



Thank You,
EEA!

Dedham-Westwood Water District

ALFX Hydrant Sensors

Conserving water through frequent leak monitoring

Project History & Goals

Background

- Traditional Practice: Annual System-Wide Leak Monitoring.
- New Technology: Real-time – affordable - continuous monitoring
- In 2024, the District purchased 100 sensors for a pilot study.
- **Fall 2024** – large leak detected 2 months before surfacing.

Project: Install 550 ALFX

- Expand Leak Monitoring across Dedham and Westwood's 210 miles of distribution pipe
- Compact hydrant-mounted device
- Spacing 1,000-1,500 LF
- Total of 650 sensor monitors

Sensor Monitoring Strategy:

- Sensors automatically collect data nightly between 12 AM and 3 AM
- 5+ year battery life
- Monthly (and as needed) – District staff upload sensor data to the cloud for analysis





Installation

2-person team:

- ▶ 1 mounting device (Operator)
- ▶ 1 programming device (Intern)

Tools Needed:

- ▶ Wrenches
- ▶ Metal Grinder (corroded bolts)
- ▶ Club Hammer and Pin Push
- ▶ iPad or iPhone and a magnet to wake the device

Progress: *25-40 Installations per day*

- ▶ Newer hydrants: 2-5 minutes
- ▶ Corroded hydrants: 30-45 minutes.

Implementation Lessons Learned

Recorded Sounds:

Reviewing recorded sounds in the Cloud dashboard is a great tool to triage and follow up. (i.e., Leak, Mechanical, and Electrical sounds are distinguishable)

Software Advancements:

Since the installation, app improvements allow for route planning and monitoring the progress of system-wide reading.

Scheduling Work:

3 person days are needed to read the District's system (210 miles)

Be Cautious in High Traffic Areas:

- Time to read
- Slowing down for reading
- Occasional reboots

Awake Time Limitations:

Sensors are set to be “awake” for drive-by reading during certain hours. Limiting the ability to “catch up” with overtime.

Vandalism:

One location outside a sports facility has had the unit replaced twice to date. Other locations seem to be random and not recurring.

Success and Outlook

- ▶ A manual leak detection survey was conducted during the installation period
 - ▶ The new sensors were only installed in a portion of the town at the time, but confirmed 2 out of the 3 service leaks and 4 out of 15 hydrant leaks.
- ▶ In August, the District hired a leak detection contractor to correlate 30 locations flagged as needing investigation. The work was completed in two days and confirmed 5 leaks.
- ▶ The manufacturer is constantly evolving its software for ease of operation, feedback, and tracking.
- ▶ Future planned advancements:
 - ▶ Automatic Correlation with Leak Pinpointing (October)
 - ▶ Ability to passively read sensors with a controller similar to an EZPass, i.e., no app interaction required. (2026)
 - ▶ Ability to read via drone that could be launched from the District Headquarters. (TBD)

Thank you!

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More Information:

<https://www.sixtyfourseconds.com/alfx>