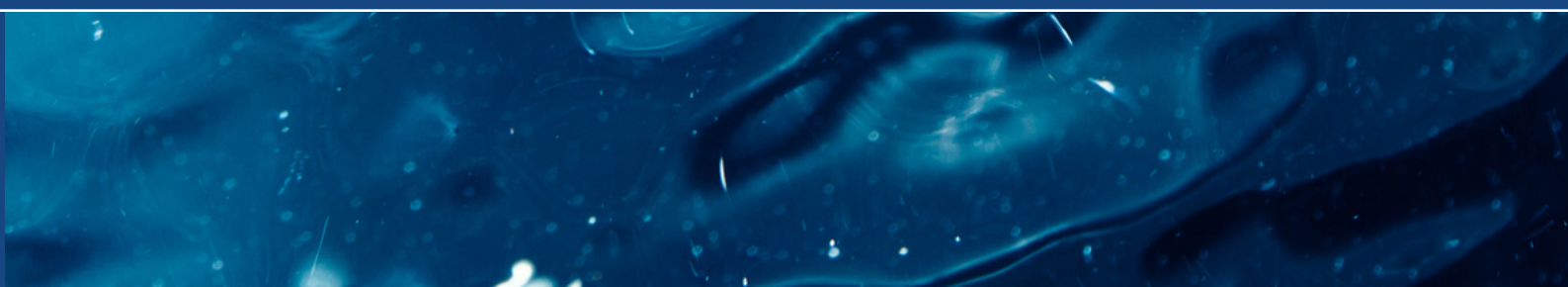
CASE STUDY

Cedar Creek Water Quality Treatment Center
Louisville Metropolitan Sewer District

SEDIVISION®

2023_10_LOUISVILLE MSD

OCTOBER 2023



OVERVIEW

The Cedar Creek Water Quality Treatment Center (CCWQTC), part of the Louisville Municipal Sewer District (MSD), had a concentric channel oxidation ditch that had not been cleaned in over 10 (ten) years.

BACKGROUND

Louisville MSD was formed in 1946 as a public body corporate and subdivision of the Commonwealth of Kentucky. Later that year, the agency acquired a fragmented sewer and drainage system that had been constructed piece by piece over the previous century as the city experienced rapid growth. MSD had an enormous task of repairing and rehabilitating systemwide the aging and substandard sewer and drainage infrastructure that had beleaguered the city for many years.

The ambitious improvement plan was driven by MSD's vision to improve the quality of life across the entire community. MSD made a commitment to protect the region's waterways by fostering innovation and technology.

Today, MSD embraces its proud legacy and continues to build upon that same forward-thinking vision.

VITAL TO THE COMMUNITY

The Cedar Creek Water Quality Treatment Center (CCWQTC) was originally designed as a 2.5 million gallons per day (MGD) facility. Constructed in 1995, the treatment facility provided sanitary sewer service to the Cedar Creek Watershed.

The construction of this plant resulted in the centralizing of sewer services to many neighborhoods, which allowed for the decommissioning of multiple neighborhood package treatment plants, and greatly improved the operational performance of the consolidated treatment systems.

The CCWQTC played a vital role in improving water quality through the creation of a regional wastewater collection and treatment facility.

FACILITY DESCRIPTION

The CCWQTC treatment facility includes:

- an influent pump station
- a manually cleaned coarse bar screen
- two mechanically cleaned bar screens
- a grit removal basin and separator
- two concentric channel oxidation ditches
- four circular final clarifiers
- traveling bridge sand filters
- and ultraviolet light disinfection

Effluent is discharged into Cedar Creek after being aerated. The facility transports sludge from Cedar Creek to its Derek R. Guthrie Water Quality Treatment Center for combined sludge processing.

THE PROJECT

The CCWQTC concentric channel oxidation ditch had not been cleaned in over ten years, a fact that caused understandable concern and uncertainity.

Scope of Work

Deploy SediVision® technology to scan the concentric channel oxidation ditch. Deliver to Louisville MSD, informed data regarding the quantity and location of debris within the ditch.

Deliverable

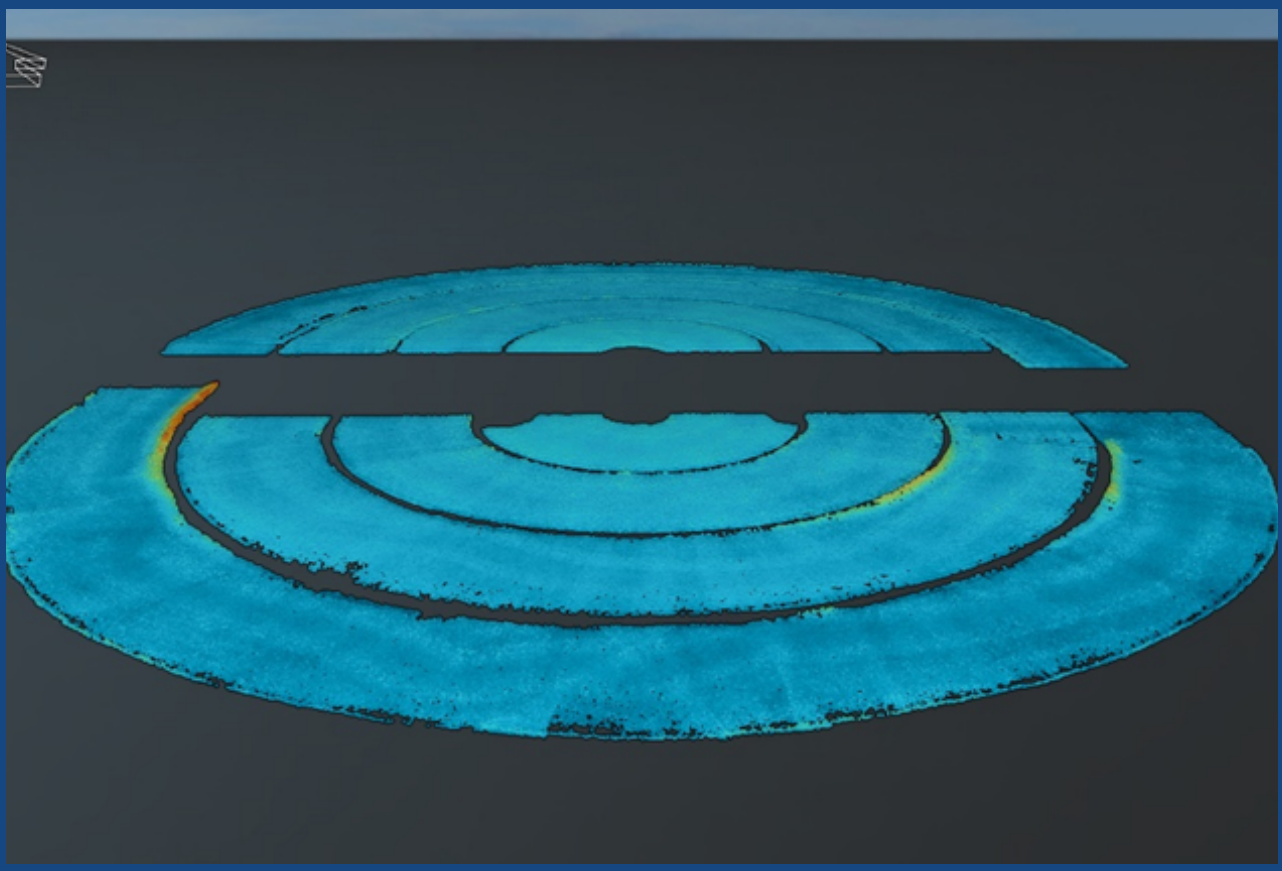
SediVision results revealed the location of debris within the ditch and showed that the ditch contained **only a limited quantity of debris.**

Conclusion

Equipped with hard data, Louisville MSD decision makers could evaluate the effectiveness of the Louisville Sand and Grit Removal System, concluding it was highly effective, and could then strategically choose to allocate funds to other projects instead of cleaning the oxidation ditch.

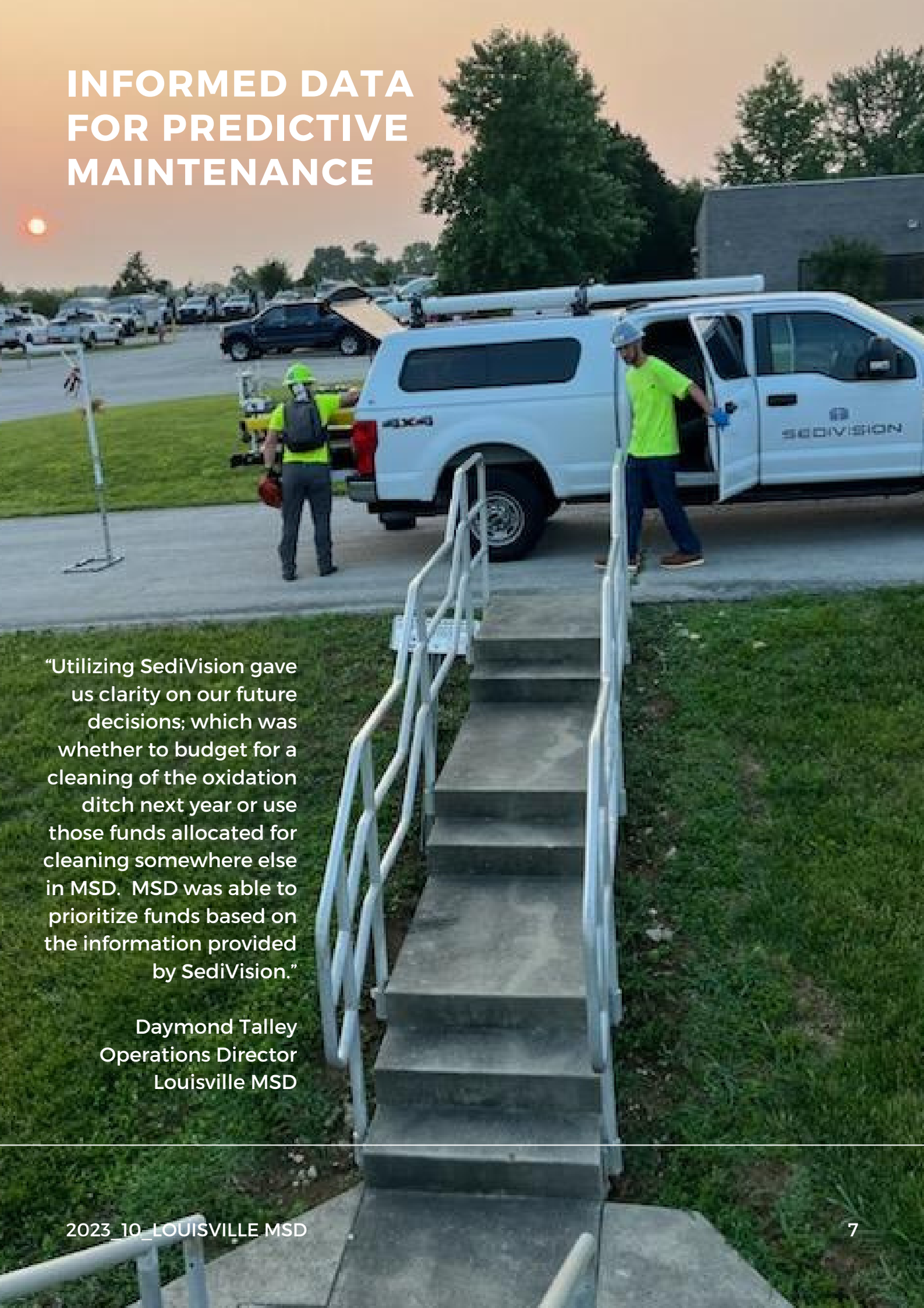
RESULTS

The use of SediVision® technology revealed that the scanned tank contained 73.9 cubic yards with a 0.6% loss of capacity overall. This was deemed negligible and cleaning the tank was not recommended.



"I was very impressed with the 3-D images of the tank and the precise detail of the material's location," said Louisville MSD Operations Director, Daymond Talley. "The results were conclusive for Louisville MSD: very little debris in over a decade confirmed that Louisville Sand and Grit Removal System was working efficiently. "

INFORMED DATA FOR PREDICTIVE MAINTENANCE



"Utilizing SediVision gave us clarity on our future decisions; which was whether to budget for a cleaning of the oxidation ditch next year or use those funds allocated for cleaning somewhere else in MSD. MSD was able to prioritize funds based on the information provided by SediVision."

Daymond Talley
Operations Director
Louisville MSD

FACTS

SediVision® provides complete visibility of sand and grit debris in full wastewater tanks.

Data collected over time with SediVision can lead to a predictive maintenance schedule for wastewater tanks, helping facilities make informed operational, maintenance, and budgetary decisions.

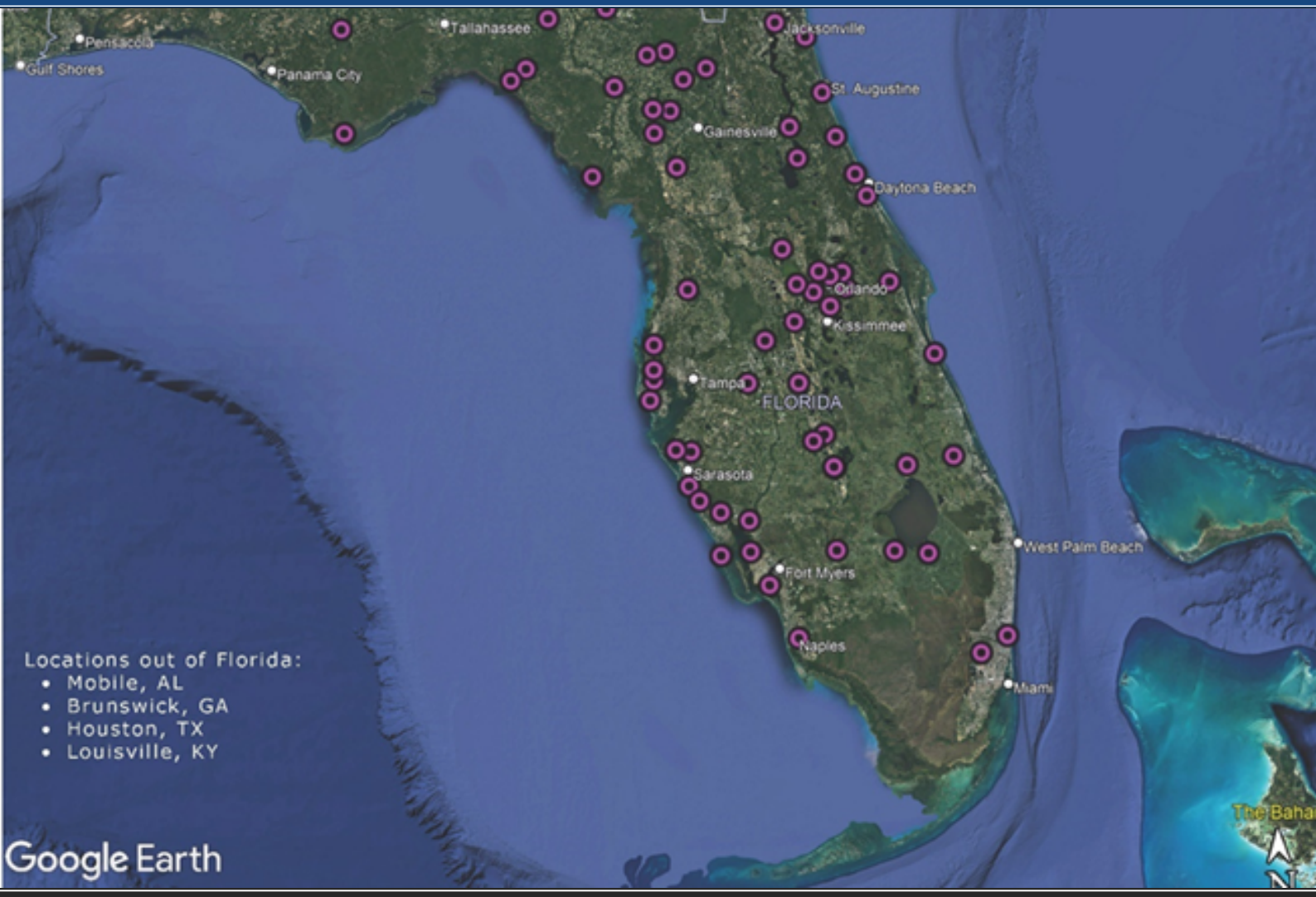
SediVision provides wastewater managers, utilities, contractors, and engineers with complete visibility in wastewater tanks and no need to drain down or go offline.

With SediVision, wastewater operators know precisely how much and where debris material such as sand and grit have accumulated in tanks, enabling them to make informed decisions about restoring capacity, operations at their treatment facility, and where to direct wastewater tank cleaning resources.

SediVision also has equipment and capabilities to scan and assess enclosed tanks and large diameter pipes for sediment build up and accumulation resulting in lost hydraulic capacity.

SEE IN DARK WATER

SediVision® has scanned over 120 tanks in 79 facilities throughout Florida and in Alabama, Georgia, Texas, and Kentucky.



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