

# PW/Utilities Connection



## September 2011

Utilities Data from Aug. 2011

City of Melbourne Public Works & Utilities Department

### New study to provide better picture of lagoon water quality

The City of Melbourne is banding together with other Brevard municipalities and the county for a revised study of the Total Maximum Daily Loads (TMDLs) for the Indian River Lagoon (IRL).

Data from the St. Johns River Water Management District indicates that total nitrogen and phosphorus pollution have decreased significantly in the IRL over the past decade and sea grass beds have expanded dramatically — in some areas to similar levels seen in 1943.

However, in 2007, the U.S. Environmental Protection Agency (EPA) accepted TMDLs for the IRL as proposed by the Florida Department of Environmental Protection (FDEP). This was despite local government concerns regarding the age and accuracy of the data and modeling assumptions used in the TMDL development. In 2010, the cost to meet the IRL TMDLs was estimated at \$1.3 billion, with the City's portion being approximately \$26 million.

“We stand to gain a lot with this study,” said City Engineer Jenni Lamb. “The measures we already have in place are working. These recent changes in the lagoon demonstrate a need to consider more recent scientific data and watershed modeling parameters and revise the TMDL for the Indian River Lagoon accordingly.”

Lamb agrees that setting the right water quality

standards to ensure a clean and healthy lagoon is important to the ecological, economic, aesthetic, and recreational welfare for local visitors and residents.

The first step in identifying cost-effective measures is knowing how much pollution must be eliminated. To achieve this, the City will be working in partnership with Brevard County and its municipalities to assemble a team of experts to perform a TMDL revision study and prepare draft revisions to present to FDEP and EPA.



*Two kayakers enjoy their day in the Indian River Lagoon. Photo courtesy of Mr. Whiticar and the Indian River Lagoon National Estuary Program.*

The interlocal agreement provides for cost sharing among the participants in the revision study. The total cost is \$298,402 and each jurisdiction's share is based on population. Melbourne's share is \$57,472, which will be funded from the Stormwater Utility operating budget.

“We anticipate that this study will lead to major reductions in the costs to implement the unfunded mandate

to reduce nutrient loads for the Indian River Lagoon,” Lamb said.

Along with Melbourne and Brevard County, the other parties in the agreement include the cities of Titusville, Cocoa, Rockledge, Cape Canaveral, Cocoa Beach, Satellite Beach, Indian Harbour Beach, West Melbourne and Palm Bay; along with the towns of Grant-Valkaria, Malabar, Indialantic, Melbourne Beach, Melbourne Village and Palm Shores.

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[www.melbourneflorida.org](http://www.melbourneflorida.org)

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## Monthly Water Usage and Raw/Finished Water Quality Statistics

### Water Usage

- ◆ Water pumped to service: 479,444,000 gallons or 15.466 MGD average
- ◆ Maximum finished water pumped to service: 16.703 MGD on August 6, 2011
- ◆ Fire hydrant flushing: 12,269,130 gallons
- ◆ Committed capacity: 2.5792 MGD
- ◆ Capacity available for development: 6.7637 MGD (Based on 12-month average daily flow)

### Water Quality Statistics

#### Lake water

- ◆ Level: 14.82 feet above MSL on August 31, 2011 (Prior month comparison: 14.23 feet on July 31)
- ◆ pH: 7.4
- ◆ Alkalinity: 52 mg/L

- ◆ Total hardness: 132 mg/L
- ◆ Chlorides: 113 mg/L
- ◆ Color: 243
- ◆ Total dissolved solids (TDS): 346 mg/L

#### Well water

- ◆ pH: 7.5
- ◆ Alkalinity: 126 mg/L
- ◆ Total hardness: 721 mg/L
- ◆ Chlorides: 894 mg/L
- ◆ Color: 5
- ◆ Total dissolved solids (TDS): 2,000 mg/L

#### Finished water - pumped to service

- ◆ pH: 8.4
- ◆ Alkalinity: 54 mg/L
- ◆ Total hardness: 115 mg/L
- ◆ Chlorides: 106 mg/L
- ◆ Color: 1
- ◆ Total dissolved solids (TDS): 380 mg/L

## Valves installed to protect City's water distribution system

Pressure sustaining valves are being installed at four locations in West Melbourne to protect

Melbourne's water distribution system from potential adverse impacts that could occur from a massive pressure drop downstream, within the City of West Melbourne's water distribution system.

The City of Melbourne provides the City of West Melbourne with its potable water supply via several master meter locations along Brevard County, Florida Department of Transportation, and City of Melbourne rights-of-way.

"In the event there is a massive pressure drop on

the West Melbourne side, the pressure sustaining valves will ensure that a minimum working system

pressure is maintained upstream, within the City of Melbourne's water distribution system," explained Engineering Supervisor Tom Baker.

The contractor for the pressure sustaining valves is Maxwell Contracting, Inc. of Cocoa, Florida, at a cost of \$213,000. The valves are being installed at the following locations:

- ◆ Westwood Boulevard Master Meter
- ◆ Cinema World Master Meter
- ◆ Sheridan Road/John Rodes Boulevard Master Meter
- ◆ Hollywood Boulevard - North Master Meter



Workers from Maxwell Construction install valve vault for the pressure sustaining valve at the Cinema World location. The vault allows for maintenance access when needed.

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## Wastewater Treatment Operational Summary and Reuse Statistics

### D.B. Lee Water Reclamation Facility

- ◆ Treated this month: 116.87 MG
- ◆ Treated daily: 3.77 MGD
- ◆ Reuse production — total month flow: 43.93 MG
- ◆ Reuse average daily flow: 1.42 MGD
- ◆ Reuse number of days run: 31
- ◆ Plant efficiency, BOD removal: 99.55%
- ◆ Committed capacity: 0.6035 MGD
- ◆ Capacity available for development: 2.4298 MGD  
(Based on 12-month average daily flow)
- ◆ Rainfall: 7.26 inches over 14 days

### Grant St. Water Reclamation Facility

- ◆ Treated this month: 97.77 MG
- ◆ Treated daily: 3.15 MGD
- ◆ Reuse production — total month flow: 27.30 MG
- ◆ Reuse average daily flow: 0.88 MGD
- ◆ Reuse number of days run: 30
- ◆ Plant efficiency, BOD removal: 98.76%
- ◆ Committed capacity: 1.0101 MGD
- ◆ Capacity available for development: 1.6591 MGD  
(Based on 12-month average daily flow)
- ◆ Rainfall: 6.24 inches over 13 days

A total of 71.23 million gallons of reclaimed water was produced during August, representing 33% of total plant flows.

## Your Florida-Friendly Yard: A Gardener's Workshop upcoming

Two free workshops will soon be held in Melbourne where participants will learn the benefits of re-creating their yards the Florida-friendly way. This will save time, money and labor, all while helping protect the environment.

Co-sponsored by the City of Melbourne, the featured speaker will be Sally Scalera, horticulture agent with the University of Florida Brevard County Extension Office and *Florida Today* gardening columnist.



A house in Melbourne demonstrates Florida-friendly landscaping principles, using native plants.

Upcoming workshops include the following:

- ◆ September 29 from 2:30 - 4 p.m. at the Melbourne Library meeting room
- ◆ October 4 from 2:30 - 4 p.m. at the Eau Gallie Library meeting room.

Pre-registration is requested by calling Jennifer Wilster, the City's ECO Manager, at 321-953-6302 or sending an e-mail to [jwilster@melbourneflorida.org](mailto:jwilster@melbourneflorida.org). Gardening giveaways will be provided.

## Streets and Stormwater Management Monthly Summary

### Street Sweeper

- ◆ Daytime street sweeper — hours run: 70
- ◆ Cubic yards of material removed: 308

### Canal & Ditch Maintenance

- ◆ Feet of canals cleaned mechanically: 6,482
- ◆ Square feet of fabric form installed: 0

### Aquatic Spraying

- ◆ Acres treated through aquatic spraying: 21

### Inlet Maintenance

- ◆ Storm inlets cleaned: 0
- ◆ Storm inlets repaired: 3
- ◆ Cubic yards of material removed from drains: 0
- ◆ New catch basins installed: 1

### Storm Drain Pipe Repair & Maintenance

- ◆ Feet of storm drain pipe repaired: 3
- ◆ Feet of storm drain pipe cleaned: 0
- ◆ Feet of storm drain pipe replaced: 28
- ◆ Feet of storm pipe lined (CIPP): 689
- ◆ Feet of new storm drain pipe installed: 40

### Concrete Work

- ◆ Concrete repairs: 12
- ◆ Cubic yards of concrete used: 21.5

### Asphalt Work

- ◆ Asphalt repairs made: 62
- ◆ Tons of asphalt used: 50.25

### Water Usage

- ◆ Vac truck & yard usage (gallons): 16,280

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

### Water Projects

#### Under Construction:

- Reverse osmosis wellfield rehabilitation, \$331,270
- Pressure-sustaining valves at four master meter locations — Hollywood Boulevard (complete), Westwood Boulevard (complete), Cinema World (under construction) and Sheridan Road (under construction), \$213,000
- Reverse osmosis byproduct (concentrate) pipeline extension, currently being installed on Mosswood Boulevard. Jack and bore and directional drilling to begin mid-September, \$1,104,134

#### Under Design or in Bid Process:

- Apollo Boulevard extension utility relocation (anticipated bid date: 8/28/2013)
- Wickham Road reconstruction, 8" waterline (anticipated bid date: 9/28/2011)

### Wastewater Projects

#### Recently Completed:

- Grant Street Water Reclamation Facility reuse improvements, phase I, \$5,216,025

#### Under Construction:

- Water Reclamation Facilities generator and fuel

storage improvements, \$2,643,881

- Lift Station 55 to 23 replacement of sewer force main, \$1,607,188
- Rehabilitation of Lift Station 63
- 10" force main conversion to reclaimed main, \$150,000
- D.B. Lee Water Reclamation Facility reuse expansion, \$610,005

#### Under Design or in Bid Process:

- Lift Station 25 rehabilitation
- D.B. Lee Water Reclamation Facility expansion & improvements

### Streets & Stormwater Projects

#### Under Construction:

- Strawbridge Avenue drainage improvements, \$78,512
- Stormwater pipe replacement on Knight Avenue

#### Under Design or in Bid Process:

- South Sarno Road drainage improvements. Survey work being performed for pond location. Design work to begin following survey work.
- Babcock Street medians, Phase 3, Apollo Boulevard to Almar Drive (design completed, anticipated bid date: Fall 2011 pending grant funding, Babcock Street from Brevard Drive to Alma Drive only)
- D.B. Lee Water Reclamation Facility ditch restabilization. Design completed, permitting underway
- Shenandoah outfall drainage basin improvements. Design completed. Drainage analysis underway.
- Spain outfall drainage basin improvements phase II. Project design completed. Drainage easement acquisition is underway.

### Environmental education programs offered

The City's ECO Division participated in the recent Brevard Secondary Teachers Conference. Jennifer Thompson is pictured explaining the programs offered to one of the teachers. The City offers these programs for all grades, for homeowners associations, and for other groups. For more information, please call the ECO Division at 321-953-6302.



*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](mailto:jwilster@melbourneflorida.org)*