



Utilities Department News

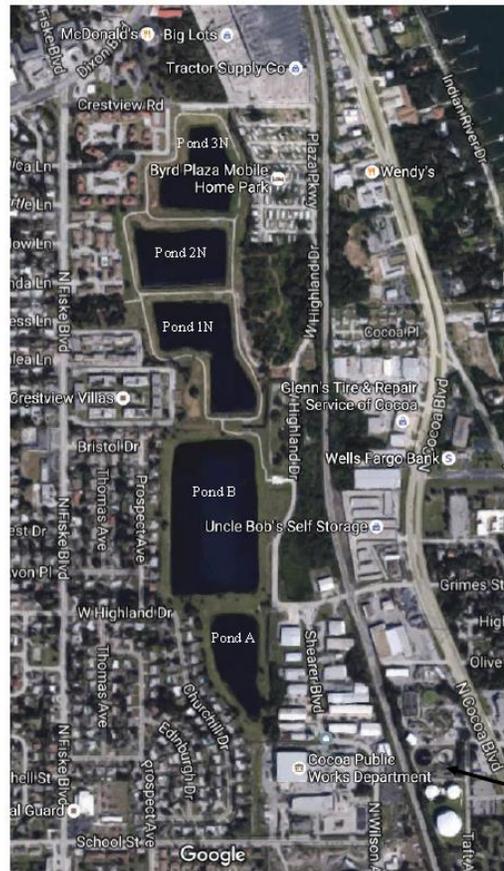
Summer 2016

Jerry Sellers WRF over comes blue-green algae and high demand to keep reclaimed water flowing

Under normal operating conditions the Jerry Sellers Water Reclamation Facility (WRF) produces 1.9-2.0 million gallons of reclaimed water per day. During the summer months demand often exceeds supply and the plant uses surface water from Bracco Reservoir Pond A (see photo at right) to supplement the supply of water.

Last summer Pond A experienced a blue-green algae bloom that rendered the water unusable for making reclaimed water. Blue-green algae is a nationwide problem and the algae is harmful to the microorganisms that treat the sewage influent. This summer Pond A had another blue-green algae bloom.

There are other ways to supplement the reclaimed water supply including a few wells and a horizontal well in Bracco Reservoir



Pond 1N. When demand began to exceed supply the Sellers WRF turned on the wells, but that wasn't quite enough. With Pond A out of commission the plant went to use the horizontal well at Pond 1N but the pump wouldn't work. As a result the Jerry Sellers WRF experienced low water volume for the reclaimed system in late July through early August this summer.

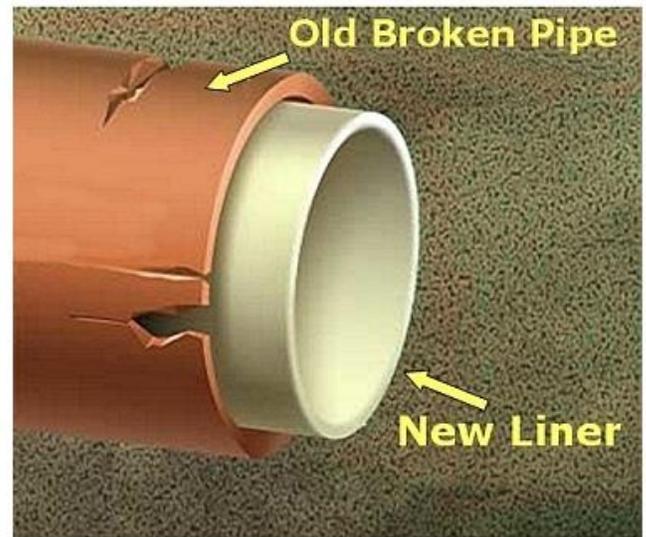
The Sellers WRF brought in a portable pump to pump water from Pond 1N which wasn't affected by the blue green algae bloom. Unlike other reclaimed water systems in our area reclaimed water service was never interrupted. System pressure did fall below 40 psi, but only for 30 minutes. Full pressure and volume has since been restored.

Cocoa Utilities Department began 6-year project to rehabilitate gravity sewer pipes

The City of Cocoa's gravity sanitary sewer system includes about 100 miles of gravity sewer pipe. Much of that pipe is made from vitrified clay (VCP). VCP is commonly used in gravity sewer collection mains because of its long life and resistance to almost all domestic and industrial sewage. However, vitrified clay is brittle compared to other types of pipe and is known to develop cracks and breaks over time. During rain events, sewage flows at the Jerry Sellers Water Reclamation Facility increase significantly indicating that water is seeping (infiltration) through the ground into the gravity sewer pipes.

Most of the city's gravity sewer system was inspected by RedZone Robotics during fiscal year (FY) 2015. RedZone sent robots equipped with closed-circuit television (CCTV) through the sewer mains. RedZone provided the city with the CCTV data, and an assessment of the condition the pipes. With the help of the engineering firm CDM Smith, Cocoa used this information to develop a plan for gravity sewer rehabilitation and replacement. The plan prioritized repairs based the likelihood of failure (physical condition of the pipe) and the consequence of failure to formulate a six year implementation plan.

The existing service area covers approximately 3,200 acres within the Cocoa city limits. A network of 52 wastewater lift stations and approximately 100 miles of gravity sewers and 50 miles of force mains transport wastewater to the Jerry Sellers Water Reclamation Facility. Over half of the gravity sewer system is vitrified clay pipe (VCP), with polyvinyl chloride (PVC) also



representing a significant percentage of the system.

Cocoa began rehabilitation of portions of the gravity sewer system in 2008 to reduce infiltration and increase the structural integrity of the system. This was achieved by lining the pipes with cured in-place pipe (CIPP). Approximately nine miles have been lined to date.

CDM Smith analyzed the selected pipe segments to determine the appropriate rehabilitation or replacement recommendation. The project will incorporate various technologies and methods including: CIPP, point repairs, pipe replacement, high-pressure water jetting, grease chemical control, mechanical root cutting, root chemical control, and trimming laterals.

The first phase of the plan began in April, 2016 by using CIPP, also known as sliplining, to rehabilitate 10,000 feet of gravity sewer pipe. Cocoa will continue to repair about 10,000 feet of pipe per year over the next six years. Sliplining is a trenchless process so it results in less disruption to vehicle

traffic. During the process a resin-saturated felt tube made of polyester, fiberglass cloth is inverted or pulled into a damaged pipe.

Once the slipline cures the result is a new pipe inside the old pipe.

Save Water and Energy by Showering Better

Showering Facts

The shower is a place where we can clean up, cool off, wake up, or relax after a long day. But it's also a place where we waste a lot of water and energy! Consider this:

- The average shower lasts eight minutes. Since a standard showerhead has a water flow of 2.2 gallons per minute, each shower uses 18 gallons of water!
- Across the United States, we use more than one trillion gallons of water each year just for showering.

Never fear! You and your family can still save water and energy. WaterSense has a special label for showerheads that use less water but still provide a great spray of water when you shower. If your family uses a WaterSense labeled showerhead:

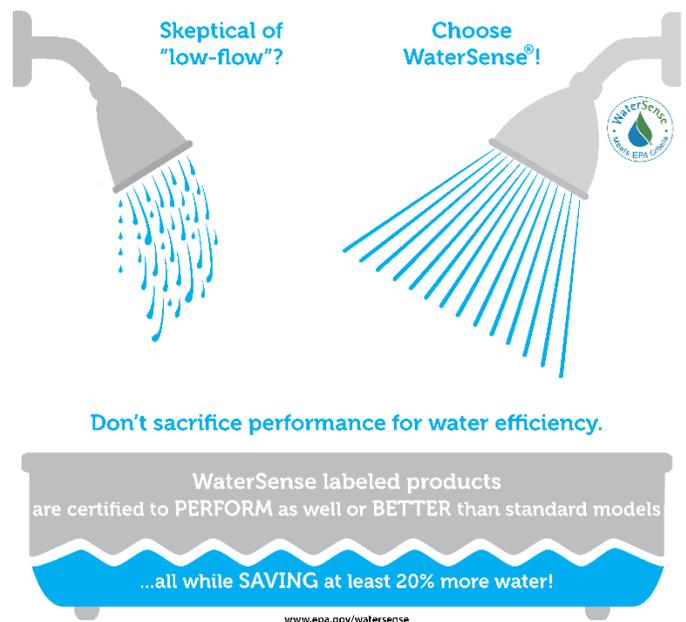
- Every shower, you'll save enough electricity to power a 60-watt light bulb for eight hours.
- Every year, you'll save the amount of water it takes to wash more than 70 loads of laundry.

That's a lot of dirty soccer jerseys!

There are more than 300 million people in the United States. If each person reduced his

or her shower time by one minute, we could save a combined 165 billion gallons each year!

Energy we use at home is measured kilowatt hours, or kWh. On average, your home's television uses 26 kWh of electricity per month. If your family uses WaterSense labeled showerheads, you save more than 370 kWh of electricity per year. With the energy you're saving, you could watch 14 months of television!



For suggestions, comments, or questions about the Cocoa Utilities Department
Call 321-433-8705 or email d downs@cocoafl.org