

Addressing Unaccounted for Water

Impacts of the Drought Resiliency and Water
Efficiency Grant on Springfield's Water Distribution
System





Unaccounted for Water (UAW)

- Between 2015 and 2020, the Commission's UAW percentage increased from 12% to 19%
 - The 2018 Massachusetts Water Conservation Standards outlined the goal for water suppliers was <10% UAW
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Tackling the Problem

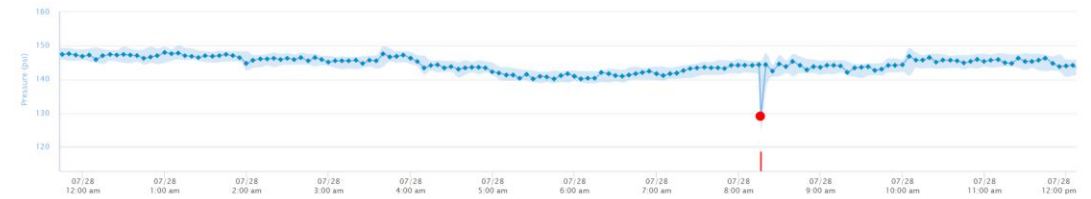
Two Phased Approach

- Acoustic Leak Detection
 - To provide a snapshot of the system's health, and SWSC Field Services to target leaks for repairs
- Continuous Monitoring
 - Pilot technologies which can continuously monitor system metrics such as water pressure
 - Real time alerts to rapid system pressure drops improving reaction time and reducing the duration of water loss events
 - Develop a plan to strategically implement the selected technology to best serve the needs of the system

iHydrant

- Under the Drought Resiliency and Water Efficiency Grant, 15 iHydrant systems were purchased and installed across the city between July 21 and August 21, 2025
 - In the data collection phase of the pilot, the majority of the iHydrants were installed in areas with a high LoF score, and in close proximity to transmission mains
 - Retrofitted existing Clow and M&H hydrants
 - Monitors both water pressure and temperature





Early Results – Main Break

- On July 28, a low-pressure alarm was triggered due to a 6" main break
- The triggering iHydrant was reading the pressure data from a transmission main nearby, which saw a 20 psi drop in pressure
- The iHydrant alarm was received more than 10 minutes before the typical emergency alert was received
- The alerting hydrant was nearly a half-mile from the break

Looking Ahead

- Pending the promising results of the iHydrant pilot study, it is the intention of the Commission to strategically install iHydrants to provide coverage to:
 - Triangulate main breaks based on surrounding pressures
 - Especially mains through easements
 - Reduce the scope of potential boil water notices in the case of catastrophic pipe failure
 - Limit boil-water notices to impacted areas, rather than system wide, in the case of large-scale pressure drops below 20 psi
 - Understand the trends of the healthy system in fine detail
 - This will continue to work in conjunction with an acoustic leak detection

