CASE STUDY:

NORTH FLORIDA

CLIENT

A Florida Municipality

PROBLEM

A large master pump station was deeply deteriorated and would not last until the previously scheduled replacement.

RESULTS

The project was successfully completed ahead of schedule and saved hundreds of thousands of dollars in replacement costs as opposed to traditional methods.

A Florida municipality faced a critical situation with the severe deterioration of a master lift station and an adjacent collector manhole. Both structures were in a state of advanced decay, with a previously-applied non-Sprayroq liner that failed along with significant concrete erosion, jeopardizing their functionality and structural integrity. As one of the municipalities largest structures, the lift station measured 16 feet in diameter and 43 feet deep, while the collector manhole was 8 feet in diameter and measured 28 feet deep.

Although originally planned for replacement in late 2025, it became evident during an inspection that waiting until the scheduled replacement was not an option due to the rapid deterioration of both structures. Immediate action was needed to address this emergency.

SOLUTION

The municipality evaluated two proposals for the project: one for complete replacement by a local contractor, and the other for repair and structural lining by Engineered Spray Solutions (ESS) using Sprayroq's SprayWall solution. ESS was chosen to collaborate with the local contractor on the project. Their solution involved a meticulous four-phase approach:

Phase I – Scaffolding Installation: Install a certified fall protection scaffolding system from 43 ft. depth to the surface for access to the entire structure.

Phase II – Hydro Blast: Utilize a 20K pressure hydro blast system to remove the existing failed lining and expose the concrete substrate.

Phase III – Structural Lining Application: Mobilize a competent crew and equipment to apply Sprayroq's SprayWall according to the engineered design and spray plan, which included a tapered plan with varying liner thicknesses from 1,055 mils to 500 mils.

Phase IV – Inspection: Perform inspection and electronic holiday detection to ensure the structural integrity of the new lining.

ESS completed the project, including rehabilitating the lift station and manhole, while the local contractor handled the mechanical and electrical aspects of the project.

RESULTS

The collaboration between the local contractor and ESS using Sprayroq's Spraywall solution proved highly successful:

- The project was completed by the beginning of August, ahead of schedule.
- The project passed all inspections by the municipality's Inspection group.
- The project saved the community millions of dollars over traditional construction methods, as highlighted in the municipality's quarterly community bulletin.
- SprayWall's quick return to service saved over $300,000 in bypass pumping expenses.
- The overall project completion time was reduced by four months compared to traditional dig and replacement construction methods.

This project showcased the effectiveness and cost-efficiency of Sprayroq's structural lining solution in addressing critical infrastructure challenges, providing a sustainable and long-lasting solution for the municipality's master lift station and collector manhole.