



CASE WESTERN RESERVE
UNIVERSITY

DEPARTMENT OF CIVIL AND ENVIRONMENTAL ENGINEERING

is pleased to present,

THE 2026 HIGLEY LECTURE

ALEX MARGEVICIUS

COMMISSIONER, CLEVELAND WATER

Date: Thursday, May 7th, 2026

Lunch at 11:30pm, followed by Lecture at 12:00pm, Nord Hall, Room 356

Zoom Link: <https://cwru.zoom.us/j/93460065868?pwd=ZzZFVUhldkZtRWNUaWQvQXxmbW1rQT09>

Reception at 3:30pm, Bingham Building, Geotech Lab, Room 286

Beneath the Surface: The Secret Life of Water Mains and Water Engineers

Abstract: For more than two decades, conventional wisdom has warned that U.S. water systems are nearing “third-world” status due to underinvestment and aging mains. Reports such as AWWA’s Dawn of the Replacement Era (2001), Buried No Longer (2012), and ASCE’s Infrastructure Scorecard all rely on the assumption that water mains have a fixed lifespan and that exceeding it inevitably leads to failure. But the “life” of a water main is not well defined. Economic life is often framed as the point where total life-cycle cost is minimized, yet long-term maintenance costs are poorly understood. Break rates are low for decades before rising, but few systems have century-long break histories for meaningful analysis. As a result, many studies extrapolate short-term data far into the future, often assuming exponential increases without strong justification. Cleveland Water’s 5,400-mile iron system shows that break rates do not necessarily follow an ever-increasing curve; a long-term plateau is equally plausible. Even at a high steady-state rate—such as 50 breaks per 100 miles per year—repairing mains remains far cheaper than replacing them. Age alone is therefore a poor driver for replacement. Cleveland Water prioritizes level-of-service factors instead: extremely high break rates, clusters of lead service lines, inadequate fire flow, and documented water-quality issues. These criteria better reflect customer impact and system performance than assumptions about pipe lifespan. The presentation will be concluded with reflections on and anecdotes from a 41-year career as a municipal water engineer. Some things they just didn’t teach in engineering school.



Bio: Alex Margevicius, a native Clevelander, began his career with Cleveland Water, the 10th largest US water system, as a Civil Engineer in 1985 and was appointed the Assistant Commissioner of Engineering in 1995. In that role Mr. Margevicius was responsible for coordinating all engineering and capital improvement projects for the Division. He is an expert in the design and operation of large, complex water systems, and has significant insights into distribution system infrastructure issues. He took the lead in designing CWD’s GIS and hydraulic model systems. In 2011 he was named Interim Commissioner, and in 2016 he was sworn in as the Commissioner of Water. Margevicius holds a Master of Science degree in Systems Engineering ('83) and a Bachelor of Science degree in Civil Engineering ('81), both from Case Western Reserve University. He recently served on the Boards of the Water Research Foundation and WaterISAC, and is a member of AWWA, AMWA, ASCE and NSPE.

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