



# PW/Utilities Connection



## May 2006

Utilities Data from April 2006 City of Melbourne Public Works & Utilities Department

### Lake water level on the rise after repairs to the breach

Through March and April, the level of water in Lake Washington had been dropping at an alarming rate. One of the triggers for the City to declare a water shortage emergency is for the lake level to drop to 11 feet above mean sea level. By April 20th, when it reached its lowest point, it was getting close, measuring 11.57 feet.

The water was steadily being released from the lake due to damage to the embankment on the eastern side of the dam. This allowed water to escape by going around the dam.

"This bypass channel was created by air boaters who had been making a new path around the structure that had been put in place to get them over the dam," said Fred Davis, Water Production Superintendent. "This allowed the water that would otherwise have stayed in the lake to be released."

The dam structure is controlled by the St. Johns River Water Management District. After learning of the urgency, they laid sandbags and placed wooden sheet piling to block the water at the embankment. They also released water from an impoundment upstream.

The District is mobilizing for a more permanent fix



Workers with the St. Johns River Water Management District work on temporary fix to the embankment.

that will include metal sheet piling to prevent another breach.

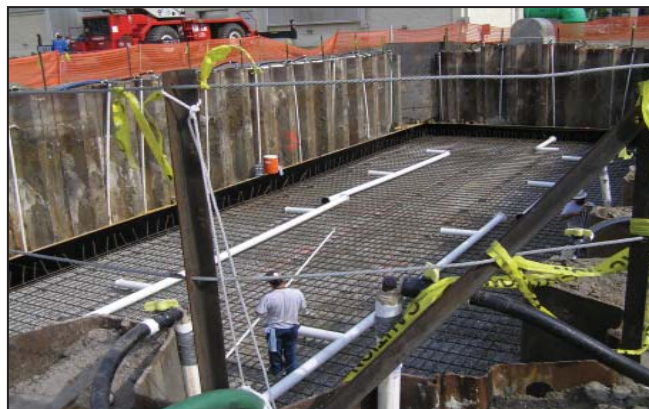
Thanks to these measures, even with the continuing drought, the lake level is continuing to rise, measuring 12.64 on May 16.

"The lake has gone up one foot in the last three weeks," said Public Works & Utilities Director Bob Klapproth. "That is great news since our water demand has been extremely high."

### Phase II improvements progress at the surface water plant

The Phase II improvements at the surface water treatment plant have begun to take shape. Pictured is the work that is proceeding on the ozone contactor basin.

When completed, ozone gas will be fed into the water, following the first round of treatment through the Actiflo process. The water will then proceed to the filters before being sent to the distribution system.



Ozone contactor chamber begins to take shape.

ing and then piped to the ozone contactor basin. The ozone will provide taste and odor benefits and further remove any pathogens from the water.

The third key element of the project is the south raw water pump station. Concrete has recently been poured for the large underground tank that will hold raw water from Lake Washington before it gets sent for treatment.

The slab has also been poured for the ozone generator building. Ozone gas will be produced in this build-

The general contractor for this \$15 million project is Wharton-Smith.

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

### Water Usage

- ◆ Water pumped to service: 509,440,000 gallons or 16.981 MGD average
- ◆ Maximum finished water pumped to service: 17.934 MGD on April 17, 2006
- ◆ Fire hydrant flushing: gallons
- ◆ Committed capacity: 3.3321 MGD
- ◆ Capacity available for development: 7.4789 MGD (Based on 12-month average daily flow)

- ◆ Total hardness: 115 mg/L
- ◆ Chlorides: 77 mg/L
- ◆ Color: 142
- ◆ Total dissolved solids (TDS): 242 mg/L

### Well water

- ◆ pH: 7.8
- ◆ Alkalinity: 121 mg/L
- ◆ Total hardness: 635 mg/L
- ◆ Chlorides: 761 mg/L
- ◆ Color: 6
- ◆ TDS: 1,626 mg/L

### Water Quality Statistics

#### Lake water

- ◆ Level: 12.10 feet above MSL on 4/30/06 (Prior month comparison: 12.23 feet on 3/31/06)
- ◆ pH: 7.9
- ◆ Alkalinity: 67 mg/L

### Finished water - pumped to service

- ◆ pH: 8.6
- ◆ Alkalinity: 36 mg/L
- ◆ Total hardness: 88 mg/L
- ◆ Chlorides: 67 mg/L
- ◆ Color: 4
- ◆ Total dissolved solids (TDS): 259 mg/L

## Pipe lining projects to save money and drivers' patience

Similar to rolling up a pair of socks, many of the City's sewer pipes are being lined through a process known as Cured-in-Place Pipe (CIPP).

A resin-filled bag, the length of the pipe to be lined, is trucked in and kept very cold so the resin doesn't set. It's then fed into the pipe and as it enters, water is also flushed in. This causes the bag to roll itself inside out so the resin impregnated side is against the existing pipe.

The next step in the process is to pump very hot water, heated to 180 degrees, into the pipe. The heated water activates the resin so it will adhere to the existing pipe.

"Due to the aging sanitary sewer and storm drain systems, the pipes are in need of repair or replacement to prevent failures from occurring," said Assistant Public Works & Utilities Director Harold Nantz. "CIPP is a cost effective and non-intrusive method of pipe repair."



*Insituform workers feed the liner into the pipe at a recent job on Apollo Boulevard, south of Hibiscus Boulevard.*

The CIPP process in many cases can be used in place of open trench pipe replacement which is more costly and causes disruptions to traffic and properties in the affected areas.

"CIPP rehabilitation will restore the structural integrity of our sewer and storm systems, reduce infiltration, increase the flow capacity of the aging pipes, and eliminate leaking joints," explained Nantz.

The latest area to be lined is on Apollo Boulevard from Hibiscus to S.R. 192. Soon, the section from 192 to the Grant Street Wastewater Treatment Plant will be lined. Other linings will take place in various locations throughout the City that have been identified as having the most urgent need.

The City has entered into a contract with Insituform Technologies, Inc. of Jacksonville on a continuing annual basis for potentially the next three years. The contract will be reviewed and renewed each year.

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## Wastewater Treatment Operational Summary and Reuse Statistics

### D.B. Lee WWTP

- ◆ Treated this month: 132.66 MG
- ◆ Treated daily: 4.42 MGD
- ◆ Reuse production — total month flow: 77.70 MG
- ◆ Reuse average daily flow: 2.59 MGD
- ◆ Reuse number of days run: 30
- ◆ Plant efficiency, BOD removal: 97.10%
- ◆ Committed capacity: 1.0195 MGD
- ◆ Capacity available for development: 0.3963 MGD  
(Based on 12-month average daily flow)
- ◆ April Rainfall: 1.35 inches over 3 days

### Grant St. WWTP

- ◆ Treated this month: 82.56 MG
- ◆ Treated daily: 2.75 MGD
- ◆ Reuse production — total month flow: 10.96 MG
- ◆ Reuse average daily flow: 0.37 MGD
- ◆ Reuse number of days run: 30
- ◆ Plant efficiency, BOD removal: 97.17%
- ◆ Committed capacity: 1.5383 MGD
- ◆ Capacity available for development: 0.4325 MGD  
(Based on 12-month average daily flow)
- ◆ April rainfall: 1.20 inches over 3 days

A total of 88.66 million gallons of reclaimed water was produced during April, representing 41% of total plant flows.

## Crews recently repair sidewalks throughout downtown area

Seventeen areas in downtown Melbourne have had sidewalks repaired recently or will soon.

More than 200 feet of sidewalk in the area was identified as being in need of repair following a walk-through by City staff. These areas could become a safety hazard if not fixed.

"In some cases, roots from trees had caused the damage," said Streets & Stormwater Management Superintendent Billy Williams. "In other places, it was probably just from age."

Where the roots were a problem they were ground down first and then the



*Manny Parker digs up section of concrete using the backhoe. Silas Scott pulls up pieces after he had jackhammered the area to loosen the concrete. James Post, standing, also worked on the repairs. Not pictured are John Clark and Al Slagle, who also were involved with the repairs, along with Foreman Joe Gervais.*

section was jackhammered and dug up.

Williams explained that once the new concrete is poured, a worker will stay at the barricades until it sets up in about three to four hours to ensure it is not stepped on or marked up.

"We pour first thing in the morning," Williams said. "People can walk on it by the next day."

These sidewalk repairs are on the following downtown Melbourne streets: East New Haven Avenue, Municipal Lane, Vernon Place, Waverly Place,

Livingston Street, and Melbourne Court.

## Streets and Stormwater Management Monthly Summary

- ◆ Daytime street sweeper — hours run: 193  
Cubic yards of material removed: 244
- ◆ Nighttime street sweeper — hours run: 93  
Cubic yards of material removed: 111
- ◆ Asphalt repairs made: 33
- ◆ Tons of asphalt used: 38.75
- ◆ Feet of canals cleaned mechanically: 3,358
- ◆ Acres treated through aquatic spraying: 21
- ◆ Storm drain pipe repaired: 11
- ◆ Concrete repairs: 19
- ◆ Cubic yards of concrete used: 37.75

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## City extends conservation awareness through school involvement

The City recently took part in the Drop Savers Water Conservation Poster Contest, sponsored by the Florida Section of the American Water Works Association (FSAWWA).

Open to middle schools from Melbourne's water service area, 404 students created posters. Each participating school selected its first-place winner, and those posters were submitted to the City. A panel of judges then narrowed them down to the first-place winner who



would represent Melbourne in the statewide competition.

Jessica Holanda of Hoover Middle School in Indialantic won first place in the City event and in state. In her category, she competed with 10 other middle school first-place

entries, representing 10 Florida utilities. In all the grades, thousands of students from 61 utilities participated. Jessica received a \$50 Target gift card and a certificate from the City, along with a \$100 savings bond, medallion, certificate, and

other items from FSAWWA. She is pictured above holding her certificate, along with her mother.



*Jessica's winning Drop Savers poster.*

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

### Water Projects

#### **Recently Completed:**

- ◆ A1A water main interconnect

#### **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
- ◆ Harlock Rd water main extension

### Wastewater Projects

#### **Recently Completed:**

- ◆ Crane Creek sub-aqueous bypass main, \$54,745

#### **Under Construction:**

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

#### **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 #43 (Front Street)

upgrade

- ◆ Bell Street sewer aerial crossing
- ◆ Reuse interconnect

### 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 Public Works & Utilities Administration Department at (321) 674-5761 or send an e-mail to [utilitiesadmin@melbourneflorida.org](mailto:utilitiesadmin@melbourneflorida.org)*