



PW/Utilities

Connection



June 2006

Utilities Data from May 2006

City of Melbourne Public Works & Utilities Department

Program helps water quality issues from growth/aging pipes

Mike Tavormina is constantly on the move, keeping up with more than 1,000 miles of pipe and 5,000 fire hydrants in Melbourne's water distribution system.

Devoted entirely to the water flushing program for the past seven months, Tavormina starts his morning with a list of all the hydrants to visit on that day. He typically works on between 15 and 25. He opens them in the morning, and then three to four hours later, shuts them down.

This work is all part of a new water flushing plan the City has instituted. Tavormina holds a position newly created in this year's budget — a utility system service worker devoted solely to addressing system water quality issues through field work.

According to Tavormina, sometimes the problem could be a valve that had been shut off that didn't allow the water to circulate as a result.

"We can attribute one out of 10 calls to physical conditions such as valving," Tavormina said.

Rapid growth and aging infrastructure are also causing some of the issues.

According to Utilities Operations Superintendent Tom Hogeland, Tavormina has gotten to know the distribution system well.

"Each subdivision has its unique characteristics," Hogeland said. "Flushing is not cut and dried. There is a lot of trial and error to it. You really have to have a feel for the system. If you open a hydrant up too much you could stir up the system and make it worse. It's more of an art than a science. Mike is doing a good job."

Tavormina explained that at cul-de-sacs he will open the hydrant to a full flush, but at a typical street, he must open it only partially.

To further address the issues in the system, the City entered into a contract recently with Frazier Engineer-



Mike Tavormina opens a fire hydrant as part of his scheduled daily program.

ing and Reiss Environmental for professional services to develop a unidirectional flushing (UDF) program.

"We have in place our flushing program and pipe replacement program," said Harold Nantz, Assistant Director of Public Works & Utilities. "This new UDF program will enhance the effectiveness of the existing programs."

UDF involves using clean water at high velocities to flush the system from the source outward in one direction. This allows the target pipes to be scoured of deposits and debris.

"UDF is a highly systematic flushing technique that has been widely proven to increase flushing effectiveness and efficiency," Nantz said.

New recycling begins

Recycling has been made much easier and productive in Melbourne and surrounding cities and towns as of June 1. A number of new items can now be recycled in residents' curbside bins. The new rules also include multifamily dwellings where recycling is placed in 96-gallon totes. In addition to the new commodities, sorting is no longer necessary, either curbside or in the totes. The same bins and containers will continue to be used.

The items that can now be recycled include:

- ◆ Paper products: magazines, phone books, paper bags, envelopes, junk mail, catalogs, newspaper and inserts, circulars, milk and juice cartons
- ◆ Plastic bottles: items with necks, numbers 1 - 7
- ◆ Glass: brown, green and clear
- ◆ Aluminum, steel and tin cans

PW/Utilities Connection - June 2006

www.melbourneflorida.org

Public Works/Utilities Data from May 2006

Monthly Water Usage and Raw/Finished Water Quality Statistics

Water Usage

- ◆ Water pumped to service: 524,859,000 gallons or 16.931 MGD average
- ◆ Maximum finished water pumped to service: 19.006 MGD on May 7, 2006
- ◆ Fire hydrant flushing: 22,416,925 gallons
- ◆ Committed capacity: 3.3471 MGD
- ◆ Capacity available for development: 7.3958 MGD (Based on 12-month average daily flow)

Water Quality Statistics

Lake water

- ◆ Level: 12.97 feet above MSL on May 31, 2006 (Prior month comparison: 12.10 feet on April 30)
- ◆ pH: 7.9
- ◆ Alkalinity: 79 mg/L

- ◆ Total hardness: 143 mg/L
- ◆ Chlorides: 91 mg/L
- ◆ Color: 119
- ◆ Total dissolved solids (TDS): 312 mg/L

Well water

- ◆ pH: 7.8
- ◆ Alkalinity: 123 mg/L
- ◆ Total hardness: 644 mg/L
- ◆ Chlorides: 779 mg/L
- ◆ Color: 6
- ◆ TDS: 1,666 mg/L

Finished water - pumped to service

- ◆ pH: 8.5
- ◆ Alkalinity: 41 mg/L
- ◆ Total hardness: 104 mg/L
- ◆ Chlorides: 76 mg/L
- ◆ Color: 4
- ◆ Total dissolved solids (TDS): 290 mg/L

Bell Street aerial wastewater line to be shored up soon



Wastewater pipe over Bell Street ditch.

A 50-year-old gravity sewer line that crosses a drainage ditch next to Bell Street will soon be replaced. The old line is sagging slightly in the center which is prohibiting flow. In addition, the old wooden sup-

ports are deteriorating from age and constant exposure to the elements.

"The supports have deteriorated, which is allowing the pipe to sag and causing backups of the wastewater," said Utilities Operations Superintendent Tom Hogeland.

The existing supports will be replaced with concrete. The old 14-inch long cast iron pipe will be replaced with 16-inch epoxy-lined ductile iron pipe for the aerial portion, which is 40 feet. Another 104-feet of pipe that is underground between each manhole will be replaced with PVC pipe.

Fabri-Form will be installed to stabilize the banks of the ditch.

Joebear/Warden is the contractor for this \$140,000 project. Work is expected to be completed in September.

Facilities Division installs new street lights on Lincoln



Jim Nickelson and Kurt George guide street light into place.

The Facilities Division recently installed five new streets lights on Lincoln Avenue between U.S. 1 and Waverly Place. The lights cost \$2,000 each, including labor.

"This area was selected because of security concerns by area residents and businesses," explained division superintendent Marv Sharp.

PW/Utilities Connection - June 2006

www.melbourneflorida.org

Public Works/Utilities Data from May 2006

Wastewater Treatment Operational Summary and Reuse Statistics

D.B. Lee WWTP

- ◆ Treated this month: 134.27 MG
- ◆ Treated daily: 4.33 MGD
- ◆ Reuse production — total month flow: 81.95 MG
- ◆ Reuse average daily flow: 2.64 MGD
- ◆ Reuse number of days run: 31
- ◆ Plant efficiency, BOD removal: 99.5%
- ◆ Committed capacity: 1.0245 MGD
- ◆ Capacity available for development: 0.3697 MGD
(Based on 12-month average daily flow)
- ◆ Rainfall: 2.15 inches over 3 days

Grant St. WWTP

- ◆ Treated this month: 81.68 MG
- ◆ Treated daily: 2.63 MGD
- ◆ Reuse production — total month flow: 11.95 MG
- ◆ Reuse average daily flow: 0.39 MGD
- ◆ Reuse number of days run: 31
- ◆ Plant efficiency, BOD removal: 98.76%
- ◆ Committed capacity: 1.5400 MGD
- ◆ Capacity available for development: 0.4597 MGD
(Based on 12-month average daily flow)
- ◆ Rainfall: 1.01 inches over 4 days

A total of 93.9 million gallons of reclaimed water was produced during May, representing 43.5 % of total plant flows.

New irrigation rules in effect

As of March 1, lawns can be watered no more than two days per week. As before, the irrigation can only take place before 10 a.m. and after 4 p.m.

According to the St. Johns River Water Management District (SJRWMD), which adopted the new rule, lawn and landscape irrigation can account for more than half of residential and commercial water use. However, lawns and landscapes require much less than typically is applied.

Over-watering is harmful to the environment and is also harmful to lawns and landscapes. It promotes weed growth, disease, and fungus. It also results in shallow root systems.

The rule applies to water from private wells, surface water bodies, and City-supplied water. Water users can choose their own irrigation days.

There are exceptions to the rule, which include: micro-irrigation systems; irrigation of new landscapes; watering in of chemicals; maintenance and repair of irrigation systems, not to exceed 10 minutes per hour per zone; irrigation using a hand-held hose equipped with an automatic shut-off nozzle; discharge from water-dependent air conditioners; and reclaimed water.

Water quality report on its way



A water quality report will be included in all the utility bills sent to Melbourne water customers throughout June. The report covers water testing during 2005 and explains the City's water in relation to state and federal standards. Melbourne's water meets or exceeds all of these standards.

If you would like additional copies of the report please send an e-mail request to jjwilster@melbourneflorida.org or you can view it online at www.melbourneflorida.org/watercon/publications.htm

Streets and Stormwater Management Monthly Summary

- ◆ Daytime street sweeper — hours run: 319.4
Cubic yards of material removed: 307.5
- ◆ Nighttime street sweeper — hours run: 113
Cubic yards of material removed: 270.5
- ◆ Asphalt repairs made: 40
- ◆ Tons of asphalt used: 50.75
- ◆ Feet of canals cleaned mechanically: 3,649
- ◆ Acres treated through aquatic spraying: 21
- ◆ Feet of storm drain pipe repaired: 3
- ◆ Concrete repairs: 27
- ◆ Cubic yards of concrete used: 54.75

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www.melbourneflorida.org

Utilities Data from May 2006

New earth-tone colors adorn fire station on Hibiscus Boulevard

Out with the blue and in with the new as Painter Dave Lindsay, of the Facilities Maintenance Division, applies fresh paint to Fire Station 74, located on the corner of Oak Street and Hibiscus Blvd.

The building took two weeks to paint using two-coats of three different colors. The new earth-tone color scheme will allow the building to blend in better with the other buildings in the area.

To paint the building,



Dave Lindsay applies the first coat of the light color, "cotton seed," over the light blue.

Lindsay used 20 gallons of "cotton seed," which is the new light color on top, 10 gallons of "alencón lace," the medium color in the middle, and 20 gallons of "muddy river," the dark color on the bottom.

"The original paint was fading," said Fire Chief Paul Forsberg. "We decided to go with colors that fit in better with the neighborhood. We've gotten a lot of positive comments."

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

Water Projects

Under Construction:

- ◆ Phase II surface water treatment plant improvements, \$11,322,000

- ◆ Miscellaneous two-inch to six-inch waterline upgrades, \$874,857

Under Design or in Bid

Process:

- ◆ Wickham Road ground storage tank and booster pump station
- ◆ Automatic transfer switch and generator enclosure at the surface water treatment plant's belt press building
- ◆ Pineda Causeway 16" water main
- ◆ Wickham Road 8" water main
- ◆ Babcock Street water line relocation between Fee Avenue and Melbourne Avenue
- ◆ 36" water main clearing, Phase II
- ◆ Waterlines in annexation areas — Deerwood and El Dorado
- ◆ Rehabilitation to RO wells #1, 2 & 3
- ◆ Backup well #4
- ◆ Unidirectional flushing program & Individual Distribution System Evaluation (IDSE) plan

- ◆ Water model update
- ◆ St. Andrews water line replacement
- ◆ Harlock Rd water main extension

Wastewater Projects

Under Construction:

- ◆ Various CIPP sewer line rehabilitation projects, Wastewater Collection: \$867,143, Wastewater Treatment: \$423,000

- ◆ Lift Station #43 (Front Street) upgrade, \$567,000

- ◆ Bell Street sewer aerial crossing, \$140,000

Under Design or in Bid

Process:

- ◆ Reuse master plan
- ◆ Water & Wastewater Operations maintenance building
- ◆ Lift Station #55 upgrade
- ◆ Electrical upgrade to the sludge belt press building at D.B. Lee and Grant Street WWTPs
- ◆ D.B. Lee WWTP administration building
- ◆ Lift Station #29 (Aurora & Mary-

wood) and Lift Station #46 (BCC) renovations

- ◆ St. Andrews lift station and subaqueous force main

- ◆ Grant Place lift station and force main

- ◆ Reuse interconnect

- ◆ Crane Field reclaimed water main

Streets & Stormwater Projects

Under Construction:

- ◆ Eber Road widening from Babcock Street to Dairy Road, \$3,840,879

- ◆ Various CIPP pipe rehabilitation projects, \$855,000

Under Design or in Bid

Process:

- ◆ Babcock and Hibiscus intersection improvements
- ◆ Gramling Park Road drainage improvements
- ◆ Melbourne Avenue drainage at Pennwood Avenue

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