



# Utilities Connection



## March 2003

Utilities Data from February 2003

City of Melbourne Utilities Department

### Lift station replacement needed to keep pace with growth

An aging wastewater lift station is being replaced on Sarno Road in order to keep pace with growth in the area and to ensure its future integrity.

Lift Station 15 serves an area to the west of Croton Road and south of the Eau Gallie River. Influent comes from several other large lift stations, as well as by gravity flow from the surrounding area.

Besides the immediate maintenance needs due to its deteriorating state, Project Engineer Martha Campbell says the new lift station will provide adequate capacity and provide for future development needs .

The new lift station is being constructed adjacent to the existing facility. The City purchased the land next to



*Construction Inspector Dave White observes the progress of new Lift Station 15 construction.*

the property so the new lift station could be constructed.

The project includes a 12-foot diameter wet well that is approximately 30-feet deep with three submersible pumps. The third pump will be used as a back-up in case of emergency.

The City has contracted with Jobear/Warden Construction of Palm Bay to perform the project at a contract price of \$435,160.

Once completed the existing lift station will be abandoned. "We have an eight-foot wet well," explained City Construction Inspector Dave White. "We're abandoning it. We'll take out the pumps and the old equipment and fill it with sand."

Construction began March 4 and White expects it should be completed within 90 days.

### Year-around watering restriction remains in effect



Whether the source is City-supplied water or well water, year-around irrigation restrictions are in effect throughout Melbourne's water service area. Irrigation is only permitted between the hours of 4 p.m. and 10

a.m. The restrictions are in place to minimize water loss due to evaporation. Discharge from heat pumps is exempt from the restriction.

For those using reclaimed water, the City remains on an alternating distribution schedule. Water is provided to customers north of Sarno Road and south of Sarno Road on an every-other-day schedule. Reclaimed irrigation is not on the same time restrictions as well or City water. Watering at different times of the day is actually beneficial for the reclaimed system to better spread out the peak demand.

### February Highlights

The level of Lake Washington decreased slightly during February. At the end of the month, the lake level was 14.13 feet above sea level. That compares to the end of January reading of 14.75 feet above sea level. Water quality remains good.

The D.B. Lee Wastewater Treatment Plant recorded 1.7 inches of rain over six days during February. The Grant Street Wastewater Treatment Plant received 1.73 inches of rain for the month, which occurred over eight days.

A total of 41.51 million gallons of reclaimed water was used for irrigation during February. This represents 20 percent of total plant flows for the month.

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

### Water Usage

- ◆ Water pumped to service: 380,448,000 gallons or 13.587 MGD average
- ◆ Maximum finished water pumped to service: 14.177 MGD on Feb. 14, 2003
- ◆ Water billed: 391,329,300 gallons
- ◆ Fire hydrant flushing: 21,679,960 gallons
- ◆ Fire Department water usage: 59,000 gallons
- ◆ Brevard County water usage – sewer flushing: 30,700 gallons
- ◆ Flushing and testing new water mains: 4,862 gallons
- ◆ Committed capacity: 2.34 MGD
- ◆ Capacity available for development: 6.518 MGD  
(Based on 12-month average daily flow)

### Water Quality Statistics

#### Lake water quality

- ◆ pH: 7.5

- ◆ Alkalinity: 45 mg/L
- ◆ Total hardness: 91 mg/L
- ◆ Chlorides: 62 mg/L
- ◆ Color: 212
- ◆ Total dissolved solids (TDS): 198 mg/L

#### Well water quality

- ◆ pH: 7.6
- ◆ Alkalinity: 116 mg/L
- ◆ Total hardness: 611 mg/L
- ◆ Chlorides: 733 mg/L
- ◆ Color: 5
- ◆ TDS: 1,552 mg/L

#### Finished water quality - pumped to service

- ◆ pH: 8.1
- ◆ Alkalinity: 26 mg/L
- ◆ Total hardness: 71 mg/L
- ◆ Chlorides: 58 mg/L
- ◆ Color: 4
- ◆ Total dissolved solids (TDS): 202 mg/L

## Engineering tech provides diverse skills to department

In between performing computer modeling of a simulation of Melbourne's water system and other projects for the Utilities Department, Engineering Technician II Ryan Oberle stays busy providing a direct service for many of Melbourne's current and potential future residents.

He averages about 20 inquiries per week from people requesting location of water, sewer and reuse services. These location requests come from realtors, developers, appraisal companies, engineers, contractors and potential buyers of properties.

"The information comes from the City's integrated web-based GIS mapping system and archived paper atlases," Oberle explained.

In addition to assisting the public, Oberle assists the divisions within the department. With Utilities Engineer Harold Nantz, Oberle performs fire flow tests to determine if there is adequate water flow and pressure prior to new construction being approved. The computer modeling simulation of the City's water system is another important aspect to his work.

"We do this so we can plan for large water main improvements and see what the results would be — making sure we can get proper flow — before we move ahead with a project," Oberle said.

Oberle also provides assistance with engineering design for water mains, sewer mains, and force mains,



*Oberle shown at the engineering-drawing plotter he operates.*

and maintains the as-built drawings. In addition, he prepares the Risk Management Plan (RMP) annual permit applications that are submitted to the Florida Department of Environment Protection.

"I fill out the forms and produce detailed drawings to keep our water and wastewater plants in compli-

ance with the regulations," Oberle said.

"Ryan is a very valuable asset to the department because of the many skills he has that apply to all the different things he does for us," Nantz explained. "He also has a great personality for working with the public."

This skill also comes into practice at the various outreach events at which Oberle participates throughout the year.

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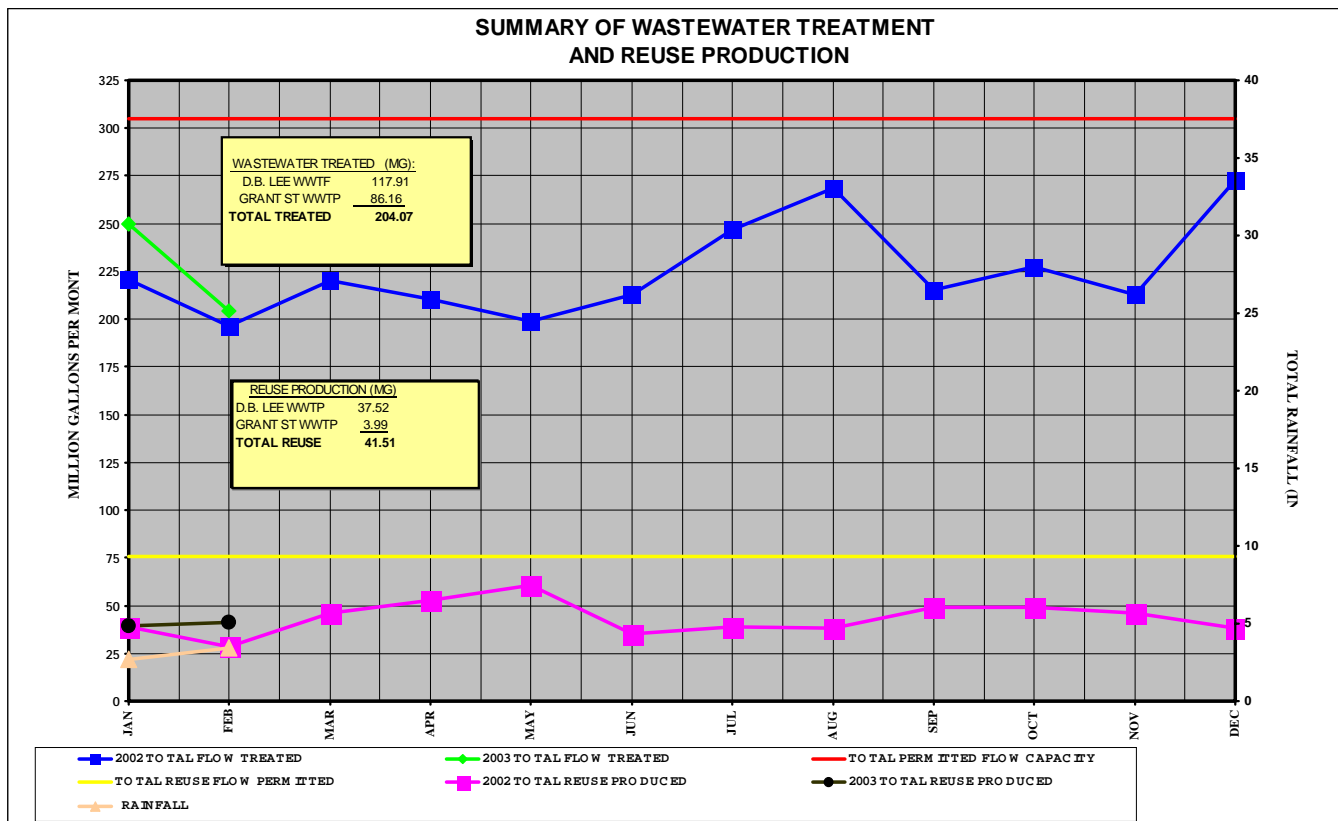
## Wastewater Treatment Operational Summary and Reuse Statistics

### D.B. Lee WWTP

- ◆ Treated this month: 117.91 MG
  - ◆ Treated daily: 4.21 MGD
  - ◆ Reuse distribution — total month flow: 37.52 MG
  - ◆ Reuse average daily flow: 1.34 MGD
  - ◆ Reuse number of days run: 28
  - ◆ Plant efficiency, BOD removal: 97.4%
  - ◆ Committed capacity: 0.712 MGD
  - ◆ Capacity available for development: 0.003 MGD
- (Based on 12-month average daily flow)*

### Grant St. WWTP

- ◆ Treated this month: 86.16 MG
  - ◆ Treated daily: 3.08 MGD
  - ◆ Reuse distribution — total month flow: 3.99 MG
  - ◆ Reuse average daily flow: 0.14 MGD
  - ◆ Reuse number of days run: 14
  - ◆ Plant efficiency, BOD removal: 97.38%
  - ◆ Committed capacity: 0.475 MGD
  - ◆ Capacity available for development: 1.310 MGD
- (Based on 12-month average daily flow)*



## Streets and Stormwater Management Monthly Summary

- ◆ Daytime street sweeper — hours run: 847  
Cubic yards of material removed: 222
- ◆ Nighttime street sweeper — hours run: 119  
Cubic yards of material removed: 92
- ◆ Asphalt repairs made: 27
- ◆ Tons of asphalt used: 34.5
- ◆ Feet of canals cleaned mechanically: 295
- ◆ Acres treated through aquatic spraying: 26
- ◆ Feet of storm drain pipe repaired: 295
- ◆ Concrete repairs: 31
- ◆ Cubic yards of concrete used: 32

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## Grant Street WWT Plant undergoing O&M improvements

At the Grant Street Wastewater Treatment Plant trickling filter modifications project, the contractor is shown applying a new coating system to the effluent troughs and basin floor of the trickling filter.

The system consists of three separate layers of epoxy coating, and will be in the range of 16 to 20 mils of dry film thickness (DFT).

Cen State Contractors, Inc. of Winter Haven is performing the work, which should be completed by June. The project is part of operational and maintenance (O&M) improvements at the Grant Street Plant that also includes refurbishment to two clarifiers.



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

### Water Projects

#### Under Construction:

- ◆ U.S. 1 utility relocations — Post Road to Pineda Causeway
- ◆ Utility relocation associated with U.S. 1 widening, \$1,060,000
- ◆ Chlorine scrubber, Front St. Chlorine Booster Station, \$85,700

#### Recently Awarded:

- ◆ Waterline installation on Lake Washington Road, \$110,899

#### Under Design or Ready for Bid:

- ◆ Harlock Road waterline extension from Lake Washington Rd. to Post Rd.
- ◆ Shut-off valves for elevated storage tanks
- ◆ Wickham Road ground storage tank and booster pump station evaluation
- ◆ Phase II surface water treatment plant improvements
- ◆ Wickham Road waterline replacement from SR 192 to Nasa Blvd.
- ◆ Trailer Haven waterline upgrades
- ◆ Waterline relocation in association with road widening on South Patrick Drive between DeSoto Parkway and Pineda Causeway

- ◆ Utility relocation in association with NASA Boulevard realignment at Wickham Road

### Wastewater Projects

#### Under Construction:

- ◆ Phase III improvements at D.B. Lee WWT Plant, \$15,587,000
- ◆ Trickling filter upgrade at Grant Street WWT Plant, \$696,000
- ◆ Sewer line cleaning, \$120,000
- ◆ Lift Station No.15 replacement, \$430,000

#### Under Design or Ready for Bid:

- ◆ Lift Station 24 replacement study
- ◆ D.B. Lee WWTP lift station evaluation study
- ◆ Sludge handling facility motor control center and belt filter press control cabinets

### Streets & Stormwater Projects

#### Under Construction:

- ◆ Baffle boxes at Young Street & Stewart Ave., \$120,478
- ◆ Dove Street stormwater detention pond, \$104,462
- ◆ Garfield Street stormwater outfall relocation, \$106,778

- ◆ Cherrywood Drive storm drain pipe lining, \$56,667
- ◆ Babcock Street landscaping, \$796,000
- ◆ Dove Street paving, \$148,893.50

#### Under Design or Ready for Bid:

- ◆ Hoag Avenue paving and drainage improvements
- ◆ Rio Lindo dredging -- final engineering
- ◆ Parkway Drive realignment study from Stewart Road to Florida East Coast Railroad
- ◆ Eber Road widening from Babcock Street to Dairy Road
- ◆ Sarno Road/Bell Street drainage improvements
- ◆ Upgrade of stormwater outfalls along Charles Dr./Almar Subdivision
- ◆ Upgrade of existing culvert crossing under Pirate Lane
- ◆ NDP stormwater improvements
- ◆ Babcock Street widening

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