

A wide-angle photograph of the Tallahassee cityscape, showing various buildings and greenery under a blue sky with light clouds. A dark grey semi-transparent box is overlaid on the right side of the image, containing the section header.

Asset Management System Serves as Proactive Maintenance Tool for Water and Wastewater Processing Facilities

The City of Tallahassee's Water Utility is responsible for the operations involving millions of gallons of water, wastewater and storm water processed through the various facilities each day. The needs of the community are a top priority which means constant focus and attention is placed on flood prevention, resource preservation, and the safe and dependable delivery of the highest quality drinking water. In providing these vital services, the City strives to do so in a consistently cost-effective, productive, and environmentally sound manner. This mindset requires a proactive approach to maintaining all operating equipment and assets used by the wastewater treatment and reuse facilities. Controlling costs while managing high value assets demand a process and a system that is capable of capturing and tracking asset management activity.

Initially, the City addressed their maintenance situation by establishing a manual process without the convenience of a computerized system. It was quickly

realized that this approach was ineffective and time-consuming. There was difficulty in linking maintenance work costs associated with specific assets while also maintaining history records of work performed. Recognizing that a true asset management system was needed, the City initiated a project that would lead them to the CHAMPS CMMS/EAM solution.

Proactive Asset Management

The solution was chosen for the system's asset management functionality that provides comprehensive features for work requests, work order management, work flow management, equipment management, preventive maintenance, inventory control, and purchasing. With the CMMS/EAM in place, the City proactively manages its maintenance activity by using the system to capture and track asset management activity at the Thomas P. Smith reclamation facility; the Southeast Farm wastewater reuse facility; Tram Road wastewater reuse facility; and the Lake Ella Stormwater



facility. These facilities comprise a complex sewer collection system with 675 miles of gravity pipe connected to more than 15,000 manholes. This system is supported by over 85 pumping stations using nearly 100 miles of force main. Millions of gallons of water are treated each day with the majority of the treated water being reused for spray irrigation on agricultural crops and pasture. At the Southeast Farm wastewater reuse facility, thirteen massive center-pivot sprinkler systems are used to irrigate crops. These pivots represent high value assets to the City and must be maintained to ensure consistent operational performance. The Lake Ella Stormwater facility treats approximately 50 to 100 million gallons of stormwater runoff for flood protection. With this level of sophisticated processing, it is imperative that all equipment and operational assets are maintained to ensure availability and preservation of asset value.



The City leverages the CMMS/EAM to proactively address management of these critical facility assets to ensure efficient processing of waste water. Users depend on the system to initiate work requests which can be initiated for any type of work required including

emergency repairs, quick work, dispatch work and similar service needs. These requests are then reviewed by a supervisor to determine if an actual work order needs to be generated. The system's work order management functionality allows the City to plan, schedule, issue, complete and close out work orders which capture a history of the work performed, labor hours expended, equipment repaired, and any materials used for the job. Management and supervisory personnel have real-time access to view open work orders, planned versus actual, and closed jobs.

"Using CHAMPS, we have the capability to efficiently capture, track and manage our maintenance activity. The system gives us historical data on our critical assets which enables us to make informed decisions for adjustments or corrective action related to our operational equipment."

*City of Tallahassee Underground Utilities,
Wastewater Treatment Division, Maintenance Section*

An Ounce of Prevention

The preventive maintenance function schedules work on equipment based on frequency (pre-determined schedule or time intervals) or on-demand if the need arises. Planned task steps and associated procedure and safety instructions, labor and material requirements, and similar information is included for each PM which is performed based on a corresponding work order generated by the CMMS/EAM system. Such measures allow the City to proactively maintain



major pieces of equipment all the way down to the component level for the wastewater facilities. This includes major pump systems and their sub assemblies, motors, pump station buildings, dryer processes, heaters, blowers, transfer switches, and more.

To ensure the availability of parts for maintenance jobs, the City uses the CMMS/EAM inventory functionality to manage and control the spare parts catalog. The system is able to tie back use of parts against equipment repairs and trigger re-order points when certain inventory levels are reached. Access to up-to-date inventory balances and valuation statistics of quantities on hand at various stages of the inventory cycle provides the City with a way to control spare parts costs and avoid unnecessary purchases. For buying activity, users leverage the purchasing functionality of the CMMS/EAM to manage the procurement process of spares and equipment parts which includes three-way matching of purchase orders, parts received, and the vendor's invoice. Complete vendor information is defined within the system to

provide a full profile that reflects requisitions, quotations, payment information, and other terms for purchasing activity. All maintenance buying activity in the purchasing module is directly linked to assigned assets for historical tracking.

"This is our tool for asset management and it fits our processes. We depend on it for our needs."

Performing maintenance work to ensure the ongoing availability and reliability of the City's water and wastewater operations is a task that requires a team of skilled personnel. Nearly 80 system users access the CMMS/EAM either at the location where work is to be performed, or remotely using laptops depending on the job location. Real-time access to the system allows personnel to review work that is scheduled or already in progress in order to remain informed on maintenance activity at the various wastewater facilities. Technicians can accept assigned work, perform it, then capture the accomplished jobs in the maintenance system.

Performance Measures

To determine operational performance levels and measure against established standards, the City routinely generates reports for analysis purposes. The CMMS/EAM business intelligence dashboards provide performance views of maintenance work in a visually-enhanced graphical format. This includes overall asset management, costs for materials and labor, work order management performance, materials management,





and preventive maintenance. Asset history, work performed, staff utilized, schedules, and cost are reflected in the preventive maintenance reports. These dashboard views give management a visual report of current performance as compared to specified goals for in-depth analysis. Based on these reports, adjustments can be made to ensure efficiency gains are realized in the right areas according to established standards.

“And, we have plans to expand our use of the system by tapping deeper into the functionality of CHAMPS – particularly the inventory and purchasing features.”
City of Tallahassee Underground Utilities, Wastewater Treatment Division, Maintenance Section

Efficient and Environmentally Responsible

In this capital city of Florida, thousands of residential and business customers depend on the City of Tallahassee's Water Utility to provide the critical service of water, wastewater and storm water processing. The job cannot be done without the efficient operations of several key processing facilities. These facilities and their operational equipment assets must be maintained to ensure on-going availability. By using the CHAMPS system for proactive asset management, the City has the confidence that millions of gallons of water will be processed efficiently each day. It's all part of the City's commitment to run cost-effective operations with advanced, innovative wastewater treatment processes that serve customers and the environment well. ■

City of Tallahassee

- Covers over 100 square miles
- Population is greater than 180,000
- Serves as the capital of Florida



For more information on the CHAMPS CMMS/EAM plant maintenance solution, visit CHAMPSInc.com.