

PW/Utilities Connection



April 2011

Utilities Data from March 2011 City of Melbourne Public Works & Utilities Department

Melbourne's drinking water judged Central Florida's Finest

When you turn on your tap and take a cool, refreshing drink of water, you can be proud to know that the City of Melbourne won the eighth annual Central Florida's Finest! 2011 Best Tasting Drinking Water Contest, a joint effort with the Florida Water Environmental Association's Central Florida Chapter and the Florida Section of the American Water Works Association, Region III.

There were 12 entries judged. Besides Melbourne, the other entries were from the cities of DeLand, Clermont, St. Cloud, Altamonte Springs, Port Orange, Winter Garden, Winter Park, Casselberry, along with the Orlando Utilities Commission, Orange County Utilities, and Lake Utility Services, Inc. The water was judged on taste, odor, color and clarity.

The judges included two from WKMG Channel 6 News, including meteorologist Tom Sorrells and Vice President and General Manager Skip Valet; Dwight Jenkins, Consumptive Use Policy Development Coordinator with the St. Johns River Water Management District; Steven Memberg, with the Water Use Regulatory Division of the South Florida Water Management District; and Jason Parillo of ITT Corporation.

Each contest entrant submitted a one-gallon sample in either a glass or plastic bottle. The samples were kept at room temperature to allow any tastes or odors to be detected more easily. All of the entrants had to affirm that they had no state or federal drinking water violations for the current and prior calendar year.



Judge Tom Sorrells, meteorologist with WKMG Channel 6 news, observes samples of water. Next to him is judge Skip Valet, vice president and general manager with WKMG Channel 6 news. They were part of the five-member judging panel.

"This is a great recognition for the City of Melbourne and a reflection of the quality of work performed by Superintendent Fred Davis and his staff. We can all be extremely proud of this achievement," said Ralph Reigelsperger, Public Works & Utilities Director.

The coordinator for the contest was Rajah Augustinraj from CH2M Hill. He will be making a formal presentation to Melbourne's City Council of the

award at their April 26 meeting. This was the 8th annual central Florida drinking water contest and the first win for the City of Melbourne.

As a result of the win in the Central Florida region contest, Melbourne is now eligible to participate in the "Best Drinking Water, State of Florida" competition, which takes place at the Florida Water Resources Conference in Orlando on May 3.



Fred Davis, left, Melbourne's Water Production Superintendent, accepts the award from Rajah Augustinraj of CH2M Hill who coordinated the contest.

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Monthly Water Usage and Raw/Finished Water Quality Statistics

Water Usage

- ◆ Water pumped to service: 480,754,000 gallons or 15.508 MGD average
- ◆ Maximum finished water pumped to service: 18.528 MGD on March 1, 2011
- ◆ Fire hydrant flushing: 12,204,397 gallons
- ◆ Committed capacity: 2.5809 MGD
- ◆ Capacity available for development: 7.403 MGD (Based on 12-month average daily flow)

Water Quality Statistics

Lake water

- ◆ Level: 13.76 feet above MSL on March 31, 2011 (Prior month comparison: 13.82 feet on Feb/28)
- ◆ pH: 7.7
- ◆ Alkalinity: 71 mg/L

- ◆ Total hardness: 171 mg/L
- ◆ Chlorides: 135 mg/L
- ◆ Color: 121
- ◆ Total dissolved solids (TDS): 399 mg/L

Well water

- ◆ pH: 7.4
- ◆ Alkalinity: 119 mg/L
- ◆ Total hardness: 675 mg/L
- ◆ Chlorides: 811 mg/L
- ◆ Color: 6
- ◆ Total dissolved solids (TDS): 1,836 mg/L

Finished water - pumped to service

- ◆ pH: 8.4
- ◆ Alkalinity: 52 mg/L
- ◆ Total hardness: 131 mg/L
- ◆ Chlorides: 114 mg/L
- ◆ Color: 1
- ◆ Total dissolved solids (TDS): 389 mg/L

Pipe bursting pilot project on waterlines at halfway point

A pilot project in the beachside area north of Satellite Beach is saving the City money, gaining experience for the contractor on a new water pipe replacement method, and will result in improved water quality for the 85 homes there.

Some 4,500 feet of very old six-inch cast iron pipe, believed to have been installed in the 1950s, is being replaced with new high-density polyethylene (HDPE) pipe.

The lines are being replaced with pipe bursting technology that uses a winch that delivers 80,000 pounds of pull pressure. The pipe replacement is done using the winch to pull the new pipe through while shattering the old line. It uses a high-powered tool with special bursting heads that smash through the old pipe while pulling through the new replacement pipe. The only excavation includes launch and exit pits, along with small pits to tie in service reconnections to the homes.

According to YCom Construction Manager Karl Morrison, the 4,500 foot run has been divided into 13 sections, each between 300-400 feet long. The pipe runs from Melaleuca Drive and Albatross Drive, to SE



Workers with YCom work to remove an unexpected valve so the new HDPE pipe can proceed through its path, while City crews and staff, along with Karl Morrison from YCom (background, right, in bright orange shirt) observe.

1st Street, where it ends at SR A1A.

City crews have been assisting by operating valves and installing line stops where there are no valves. According to the Mike Brink, Melbourne's Utilities Superintendent, the contractor, YCom, had never done a pipe bursting project for water lines before and wanted to gain experience for future work.

"They are doing this work at a substantially reduced cost, in fact, it is actually costing them money. For us, we really needed this waterline replacement done," Brink said. "We are all learning as we go. It is not the right pipe replacement

method for every circumstance, but is a useful tool in the toolbox. For instance, pipe bursting would be ideal in a downtown area where there are a lot of businesses and concrete, along with the concern for existing utilities in the right-of-way. With pipe bursting, you just have to dig a few pits but not open cut everything."

The project, which is about 50 percent complete, is costing \$147,000.

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Wastewater Treatment Operational Summary and Reuse Statistics

D.B. Lee Water Reclamation Facility

- ◆ Treated this month: 112.56 MG
- ◆ Treated daily: 3.63 MGD
- ◆ Reuse production — total month flow: 53.17 MG
- ◆ Reuse average daily flow: 1.72 MGD
- ◆ Reuse number of days run: 31
- ◆ Plant efficiency, BOD removal: 99.37%
- ◆ Committed capacity: 0.6035 MGD
- ◆ Capacity available for development: 2.3306 MGD
(Based on 12-month average daily flow)
- ◆ Rainfall: 4.89 inches over 7 days

Grant St. Water Reclamation Facility

- ◆ Treated this month: 87.98 MG
- ◆ Treated daily: 2.84 MGD
- ◆ Reuse production — total month flow: 5.53 MG
- ◆ Reuse average daily flow: 0.18 MGD
- ◆ Reuse number of days run: 31
- ◆ Plant efficiency, BOD removal: 99.26%
- ◆ Committed capacity: 1.010 MGD
- ◆ Capacity available for development: 1.6966 MGD
(Based on 12-month average daily flow)
- ◆ Rainfall: 5.01 inches over 7 days

A total of 58.7 million gallons of reclaimed water was produced during March representing 29% of total plant flows.

Water plant sludge filter controls designed & replaced in-house

Old pumps at the water production facility were constant speed, rather than the more efficient variable speed pumps, so there was no control of the amount of sludge fed to the presses. They were also worn out and constantly in need of costly repairs. They were continuously being retrofitted to the application to save money and the project had been on the wish list for years.



City Electricians Ray Eldon and David Cooks install the electrical service and controls for the new sludge filter press pump station.

To proceed with the project with limited funding, the job was completely designed, specified and constructed by Water Production staff, with assistance by

the City's Utilities Engineer, Jennifer Spagnoli.

The work included construction of a concrete base slab, installation of new pumps, all above and below ground piping, valves, welding/fabrication support and framework, electrical control panels, electrical conduit, variable frequency drives, electrical breakers and SCADA controls.

Mike Sigman, Gerald Gary and the entire maintenance staff participated in the construction of this project. The project budget was \$120,000, which would have cost at least 50 percent more if it had been contracted out.

Streets and Stormwater Management Monthly Summary

Street Sweeper

- ◆ Daytime street sweeper — hours run: 102
- ◆ Cubic yards of material removed: 455

Canal & Ditch Maintenance

- ◆ Feet of canals cleaned mechanically: 5,784

Aquatic Spraying

- ◆ Acres treated through aquatic spraying: 21

Inlet Maintenance

- ◆ Storm inlets cleaned: 12
- ◆ Storm inlets repaired: 3
- ◆ Cubic yards of material removed from drains: 4.25
- ◆ New catch basins installed: 2

Storm Drain Pipe Repair & Maintenance

- ◆ Feet of storm drain pipe repaired: 2
- ◆ Feet of storm drain pipe cleaned: 514
- ◆ Feet of storm pipe lined (CIPP): 1,340
- ◆ Feet of new storm drain pipe installed: 216

Concrete Work

- ◆ Concrete repairs: 21
- ◆ Cubic yards of concrete used: 36

Asphalt Work

- ◆ Asphalt repairs made: 61
- ◆ Tons of asphalt used: 46.25

Water Usage

- ◆ Vac truck & yard usage (gallons): 23,480

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Grant Street WRF holding open house for new facilities

In recognition of Earth Day, the City will be holding an open house on April 22 from 2-4 p.m. at the Grant Street Water Reclamation Facility. Tours and discussion of the treatment processes will be provided. Participants will see the approximately \$5.2 million of improvements that replaced a 0.5 MGD per day reclaimed water production

capacity to 2 MGD using newer technology. The project cost includes a \$1 million grant from the St. Johns River Water Management District.

Grant Street WRF is located at 2300 S. Grant Street. This is an opportunity to learn one of the components of the City's efforts to protect the environment.



Pictured is the new 2 million gallon storage tank.

What's Done, What's Underway and What's Coming Up

Water Projects

Under Construction:

- Interior and exterior painting of RO water treatment plant, \$249,880
- Roof upgrade for the surface water treatment plant administration and pump building, \$54,710
- North booster pump station valve replacement, \$211,000
- Houston Street & Young Street water main replacement, \$349,993
- 16" valve replacement and chemical station bypass, \$184,403
- RO wellfield rehabilitation

Under Design or in Bid Process:

- Apollo Boulevard extension utility relocation
- Wickham Road 8" water main
- Pressure-sustaining valves
- RO byproduct (concentrate) pipeline extension

- Wickham Road reconstruction, 8" waterline

Wastewater Projects

Under Construction:

- Grant Street Water Reclamation Facility reuse improvements, phase I, \$5,216,025
- WRF generator and fuel storage improvements, \$2,643,881
- Lift station 55 to 23 replacement of sewer force main, \$1,607,188

Under Design or in Bid Process:

- D.B. Lee Water Reclamation Facility facility expansion and miscellaneous improvements
- Lift Station 25 rehabilitation
- Old Palm Bay force main conversion to reclaimed main.

Streets & Stormwater Projects

Under Construction:

- Spain outfall drainage basin improvements, \$129,539
- Fee Avenue/Apollo Boulevard stormwater pond & culvert replacement, \$483,495
- Babcock Street realignment, Phase 2, Laurie Street to US 1, \$448,731
- Babcock Street/Brevard Drive intersection improvements, \$235,254
- Resurfacing for additional milling and resurfacing on Pineapple Avenue and Lipscomb Streets, \$165,605

Under Design or in Bid Process:

- South Sarno Road drainage improvements
- Babcock Street medians, Phase 3, Apollo Boulevard to Almar Drive
- D.B. Lee Water Reclamation

For more information about this report, please contact the Melbourne PW/Utilities Administration Department at (321) 674-5761 or send an e-mail to jwilster@melbourneflorida.org