



# PW/Utilities

# Connection



## April 2005

Utilities Data from March 2005 City of Melbourne Public Works & Utilities Department

### Department provides critically-important services for City

The Public Works & Utilities Department is one of the City's largest operations. The services provided affect the lives of every Melbourne citizen, as well as impacting the lives of the thousands of water customers who do not live in the City.

"To provide these critically-important services, we have 225 full-time employees in the Public Works & Utilities Department," said Director Bob Klapproth.

"Each year our department has an extensive capital improvement budget and capital outlay budget to ensure our infrastructure is taken care of and our equipment is capable of handling the work that is required," Klapproth added.

He explained that during this 2004/2005 fiscal year, the department's combined capital improvement program (CIP) budget is \$17.8 million. CIP projects are planned infrastructure improvements. The combined capital outlay budget for the department is \$1.7 million. This budget is for the purchase of major equipment to perform the work.

Following are the major functions of the department:

- ◆ Water Production, consisting of surface water and reverse osmosis treatment plants, which produces an average of 15 million gallons of water per day.
- ◆ Wastewater Treatment, which has two treatment plants that treat about seven million gallons per day of wastewater and produces approximately two million gallons per day of reuse water.
- ◆ Water Distribution, which handles distributing the water produced to all of our customers. The City has more than 51,000 water accounts and provides water to not only Melbourne, but to Satellite Beach, Indian Harbour Beach, Indialantic, Melbourne Beach,

Melbourne Village, Palm Shores and unincorporated areas. Water is also provided on a wholesale basis to West Melbourne

◆ Wastewater Collection, which maintains the pipes and lift stations that deliver wastewater to the two plants for treatment, and maintains the infrastructure that delivers the reclaimed water to the customers.

◆ Customer Service, which is responsible for reading all the water meters, changing meters and doing water turns ons and turn offs.

◆ Streets and Stormwater Management, which maintains approximately 320 miles of paved and unpaved roads in the City, and ensures that the drainage system, including 28 miles of canals, is maintained.

◆ Fleet Management, which is responsible for maintaining approximately 1,000 vehicles

and pieces of major equipment for the City. These range from fire engines, police cars, sedans, SUVs and pickup trucks, to heavy equipment used to clean out sewer and stormwater pipes, dump trucks, concrete trucks, street sweepers and backhoes.

◆ Facilities Maintenance, which takes care of all the City's municipal facilities. These include 154 large and small structures occupying 180,000 square feet of floor space. The division also maintains 5,500 street lights in the City.

◆ Environmental Community Outreach, which is responsible for managing the solid waste and recycling franchise, and is also responsible for public education on water conservation, water pollution protection, benefits of recycling, and other environmental issues.

The Public Works complex is located on Harper Road, with water and wastewater facilities at other locations throughout the City. The budget for all of the department's combined operations is more than \$42 million.



*Public Works & Utilities Director Bob Klapproth oversees major City department.*

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Public Works/Utilities Data from March 2005

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

### Water Usage

- ◆ Water pumped to service: 471,001,000 gallons or 15.194 MGD average
- ◆ Maximum finished water pumped to service: 16.171 MG on March 5, 2005
- ◆ Water billed: 393,762,400 gallons
- ◆ Fire hydrant flushing: 16,487,670 gallons
- ◆ Fire Department water usage: 43,050 gallons
- ◆ Brevard County water usage – sewer flushing: 4,800 gallons
- ◆ Flushing and testing new water mains: 1,071 gallons
- ◆ Committed capacity: 2.3422 MGD
- ◆ Capacity available for development: 8.6959 MGD (Based on 12-month average daily flow)

### Water Quality Statistics

#### Lake water quality

- ◆ pH: 7.6
- ◆ Alkalinity: 51 mg/L
- ◆ Total hardness: 103 mg/L
- ◆ Chlorides: 74 mg/L
- ◆ Color: 162
- ◆ Total dissolved solids (TDS): 220 mg/L

#### Well water quality

- ◆ pH: 7.5
- ◆ Alkalinity: 121 mg/L
- ◆ Total hardness: 622 mg/L
- ◆ Chlorides: 743 mg/L
- ◆ Color: 5
- ◆ TDS: 1,552 mg/L

#### Finished water quality - pumped to service

- ◆ pH: 8.2
- ◆ Alkalinity: 31 mg/L
- ◆ Total hardness: 87 mg/L
- ◆ Chlorides: 75 mg/L
- ◆ Color: 3
- ◆ Total dissolved solids (TDS): 218 mg/L

## Seminar put focus on landscaping for after the hurricanes

Excellent, very interesting topics, fun sessions, worthwhile, excellent presenters, great format, educational, enjoyed the water conservation tips, great information ... these are some of the many favorable comments taken from the surveys collected at the end of the 5th Annual Florida Friendly Landscape Seminar.

Some 400 people attended the March 26 half-day event held at Imperial's Hotel and Conference Center in Viera.

The first speaker, Sally Scalera, a Brevard County Horticulture Extension Agent and *Florida Today* columnist, discussed some of the common problems people are facing with replanting and repairing landscapes after last summer's hurricane damage.

Teresa Watkins was next on the agenda. Watkins works for the University of Florida Institute of Food and Agricultural Sciences serving Orange, Seminole and



*Dr. Ed Gilman discusses tree issues with the audience at the recent Florida Friendly Landscape Seminar.*

Lake Counties. Her theme was proper turf management with a focus on maximizing turf irrigation efficiency for replanted yards.

The last speaker was Dr. Ed Gilman, a University of Florida Horticulture Department professor. He discussed tree selection, planting and pruning as it relates to storm damaged trees, and repair and replacement of trees damaged from the hurricanes. He explained why many trees failed during

last year's hurricanes while others came through unscathed. He gave advice on what could be done now to increase homeowners' chances of their trees surviving the next hurricane.

Attendees left with rain gauges and hose nozzles, along with extensive literature about Florida-friendly landscaping material, web sites, and other information.

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## Wastewater Treatment Operational Summary and Reuse Statistics

### D.B. Lee WWTP

- ◆ Treated this month: 136.88 MG
- ◆ Treated daily: 4.42 MGD
- ◆ Reuse production — total month flow: 43.38 MG
- ◆ Reuse average daily flow: 1.50 MGD
- ◆ Reuse number of days run: 29
- ◆ Plant efficiency, BOD removal: 98.9%
- ◆ Committed capacity: 0.8698 MGD
- ◆ Capacity available for development: 0.5602 MGD  
(Based on 12-month average daily flow)

### Grant St. WWTP

- ◆ Treated this month: 108.28 MG
- ◆ Treated daily: 3.49 MGD
- ◆ Reuse production — total month flow: 5.8 MGD
- ◆ Reuse average daily flow: 0.19 MGD
- ◆ Reuse number of days run: 31
- ◆ Plant efficiency, BOD removal: 98.31%
- ◆ Committed capacity: 0.8101 MGD
- ◆ Capacity available for development: 1.5099 MGD  
(Based on 12-month average daily flow)

## Crane Creek dredging to clean area for flood prevention

A project is underway that will be a benefit to many residents in South Melbourne. A section of Crane Creek that is east of Babcock Street and north of Line Street — close to an acre in area — is being dredged.

“The area has become clogged with sediment buildup and plant growth,” said Utilities Engineer Michelle Shoultz. “As a result of the buildup, upstream flooding occurs.”

Shoultz said they estimate that 2,000 cubic yards of material will be removed. This dredged material will then be transported to the Brevard County landfill. She noted that last September’s hurricanes stirred things up so that where the creek takes sharp turns the material accumulated and blocked the natural flow path of the creek.



*City track hoe operator Donnie Farnham dredges material from Crane Creek. Manatee observers Matt Bollinger and Silas Scott are stationed nearby.*

The City obtained permits for the project from the Army Corps of Engineers, the Florida Fish and Wildlife Conservation Commission, and the St. Johns River Water Management District.

Throughout the project, two manatee spotters have been on duty whenever work is being performed. If they see a manatee within 50 feet of the construction activity, the work must stop until the manatee has moved away.

Another environmental protection measure is the erosion sediment control devices. Floating and staked turbidity barriers have been put into place for the duration of the project.

The City is working with Brevard County on the project. The City is providing the labor and dredging, while the County provides the hauling and disposal of the material.

## Streets and Stormwater Management Monthly Summary

- ◆ Daytime street sweeper — hours run: 159  
Cubic yards of material removed: 209.5
- ◆ Nighttime street sweeper — hours run: 91  
Cubic yards of material removed: 122
- ◆ Asphalt repairs made: 56
- ◆ Tons of asphalt used: 46.5
- ◆ Feet of canals cleaned mechanically: 5,789
- ◆ Acres treated through aquatic spraying: 0
- ◆ Feet of storm drain pipe repaired: 200
- ◆ Concrete repairs: 29
- ◆ Cubic yards of concrete used: 80.25

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## March Highlights

The level of Lake Washington increased during the last month. At the end of March, the lake level was 15.14 feet above sea level. This compares to the lake level at the end of February, when it was 14.59 feet above sea level. Water quality remains good.

The D.B. Lee Wastewater Treatment Plant recorded 4.85 inches of rain during 11 days in March. The Grant Street Wastewater Treatment Plant received 7.03 inches of rain over 13 days during March. A total of 46.13 million gallons of reclaimed water was distributed during March. This represents 19% percent of total plant flows for March.

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

### Water Projects

#### Recently Completed:

- ◆ Wickham water tank demolition, \$91,650

#### Under Construction:

- ◆ Parkway Drive and Turtle Mound water line extension, \$657,000
- ◆ Hibiscus booster station electric shut-off valves, \$75,777
- ◆ Waterline upgrade, Olde Eau Gallie, \$347,409
- ◆ Replacement of RO membranes, \$469,000
- ◆ Water Treatment Plant storage building, \$98,000
- ◆ Fee Avenue waterline replacement under FEC, \$120,330

#### Under Design or in Bid

##### Process:

- ◆ Northern Oak water line extension
- ◆ Phase II surface water treatment plant improvements
- ◆ Utility relocation in association with NASA Boulevard realignment at Wickham Road
- ◆ Chemical feed upgrades at Canova Beach Booster Station
- ◆ Wickham Road ground storage tank and booster pump station
- ◆ Eau Gallie River sub-aqueous crossing
- ◆ Miscellaneous two-inch to six-inch waterline upgrades

- ◆ Dairy Road, US 192 and Hibiscus Boulevard water line interconnection

- ◆ Hazelwood waterline extension
- ◆ Turtle mound north waterline extension
- ◆ Automatic transfer switch and generator enclosure at the surface water treatment plant's belt press building

### Wastewater Projects

#### Under Construction:

- ◆ Lift Station 24 replacement, \$451,440
- ◆ Demolition of old treatment units at D.B. Lee WWTF, \$624,700
- ◆ New monitoring network for reuse system at DB Lee WWTP

#### Under Design or in Bid

##### Process:

- ◆ Reuse master plan
- ◆ Water & Wastewater Operations maintenance building
- ◆ Lift station 55 upgrade
- ◆ Grant Street Wastewater Treatment Plant lighting upgrade
- ◆ Sarno Road force main 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 #43 (Front Street) upgrade

### Streets & Stormwater Projects

#### Under Construction:

- ◆ Sherwood Park drainage improvements, \$358,285
- ◆ Babcock Street realignment, \$1,394,649
- ◆ Eber Road widening from Babcock Street to Dairy Road, \$3,840,879
- ◆ Pineapple Avenue pedestrian bridge at Cliff Creek, \$115,429

#### Under Design or in Bid

##### Process:

- ◆ Hoag Avenue paving and drainage improvements
- ◆ Upgrade of stormwater system at Charles Dr./Almar Subdivision
- ◆ Upgrade of existing culvert crossing under Pirate Lane
- ◆ Laurie Road drainage improvements
- ◆ Paradise Cay CIPP

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