CASE STUDY

MULTI-SENSOR SEWER INTERCEPTOR INSPECTION IN INDIANAPOLIS

Utilities provider in search of a condition assessment solution for an interceptor.

THE CHALLENGE

Known as the "Crossroads of America," Indianapolis is home to nearly 900,000 Americans. To keep the city operating efficiently, its infrastructure needs to stay in tip top shape. So, when Citizens Energy Group, a local utilities service provider, decided it was time to assess the condition of the West Indianapolis Interceptor, its team wanted to work with a crew that could provide as many condition insights as possible. Vortex Services was sub-contracted by Inliner Solutions, LLC, a PURIS company (previously Granite Inliner) to perform a comprehensive condition assessment of approximately 19,000 linear feet of the interceptor. The Vortex Services team was selected for this project because they had collaborated with Citizens Energy Group and Inliner Solutions on a similar job a year prior, and both parties had been pleased with the work performed and the deliverable package.

THE SOLUTION

As part of this multi-sensor inspection (MSI) project, which began in March 2023, the Vortex Services team utilized CUES' SoLID FX large pipe inspection system. This MSI system uses 2D lidar, sonar, and HD CCTV technology, and measures and documents pipe defects, measures actual pipe conditions and profile above the pipe's flow level, and quantifies and measures debris below the flow level, respectively.

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PROJECT SNAPSHOT

PROJECT OWNER
Citizens Energy Group

CONTRACTOR
Inliner Solutions, LLC

SUB-CONTRACTOR
Vortex Services – Northeast Division

PROBLEM
Citizens Energy Group needed a thorough assessment of 19,000 LF of sewer interceptor.

SOLUTION
MSI of the interceptor sections using 2D lidar, sonar, and HD CCTV technologies. Inspection data was then analyzed to create a full repair/rehabilitation proposal for the client.

CONTACT
Isaiah Bean
Vortex Services
isaiah.bean@vortexcompanies.com

Due to the interceptor's varying pipe sizes, which range from 24" to 148" in diameter, the crew had to get creative with their CCTV inspection methods. Towards the end of the interceptor, which is 148" x 96" in diameter, the average flow was about 65 MGD. The team used a floatation system for that pipe segment that allowed the crawler to traverse the interceptor's flow with minimal complications. The crew also faced some difficulty navigating through the interceptor's 24" diameter pipes, which contained more debris than expected. To remedy this, Vortex Services and Inliner Solutions adjusted the original inspection plan to include cleaning services that would allow the MSI equipment to comfortably move through the pipes.

Once the team completed the pipe assessments, they sent the scans over to Vortex's Data Team for analysis and coding. From this detailed inspection data, the crew was able to make informed repair and rehabilitation recommendations that were built into a full proposal for the client.

THE RESULTS

Despite the unforeseen delay due to more extensive pipe cleaning than initially planned for, the Vortex Services squad completed the project on time and stayed within the client's updated budget. And because of this team's earlier success on the previous year's assessment project, the client included a specification that was tailored to Vortex Services' deliverables and is now their city standard when it comes to multi-sensor inspection.

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IMPACT

1

Due to this team's success on the previous year's assessment project, the client included a specification that was tailored to Vortex Services' deliverables and is now their city standard when it comes to multi-sensor inspection.

2

The team deployed a floatation system to successfully assess the end of the interceptor (148" x 96" in diameter), where the average flow was about 65 MGD.

3

Vortex Services and Inliner Solutions adjusted the original plan to include cleaning services that would allow the MSI equipment to move through the clogged pipes.