

PW/Utilities Connection



September 2007

Utilities Data from Aug. 2007

City of Melbourne Public Works & Utilities Department

New software moves wastewater collection system to GIS

The recently purchased CUEs software system is now being used by the City's Wastewater Collection Division. It will be providing some big benefits — saving time, saving money, and making employees jobs easier.

This pipeline inspection reporting software system has features that allow for GIS integration that couldn't be found in other software.

"The software will be capable of recording location information that can be integrated in the GIS mapping system," said Utilities Operation Superintendent Mike Brink. "The routine televised inspection will also keep the division in conformance with the capacity management operation and maintenance requirements, which are an industry standard."

A Wastewater Collection Division crew has been working for the past month to begin mapping all of the City's 6,000 manholes. Some have been found to be marked incorrectly on the existing paper maps, and others were not there at all.

The crew has been working on geographic sections. With their paper map in hand, they find each of the manholes, measure their depth, and check their condition. Then they enter the location and attributes into the hand-held Trimble unit. At the end of the day, the unit is delivered to the City's GIS Division for up-

loading into the City's GIS database. Shortly after, the new and accurate information can be accessed from computer workstations.

"About 25 percent of the manholes have been done," said Wastewater Collection Foreman Matt Simon. "It will take a few years to get the entire system into the GIS system."

Besides manholes, Simon explained that the Trimble

unit will also be used to locate all the City's reuse meters, sewer force mains, backwater valves, force main valves, and reuse mains and get them into the GIS system. They hope to get a second Trimble unit next year.

"We are concentrating on getting our mapping system accurate. When this is done, our locators will be able to easily find manholes or whatever they are looking for. The locate would only take one person using the GIS mapping

system instead of a whole crew at that point."

The new CUEs software will compliment the division's camera van that is used to televise the condition of the sewer lines. These images will also be able to be viewed from an office computer.

The new software and equipment cost \$50,405. The package includes refurbishment of existing equipment on the camera van that is worn out from daily use, along with the computer, software, inspection camera, and cable.



In the Olde Eau Gallie area recently, Butch Burke (left) measure manhole, while Rubin Rosado (right) enters data into the Trimble unit and Darrell Swain (back) prepares to replace cover. Others who will be assisting include Dana Christianson, James Jordan, and Robert Coger III.

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Monthly Water Usage and Raw/Finished Water Quality Statistics

Water Usage

- ◆ Water pumped to service: 476,320,000 gallons or 15.365 MGD average
- ◆ Maximum finished water pumped to service: 16.504 MGD on August 20, 2007
- ◆ Fire hydrant flushing: 18,370,200 gallons
- ◆ Committed capacity: 3.6526 MGD
- ◆ Capacity available for development: 7.5758 MGD (Based on 12-month average daily flow)

Water Quality Statistics

Lake water

- ◆ Level: 14.24 feet above MSL on August 31, 2007 (Prior month comparison: 15.01 feet on July 31)
- ◆ pH: 7.5
- ◆ Alkalinity: 54 mg/L

- ◆ Total hardness: 95 mg/L
- ◆ Chlorides: 56 mg/L
- ◆ Color: 492
- ◆ Total dissolved solids (TDS): 243 mg/L

Well water

- ◆ pH: 7.7
- ◆ Alkalinity: 119 mg/L
- ◆ Total hardness: 661 mg/L
- ◆ Chlorides: 802 mg/L
- ◆ Color: 7
- ◆ Total dissolved solids (TDS): 1,707 mg/L

Finished water - pumped to service

- ◆ pH: 8.4
- ◆ Alkalinity: 33 mg/L
- ◆ Total hardness: 70 mg/L
- ◆ Chlorides: 53 mg/L
- ◆ Color: 2
- ◆ Total dissolved solids (TDS): 274 mg/L

Promotions bring new leadership to Utilities Operations

Numerous transition have been occurring in the Utilities Operations Division. Two recent promotions of long-term employees with extensive experience have put them at the helm to guide the division into the future.

Mike Brink was promoted to superintendent last April, filling a vacancy left by a move to the private sector by long-term superintendent Tom Hogeland.

Brink has been with the City for 15 years, starting as an electrician in wastewater collection. He has had several promotions along the way, as he moved to supervisor of wastewater collection and then to assistant superintendent of utilities operations.

This move left the assistant position vacant. Bill Spann has been promoted to fill this spot and began his new position on September 10. He is a 17-year City employee, having started as a maintenance worker I in wastewater collection, moving to maintenance



Bill Spann, left, and Mike Brink look over map of water distribution system.

worker II, lift station mechanic, and then to the Water Production Division as the maintenance supervisor, where he served for the past 11 years.

Spann believes his experience in water production will be a benefit in his new position.

"It gives me more of a perspective from the treatment side of water," Spann explained.

Spann is working to familiarize himself with the day-to-day operations.

"I'm excited about this new challenge and direction," he said.

After five months without an assistant, Brink is looking forward to having more time to focus on some of the critical issues facing water distribution and wastewater collection, including pipe replacement, water quality, and flushing.

"As the management personnel changes settle in, everyone can take a breath," Brink said.

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Wastewater Treatment Operational Summary and Reuse Statistics

D.B. Lee WWTP

- ◆ Treated this month: 139.68 MG
- ◆ Treated daily: 4.51 MGD
- ◆ Reuse production — total month flow: 86.09 MG
- ◆ Reuse average daily flow: 2.78 MGD
- ◆ Reuse number of days run: 31
- ◆ Plant efficiency, BOD removal: 99.70%
- ◆ Committed capacity: 1.0020 MGD
- ◆ Capacity available for development: 1.7563 MGD
(Based on 12-month average daily flow)
- ◆ Rainfall: 2.05 inches over 8 days

Grant St. WWTP

- ◆ Treated this month: 97.06 MG
- ◆ Treated daily: 3.13 MGD
- ◆ Reuse production — total month flow: 9.02 MG
- ◆ Reuse average daily flow: 0.29 MGD
- ◆ Reuse number of days run: 31
- ◆ Plant efficiency, BOD removal: 99.13%
- ◆ Committed capacity: 1.5404 MGD
- ◆ Capacity available for development: 1.0463 MGD
(Based on 12-month average daily flow)
- ◆ Rainfall: 1.51 inches over 4 days

A total of 95.11 million gallons of reclaimed water was produced during August, representing 40.2 % of total plant flows.

City partners with EPA for new WaterSense program

The City of Melbourne has teamed with the U.S. Environmental Protection Agency's (EPA) WaterSense program to help consumers conserve water for future generations and save costs on their water bills.

The aim of the new EPA program is to decrease indoor and outdoor water use through high efficiency products and simple water saving practices. The program can help customers identify water-efficient products in the marketplace that have been independently certified for efficiency and performance. The program also helps promote water-saving techniques that reduce stress on water systems and the environment.

"We are proud to be a WaterSense partner," said Public Works & Utilities Director Bob Klapproth. "We look forward to working with our customers to improve awareness and promote water-saving products and practices in and around the home."

A key component in reducing home water usage is knowing how the water is being used. For example,

leaving the tap open during a daily ritual like brushing our teeth can use up to 10 gallons of water — about the same amount as the average person drinks in 20 days. By turning the tap off, you'll use just half a gallon.

Technology is making water efficiency easier than ever. Efficient appliances and fixtures are a good way to reduce water usage. For instance, installing a high-performance, high-efficiency toilet in the bathroom can cut indoor water usage by about 14 percent. Also, many of the new dishwashers and washing machines use considerably less water than conventional models. Point-of-use water heaters prevent excess water use while waiting for the hot water to reach the faucet or shower.

Outside, water-wise landscaping and irrigation can reduce water use from 20 to 50 percent.

For more information on WaterSense, and for a full list of labeled water-efficient products and irrigation certification programs, visit www.epa.gov/water-sense.



Streets and Stormwater Management Monthly Summary

- ◆ Daytime street sweeper — hours run: 164.5
Cubic yards of material removed: 376
- ◆ Nighttime street sweeper — hours run: 135
Cubic yards of material removed: 164
- ◆ Asphalt repairs made: 45
- ◆ Tons of asphalt used: 53.86
- ◆ Feet of canals cleaned mechanically: 4,990
- ◆ Acres treated through aquatic spraying: 21
- ◆ Feet of storm drain pipe repaired/replaced/lined: 1,613
- ◆ Concrete repairs: 26
- ◆ Cubic yards of concrete used: 376

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Water distribution foreman, "Jr" Runion, will be missed by many

Many in the City, both fellow employees and residents, have lost a good friend with the passing of Cecil "Junior" Runion at age 54, following a battle with cancer.

A 31-year employee, Junior started with the City as a maintenance worker in water distribution and worked his way up to foreman. He had a vast knowledge of the

distribution system.

Junior was very popular with those who knew him and was the type of person who would gladly help anyone. He was generous, kind, and cheerful.

His memorial service was held on August 20. His wife Nancy described him as her soul mate, while many other relatives, employees and friends remembered him fondly.



Junior loved NASCAR racing and is shown at last year's Pepsi 400 race.

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

Water Projects

Under Construction:

- ◆ Phase II surface water treatment plant (SWTP) improvements, \$11,322,000
- ◆ Rehabilitation to RO wells #1, 2 & 3, \$692,725
- ◆ Backup well #4, \$1,320,900
- ◆ Harlock Rd water main extension
- ◆ Country Road annexation water line extension
- ◆ Eau Gallie water line replacement, Phase I, Segments V & VI, \$336,800
- ◆ Hallwood waterline replacement, \$158,200
- ◆ 2007 misc. water line replacements - Phase I (Ballard Park)

Under Design or in Bid

Process:

- ◆ Automatic transfer switch and generator enclosure at the SWTP's belt press building
- ◆ Pineda Causeway 16" water main
- ◆ Wickham Road 8" water main
- ◆ Eau Gallie water line replacement, portion of segments I & II, Phase II
- ◆ Water line upgrade at Turtle-mound Rd.-Grand Haven subdivision
- ◆ 2006 misc. water line replacements
- ◆ 2007 misc. water line replacements (Phase II - Ballard Park)

- ◆ Survey and easement clearing for 30" water main at Jones Road between John Rodes Blvd. & Ellis Road
- ◆ North water treatment plant demolition
- ◆ Scrubber blow down pump station and force main
- ◆ Pineda tank and booster station

Wastewater Projects

Recently Completed:

- ◆ St. Andrews lift station and sub-aqueous force main
- ◆ Lift Station #55 upgrade, \$159,564

Under Construction:

- ◆ Various manhole rehabilitation projects, \$274,340
- ◆ FY '07 CIPP rehabilitation projects, \$1,200,000
- ◆ Water & Wastewater Operations maintenance building, \$571,800
- ◆ Electrical upgrade to the sludge belt press building at D.B. Lee and Grant Street WWTPs, \$406,900
- ◆ Crane Field reuse project
- ◆ FIT/Leonard Weaver wastewater collection rehabilitation, \$2,100,000
- ◆ D.B. Lee WWTP admin. bldg.

- ◆ Lift Station #46 (BCC) renovations

Under Design or in Bid

Process:

- ◆ Reuse master plan, phase II
- ◆ Lift Station #29 (Aurora & Mary-wood) Grant Place L.S. and force main
- ◆ Sarno Road force main improvements
- ◆ Grant Street WWTP admin. bldg.
- ◆ Hibiscus Blvd. reuse project
- ◆ Nasa Blvd. reuse project

Streets & Stormwater

Projects

Recently Completed:

- ◆ FY '06 CIPP pipe rehabilitation projects, \$855,000
- ◆ Melbourne Avenue drainage at Pennwood Avenue, \$184,290

Under Construction:

- ◆ FY '07 CIPP pipe rehabilitation projects, \$1,350,000

Under Design or in Bid

Process:

- ◆ Babcock and Hibiscus intersection improvements
- ◆ Gramling Park Road drainage improvements

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