



Atrium Health +



phigenics<sup>®</sup>  
Independent Water Management

## DEVELOPING A SAFE, EFFICIENT, AND SCALABLE WATER MANAGEMENT PROGRAM

### OBJECTIVES

1. Create an enterprise water management program (WMP) that is comprehensive and defensible
2. Achieve alignment with ANSI/ASHRAE 188
3. Mitigate the risk of waterborne pathogens and hazards

### BACKGROUND:

In 2014, Atrium Health (formerly Carolinas HealthCare System) consulted with Phigenics to develop a WMP for its diverse portfolio of facilities. This includes 34 acute care, 6 behavioral health, 10 long-term care, 10 long-term acute care facilities, and 10 rehab locations. The WMP needed to have standards and documentation for each of these unique types of properties and a plan for ongoing verification and validation.

### SOLUTION:

Following the published WMP Guidance such as ANSI/ASHRAE 188 and the CDC *Legionella* Toolkit, a multidisciplinary enterprise water management team (WMT) was formed. The WMT would have both the accountability, responsibility, and authority to make decisions on program components and best practices for Atrium's portfolio of facilities. In 2017, Atrium's WMP was integrated with the internal preventative maintenance system to link WMT validation activities and documentation. This integration was efficiently done by setting over 500 control points, all asset tagged, across the 30 hospitals in the WMP's scope. Corrective actions were issued and documented on all control points. Validation testing for utility water began in 2017 and in 2018 validation testing for potable water was initiated. In 2018 Atrium began quarterly validation tests for Total Heterotrophic Aerobic Bacteria (THAB) in all locations and *Legionella* in acute care facilities. The validation response plan is a guide for any positive results that may occur. All activities and data are then documented on the data-management software phiAnalytics™ across all facilities. The WMP was also used to develop training for new facility personnel to ensure that all team members fully understand the new operational changes.

### RESULTS:

Five years later in 2019, Atrium Health's enterprise WMP is a robust and scalable program that is empowered with corporate policy and employs effective data management thorough phiAnalytics™. Adding construction activities is Atrium's next major addition to their WMP, one which will be guided by a strong framework already in place.

*"Every facility has its own unique footprint and they do different things, so we felt Atrium needed to standardize how we were going to have the same basic approach and format."*

**- Greg Mackin, P.E., CHFM**

Specialist in Regulatory Compliance Support Services  
Atrium Health



2014

An incident with a decorative water feature initiates WMP development



2015

Legionellosis:  
Risk Management for  
Building Water Systems

ANSI/ASHRAE 188 published



2016

Atrium adopts ASHRAE 188 into the WMP



2017

Utility Water Validation



2018

Potable Water Validation Testing



2019/Ongoing

Integration of construction into the WMP