

May 2011

# The Hartselle



# Connection

*Serving Hartselle's People, Building for Hartselle's Future*

## HU Staff Trims WWTP Centrifuge Estimate By \$3 Million

Since mid-2009, Hartselle Utilities' Engineering and Wastewater Treatment Plant staffs have considered various methods to dispose of sludge produced by the plant. Sludge is the semi-solid byproduct of the wastewater treatment process.

Currently, waste sludge from the plant is held in a sludge pond. The problem with that, says HU Sanitary Sewer System Superintendent Robert Wright, is that the sludge never goes away. The sludge pond, build in 1987, is at capacity with over seven feet of sludge.

Many modern wastewater treatment plants include an operation to dewater sludge and dispose of leftover solids, such as a centrifuge. HU consultants initially estimated the cost to install a centrifuge at over \$4 million, says Wright, and at that point HU staff decided to look for other alternatives.

However, after studying options with lower installation costs, including portable sludge dredging equipment and dewatering boxes, HU staff found that the operating costs of these systems were much higher than a centrifuge-based system.

A centrifuge has a payback in seven years over dredging equipment and dewatering boxes, says HU Purchasing Agent and Project Manager Jerry Johnson. Over 20 years, he emphasizes, a centrifuge will save HU over \$1 million in operating costs. "The project we considered last year wasn't going to be a big benefit to the ratepayers," he explains.

HU staff closely examined all the costs in the \$4 million estimate to install a centrifuge at the WWTP, says Wright. "We found that by doing a good bit of the work ourselves and eliminating most of

the 'bells and whistles,' we could greatly slash our costs," he reports.

As a result, the budget for the centrifuge at the WWTP, says Johnson, is now \$903,500. This includes the cost of the centrifuge, a new metal building, and an underground storage tank. In April, the HU Board accepted a bid from Pieralisi North America for the centrifuge. "We were very pleased with the actual centrifuge pricing," says Johnson.

The centrifuge at the WWTP is expected to be ready in mid-October. It will process 105 gallons of sludge a minute as it spins at 3500 rpm to pull water out, leaving a solid material known as cake. The cake will be disposed of in the Morgan County Landfill.

"The big thing now," says HU General Manager Ferrell Vest, "is that we will no longer be adding to our sludge pond, and we've been able to do this at a lower overall cost to ratepayers."

The project at the WWTP also includes a new phosphorus reduction component to meet expected future ADEM permitting requirements. Under the new process, alum will be injected into the waste stream to help phosphorous particles settle out before water is discharged into Shoal Creek.



HU crews pour concrete around the drying beds at the wastewater treatment plant.

## Drying Beds Will Help Clear Sludge Pond

Crews at Hartselle Utilities Wastewater Treatment Plant have been hard at work this Spring to build out the area around drying beds at the plant to bring them back into service. Existing sludge from the plant's sludge pond will be deposited into the sand-filtered beds. Water filtered out of the sludge will be returned to the treatment plant.

"Drying beds are a passive, low energy drying process," says HU Sanitary Sewer System Superintendent Robert Wright. "These use gravity and sun to remove the water from the solids." After fourteen days, the leftover solids, called cake, will be taken to the Morgan County landfill.

Sludge is the byproduct of the treatment process; it is made up of all the solids left after the oxidation process. Some of the sludge produced by the Wastewater Treatment Plant is recycled to feed treat-

ment processes at the plant, it eventually becomes

waste sludge. For the past 22 years, the sludge has been deposited into sludge ponds at the plant, but now these are full. Once construction on the drying beds is completed, WWTP crews will spend at least the next fifteen years drying out the sludge in the drying beds and depositing solids into the landfill.

Work on the drying beds includes raising the concrete median between the beds and building concrete walls at the end of each bed to securely hold the sludge in place. Staff from the WWTP and Field Services Sewer Crew are performing all of the construction work. About \$80,000 has been budgeted to complete the drying beds.

# Morgan Center Sewer Construction Update

Construction will begin this summer on new sewer lines and pump station that will serve Phase I of the new Morgan Center Business Park, says Glen Partlow, HU Engineering Services Manager.

The Morgan County Economic Development Association is overseeing development of the Business Park, near the Thompson Road/I-65 interchange.

A \$15 million bond was issued in 2009 to build the site, and municipalities within the Morgan County Cooperative District have agreed to use a portion of their in-lieu-of-tax payments from TVA to repay the bond.

HU will install 4,600 feet of 12" gravity sewer, 5,200 feet of 10" force main and a 600 gallon-per-minute pump station at the 135 acre park, says Partlow. "The sewer system has been sized to handle all prospective flow from both the new business park and new development in the surrounding areas," he said.

"This addition to the sewer system is part of Hartselle Utilities' Master Plan which was developed in 2001," explains Partlow. Construction for the sewer lines and pump station will take about six months, and will cost a little over \$1 million, he says.



The master plan for Phase I of the Morgan Center Business Park shows roads and possible locations for light manufacturing, office and logistics facilities.

# HU Receives Risk Management Award



This beautiful cut-glass award recognizes HU's safety record.

Hartselle Utilities recently was recognized by the Alabama League of Municipalities (ALM) for its risk management and loss control activities. HU received two awards: the President's Risk Management Award and the Silver Risk Management Award. HU is among 740 public entities which participate in ALM-sponsored insurance programs.

The President's Risk Management Award is presented to organizations in the top five percent of members with minimal losses over a five-year period. HU received the Silver Award for loss ratios between five and 20 percent.

Safety Coordinator Greg Sandlin attributes HU's safety record to regular safety meetings, an active safety team and an overall safety-first attitude that begins with top management.

"In addition to organizing monthly safety meetings,"

Sandlin says, "Safety team members bring safety concerns and issues to me."

"The attitude here at Hartselle Utilities is safety first, period," Sandlin says. "Both our General Manager and our Board have the same attitude. Even if the lowest man on the totem pole says he doesn't feel safe on a site, work stops and everyone gets out until we figure out how to make it safer. Safety comes first, and no one is afraid to speak up."

# Summer Sewer Cap From May To October

Typically, most of the water a household uses enters the sewer system as waste. However, in the summertime, many residents use water outdoors – to irrigate lawns and wash cars, for example – and this water never enters the sewer system. For this reason, HU sets a cap for the summer sewer rates at 120 percent of the average of each customer's winter usage; customers are not charged a sewer fee for water used above the cap.

HU uses the months between November and April to calculate winter averages, and then caps each customer's summer sewer rates at 120 percent of that figure.

HU customers who use a great deal of water outdoors year-round might consider an outdoor irrigation meter, says Customer Service Manager Terri Harris. The cost to install a meter is \$275; the base monthly rate is \$9.77 plus charges for the water used. However, there is no sewer charge for water used through an irrigation meter.

# WWTP Gets Straight-A Report Card

Each year, Alabama Department of Environmental Management (ADEM) inspectors conduct surprise inspections at the State's wastewater treatment facilities. During an inspection, ADEM inspectors check analytical history, lab instrumentation and records along with a plant's effluent water being discharged into the environment.

HU's WWTP had a surprise inspection in March, reports Plant Chief Operator Glenn Byrum, and received "straight A's: no violations, no overages, no spills. All our equipment checked out and our reports were correct."

HU's WWTP uses a biological treatment process in which small microscopic organisms – bugs – are added into the waste stream to feed on the organic material.

"The bugs need a good balance of water, food and oxygen to keep them healthy, happy and productive," Byrum says. "We work hard to maintain that balance."

Byrum recognized the work of plant operators Mark Campbell and Slade Sparkman. "Both men have Grade 3 Plant Operator Certifications and we pride ourselves on our maintenance," he says. "We make sure we are on top of the game."

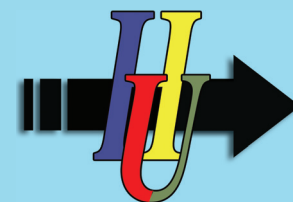
# HU Water Quality Inspection Report

Water systems in Alabama are inspected every year, and every third year a 39-point total system inspection takes place. HU's Water System had their total system inspection in February, and Water System Operator Steve Terry reports good grades on all points.

"The inspectors looked at seven different categories," Terry explains, "including capacity, distribution system quality, storage, chemical feed, pumping, reporting/recordkeeping, and water quality."

Although the inspections are announced, Terry says he would like to see a surprise inspection from ADEM. "It would thrill me to show them that we keep it like this all the time, and not just when we are expecting them," he smiles.

HU's Annual Water Quality Report will be mailed in June to every Hartselle resident. The full report will also be available online at [www.hartselleutilities.org](http://www.hartselleutilities.org).



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