



**APPA Institute for
Facilities Management**

Energy & Utilities

Water (304)

Campus Domestic and Fire Protection Water Supply and Distribution Systems

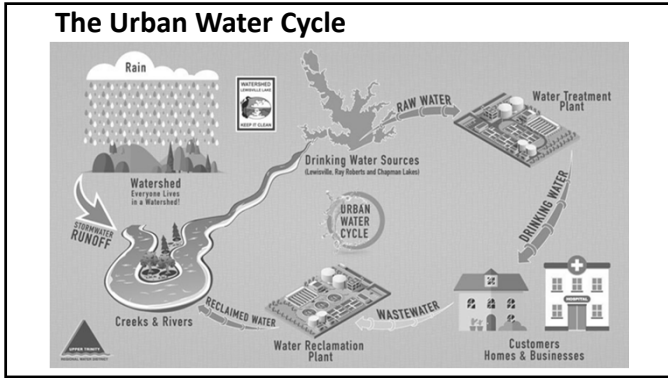
Mark St. Onge, EFP

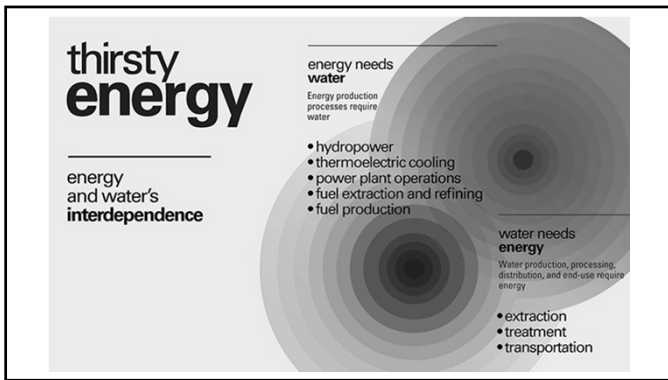
Purpose of Today's Presentation

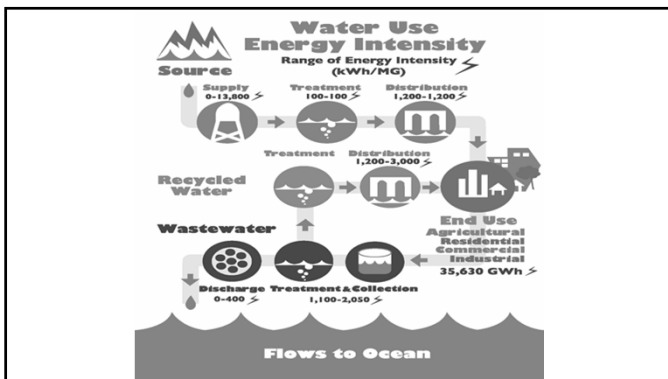


To provide a broad understanding of campus water systems









Flint, Michigan, Declares State of Emergency Amid Lead in Drinking Water Scare

by Erik Ortiz / Dec 15, 2015

Detroit schools to use bottled water due to lead, copper concerns

by Dennis Romero / Aug 29, 2018

Certified Operators



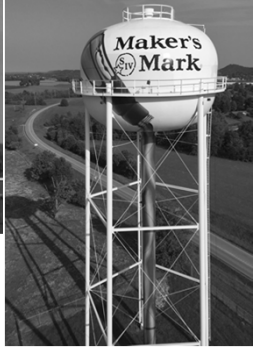
ABC Certification Program
Certification Process
• Certification through Examination
• Certification by Reciprocity

ABC's Certification Program
Certification: Protecting public health and building strong careers.
ABC offers a voluntary certification program to water treatment, distribution, collection, wastewater treatment, and industrial waste operators, water and wastewater laboratory analysts, plant maintenance technologists, and biosolids land appliers. ABC certification is not only a way to protect public health and the environment, but provides numerous career benefits to both employees and employers.

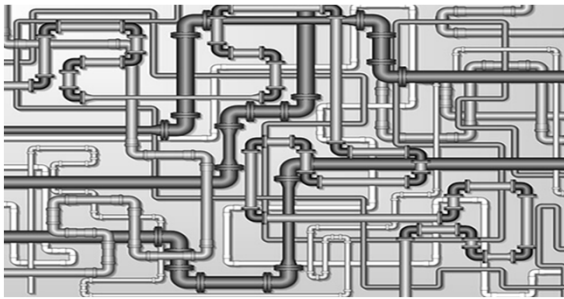
Fire Protection



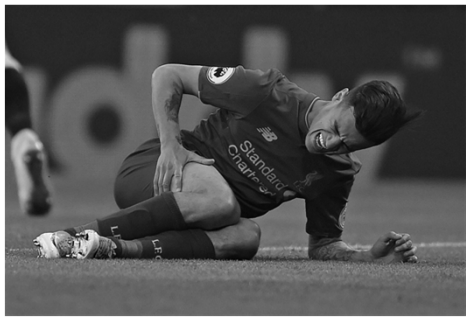
Storage Systems



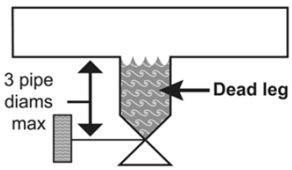
Distribution Systems



Dead-Legs

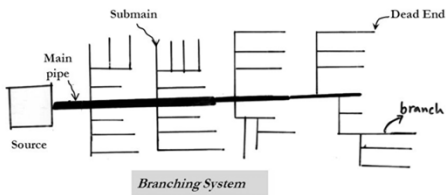


Dead-Legs



Water Distribution System

Branching System (tree system)

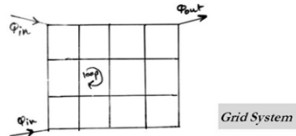


- Advantages:
- Simple to design and build.
 - Less expensive than other systems.



Water Distribution System

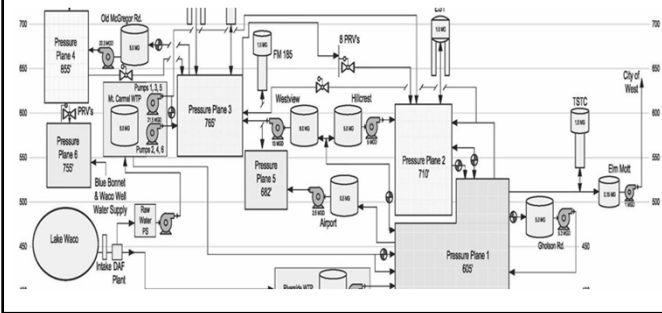
Grid System (Looped system)



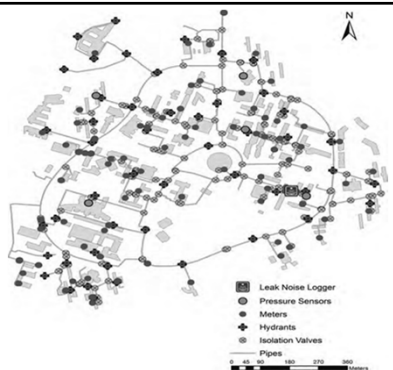
Advantages:

- The grid system overcomes all of the difficulties of the branching system discussed before.
- No dead ends. (All of the pipes are interconnected).
- Water can reach a given point of withdrawal from several directions.

Operations and Maintenance



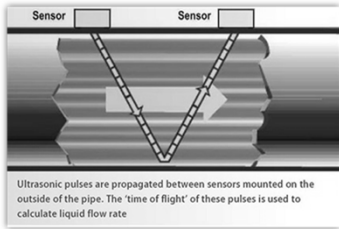
System Mapping



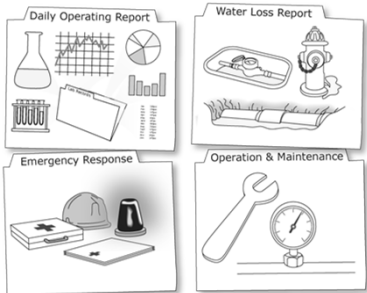
Cross Connection Control



Metering



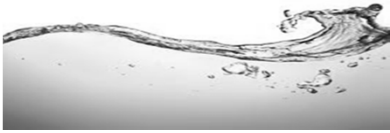
Public Water System Reporting and Record Keeping



Key Takeaways

- Water and energy are interdependent
- Be prepared for emergencies
- Drinking water is regulated under the SWDA
- Contaminates in drinking water are regulated by standards set by the EPA; these standards are typically enforced by state agencies

Questions / Comments



Sign-in Sheet / Evaluation Form

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