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Automation Technology

**Proactive Maintenance:
Helping Control Costs
and Manage High
Value Assets**

*The City of Tallahassee's
Water Utility finds
solution with
CHAMPS CMMS/EAM*

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Proactive Maintenance:

Helping Control Costs and Manage High Value Assets



Emergency pipe repair work at the city's irrigation system for their reclaimed water.

The city of Tallahassee's Water Utility is responsible for processing millions of gallons of water, wastewater and stormwater in a number of facilities each day, striving to do so in a consistently cost-effective, productive and environmentally sound manner. Having this mindset requires a proactive approach to maintaining all operating equipment and assets used by the wastewater treatment and reuse facilities. Further, controlling costs while managing high value assets demands a system that's capable of capturing and tracking asset management activity.

Initially, the city addressed its 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 system.

Proactive Asset Management

The system was chosen for asset management functionality that provides comprehensive features for work requests, work order management, workflow 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 utilities 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, 13 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.



Preventive maintenance work for a pump station submersible pump.

The city leverages the CMMS/EAM to proactively address management of these critical facility assets to ensure efficient processing of wastewater. Users depend on the system to initiate work requests, which can be set up 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 pump station team performs a station by-pass for scheduled repairs.

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 work, and closed jobs.

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



Storm recovery special event work by the city's pump station team.

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 subassemblies, 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



Corrective repair to the blower system.

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.

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, and 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 that efficiency gains are realized in the right areas according to established standards.

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 stormwater 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 ongoing availability. By using the CHAMPS system for proactive asset management, the city is confident 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 and innovative wastewater treatment processes that serve customers and the environment well.

Author Bio: Mike Melfi is Vice President of CHAMPS Software, Inc. Mike has been with CHAMPS for nearly 20 years and currently holds business development responsibilities for the company's CMMS/EAM product. His previous responsibilities at CHAMPS involved operational management of projects and services. Before joining CHAMPS, Mike spent 10 years in the nuclear industry as an inventory control specialist, health physics and decontamination technician. His education includes a BS in Business Administration, Marketing, from the University of Florida, and an Associate of Arts in Radiation Protection earned from Central Florida Community College. Mike also participates on several boards including the Citrus Levy Marion Regional Workforce Development Board; Citrus County IT Alliance Board; Information Technology Leadership Council; District Technology Advisory Council; Citrus County School District; and the Withlacoochee Technical Institute Advisory Committee.



For more than four decades, CHAMPS Software, Inc. has been developing and delivering Computerized Maintenance Management System (CMMS) and Enterprise Asset Management (EAM) software solutions that enable enterprises of varying size, sophistication, and industry to optimize the life cycles of their capital assets. CHAMPS CMMS/EAM continuously improves operations by incorporating industry best practices with the flexibility inherent in component based web architected solutions.

Regardless of organizational size or geographical layout, CHAMPS CMMS/EAM is purposely scalable to manage business processes for asset optimization across the enterprise. Efficient acquisition, maintenance, repairs, replacement or salvaging of these critical assets result in operational excellence, leading to decreased cost and increased profits.

CHAMPS Business Intelligence Software specializes in turning your CMMS/EAM data into meaningful and actionable information. Whether your data is in one system or multiple systems with different databases – we provide a layer of Business Intelligence that allows you to see across all these systems in a matter of seconds. As a result, you will be able to make better, informed decisions to maximize your profits and reduce your costs.

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