or **NO** numbered addresses may irrigate on Wednesday and Saturday **ONLY** between 12 midnight and 10:00am and 4:00pm and 12 midnight.

There is **NO** watering between the hours of 10:00am and 4:00pm.

If you have a timer attached to your irrigation system check to make certain that it is set for the proper days and times. You may contact the water conservation department for a free irrigation timer check.

Throughout the year the Water Conservation Department Staff provides informational booths at various functions and events within the City. Look for us at Taste of Oviedo, Great Day in the Country and during the Arbor Day tree giveaway. Staff also attends various school events to educate the City's youngest citizens on becoming proper water stewards.

The City of Oviedo asks our water customers to partner with us in our efforts to conserve water.



Saving Water Outside

More than half of all residential water use occurs outdoors in the form of irrigation, recreation and maintaining property, like car washing. Use water wisely outside the home. Equip your hose with a head that can be shut off while you sop the car before rinsing. Only irrigate on scheduled days and only if the landscape really needs it. If it rains on the day you usually irrigate, wait to irrigate on the second irrigation day. Save water.

Here are five (5) suggestions for a healthy landscape and an efficient irrigation system.

1. **Mowing:** Cut your grass using the highest setting on your lawn mower. Cut no more than one-third the length of the grass, which allows the blades to hold moisture. Keep mower blades sharp for a clean cut; dull blades tear grass and leave it susceptible to disease and pests.
2. **Water your lawn like a winner:** Watering your lawn early in the morning or in the early evening minimizes evaporation and waste. Typically, Florida lawns, usually St. Augustine grass, need water two times a week in the spring and summer, less if it rains and less in the fall and winter. Over watering the lawn results in a shallow root system and promotes weed growth, disease and fungus. A hearty rainfall eliminates the need for watering for as long as two weeks.
3. **Think 1/2 an inch:** Lawns only need about a 1/2 an inch of water at a time. Place similar containers throughout your yard and measure the amount of water in the containers a half hour after you start irrigating. If you have collected more than a 1/2 inch of water in the containers before the half hour is up adjust your irrigation system to water for a shorter cycle.
4. **Sprinkle your lawn with care:** Install water-efficient sprinkler heads and a rain sensor switch that can override your system when it rains. Check your irrigation timers regularly to make sure they are at the proper settings. Recheck them after a power outage.
5. **Celebrate your surroundings:** Landscape with drought-tolerant ornamental plants, turf and trees. Group plants together based on similar water needs. Use mulch or other ground covers to retain moisture and reduce weeds.



Cross Connection Control Program

FREQUENTLY ASKED QUESTIONS

- 1. What is a cross connection?** A cross connection is a connection or potential connection between any part of a potable (drinking) water system and any other environment containing other substances in a manner that, under any circumstance, would allow such substances to enter the potable water system.
- 2. What is a Cross Connection Control program?** An approved CCC program is an organized, legally implemented and structured program to eliminate and control actual or potential cross connections to the municipal potable (drinking) water supply.
- 3. What is a backflow condition?** The undesirable reversal of flow in a potable water distribution system as a result of a cross connection. There are two types of backflow: backpressure and backsiphonage.
- 4. What is backpressure backflow?** Backpressure backflow is caused by a downstream pressure that is greater than the upstream (supply) pressure. Increases in downstream pressure can be created by pumps, temperature increase in boilers, cross connection to a private well, cross connection to a reclaim system, etc.
- 5. What is backsiphonage backflow?** Backsiphonage is backflow caused by a negative pressure (a vacuum) in a potable water system. This negative pressure can occur during high water demand, i.e. using a fire hydrant while fighting a fire, a water main break. Loss of pressure or a decrease in pressure is what causes backsiphonage.
- 6. What is a backflow preventer?** A backflow preventer is a means or mechanism to prevent backflow.

BACKFLOW PREVENTION – WHY IS IT IMPORTANT?

The City of Oviedo has taken appropriate measures to insure the safety of our drinking water supply through the water distribution system. This means that our customers can be assured that each and every time they turn on their faucet, the water they are drinking is safe.

In ground irrigation systems connected to the City Potable (drinking) water supply pose a unique problem, in that, as long as the City water supply pressure is maintained, backsiphonage will be avoided. However, if the City loses supply (line) pressure due to a water main break, fire department flushing hydrants or fighting fires, the loss in pressure can cause the water in your irrigation system to backsiphon into your house plumbing and possibly into the City water supply.

Why is that a problem?

Since most homeowners use some sort of fertilizer and/or pesticides on their lawn, these chemicals can get into the irrigation piping. How does this happen? As the irrigation zone shuts off, the irrigation system pressure drops off slowly and the in ground heads slowly drop back into the ground piping, this allows the chemicals that are around the head to backsiphon into the irrigation piping. Now your irrigation system and the water in the pipes are contaminated. When the City pressure is restored, the fertilizer and/or pesticide can be pushed into your drinking water supply. YOU could be drinking Miracle Grow!

What can I do to prevent this from happening?

To prevent backsiphonage, an “Approved” backflow prevention assembly must be installed to isolate the in-ground irrigation pipes from the potable water supply line to your house. An “Approved” backflow prevention assembly consists of: 2 independent operating check valves, 2 resilient seated gate valves, an air gap assembly, and 2 or 4 test cocks for annual testing. If your irrigation system either has no backflow preventer or does not have an “approved” backflow prevention assembly connected to the irrigation system piping, your house is a **RISK** of contamination from your own irrigation system. You may also be putting the City and your neighbors at risk if this contamination enters the City potable water system.

What are the types of “Approved” Backflow Prevention Assemblies?

There are two types of backflow prevention assemblies approved for use on in-ground irrigation system within the City of Oviedo when the source of water is the City’s potable (drinking) water supply. Each style of backflow preventer has a different installation requirement, however, all must be installed above ground, contact the Cross Connection Control Office for details at (407) 977-6395. The following types of backflow preventers are authorized:

1. **Reduced Pressure Zone Principle Backflow Prevention assembly. (RPZ)**
2. **Pressure Vacuum Breaker Backflow Prevention assembly. (PVB)**

CURRENT BACKFLOW CONCERNS WITHIN THE CITY OF OVIEDO

The State of Florida, Seminole County, and the City of Oviedo are currently enforcing water conservation rules and educating the public on water conservation techniques. One of the programs to enhance water conservation has been the introduction of Reclaim water distribution systems. Reclaim water has been very helpful in our efforts to conserve our drinking water supply.

There is now a new concern when Reclaim water is being used for in-ground irrigation systems. The concern is this, with reclaim water and potable water now on your property, you now have two sources of water, one drinking and one non-drinking. The potential for a cross connection is now high if the customers is not aware of the danger. These two water systems can **NEVER** be connected together, not with a valve, not with a backflow preventer, not with anything; there must be **NO** physical connection of any type between the Potable and Reclaim water. Your in-ground irrigation system must be supplied by one source of water only and only one.

Several reports have been received by the City in which customers have installed a valve between the Reclaim water and the Potable water so they can switch from one source to the other as needed. This practice is completely **ILLEGAL** and may cause a health hazard to the homeowner. Since the reclaim line pressure is higher than the potable line pressure, if a valve is used between the two systems, the only protection the homeowner has from possible contamination is the two o-rings in the valve. Over time the o-rings will deteriorate and allow the reclaim water to flow into your house.

Recommendation: If you have already connected the two systems together, **REMOVE** the interconnection immediately. Saving your landscape is not worth the risk of contaminating your home.



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This is a report on our water quality and what it means.

If you have any questions about this report or concerning your water quality and the utility, please contact Thomas King, Utilities Manager, 400 Alexandria Blvd. Oviedo, Florida, or at (407) 977-6066. We want our valued customers to be in-formed about their water utility. 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.

We work around the clock to provide top quality water to every tap.

We ask that all our customers help us protect our water sources, which are the heart of our community, our way of life and our children's future!



West Mitchell Hammock Road Water Treatment Facility

The City of Oviedo opened the new West Mitchell Hammock Road Water Treatment Facility in January 2006. The opening of this facility continues a tradition of pride and enterprise established by the City to enhance the quality of life of the residents of Oviedo.

The plant is designed for an average daily flow of 10 million gallons per day (MGD) with an ultimate design flow of 16 MGD. The plant consists of state-of-the art forced draft aeration process technology coupled with odor control facilities for sulfide removal from groundwater supplies. To further plan for the future, the City has included in the facility's design, but not the initial construction, the ability to add reverse osmosis membrane process treatment for brackish water, should future water resources require such action. An innovative approach was also taken with regards to the construction of an alternative circular pre-stressed, post-tensioned concrete ground storage water tank with circumferential tendons previously used in Florida.

West Mitchell Hammock Road Water Plant Features

This plant consists of a forced aeration treatment process, chemical storage and feed facilities, ground storage, transfer and high service pumping, as well as associated buildings and instrumentation/controls. Features include:

- Operations building with state-of-the-art SCADA system, labs, offices and training room.
- Forced draft aeration and odor control scrubbers.
- Carbon dioxide pre-treatment to lower pH.
- Seven different chemical feed systems.
- Transfer pump station with variable speed drives for pumps and provisions for future pumps.
- High service pumping and provisions for expansion.
- Diesel generator for back-up power, capable of running 100% of the plant.
- First of its kind in Florida 2.5 million gallon (MG) circular ground storage tank made with pre-stressed, post-tensioned concrete guaranteed against leakage.