



## MANHOLE INSPECTIONS

Duke's takes pride in our experience as a leader in wastewater technologies. We continue to invest in new technological sources and gain a comprehensive understanding of those tools with a desire to always explore new possibilities. Our ability to apply the information in a format that is compatible with today's software and municipal asset management systems is what sets us apart.

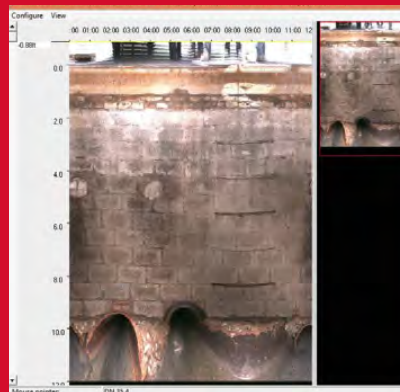
## TECHNOLOGY & DELIVERABLES

### NASSCO® MACP® 360 Imaging

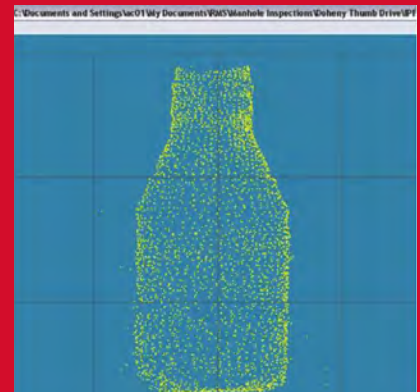
There are three views within the camera files - the 360 view which allows the user to pan/tilt and move up / down through the structure, the unfolded view which allows the user to take measurements and the point cloud view which allows the user to determine structure type and import into CAD. Collectively, these three perspectives portray the condition, size and defects within the structure.



360 Perspective View



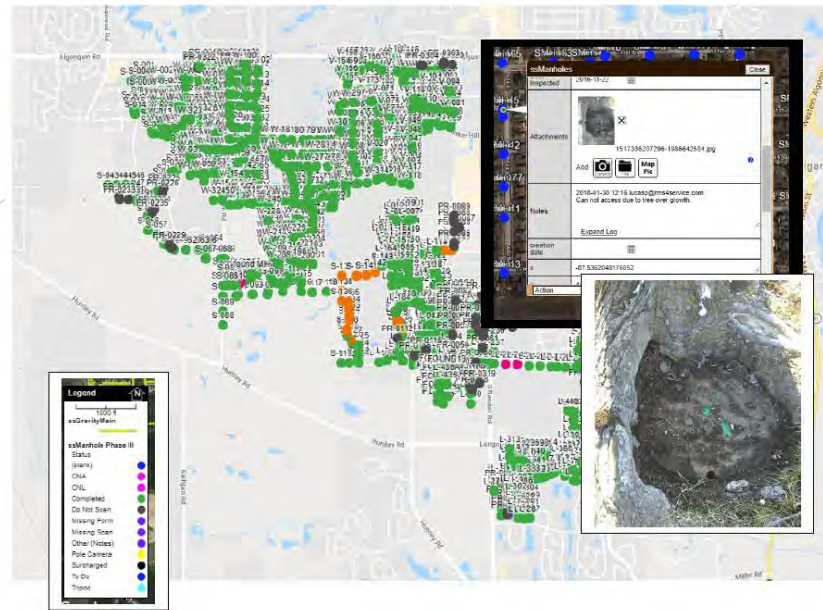
Unfolded View



Point Cloud View

## Reporting

Client will receive reports delivered in PDF format from a NASSCO certified software (Pipelogix). Based on the level of inspection (Level 1 or Level 2), fields within the report will be entered according to the required fields for the survey. For a level 2 survey, customer will receive a picture defect report, in addition to the standard MACP report. In addition to PDF format, all data is also delivered in a current NASSCO MACP compliant MS Access Database (.MDB) and MS Excel (.XLS) format for easy integration into most software platforms. Other reports such as the NASSCO Quick Rating score report and summary reports are also prepared as part of the standard deliverables package. Please reach out to us if you have specific data integration needs.



## GIS Tool

Our field collection process is real time, and at your fingertips. We do this through our hosted GIS platform in which we grant you access during the project. You can use it to view crew progress, identify and help remedy access issues and identify surcharges or immediate issues before deliverables are created. At the end of the project, we submit all data to you back in Geodatabase format, including repair recommendations, issue structures and found structures. We believe in easy data integration so we prepare you deliverables in a variety of formats that integrate into GIS, ERP and Asset Management Systems.

## Executive Level Analysis & Reporting Options

Our dynamic Dashboard tool allows you to quickly view, query and sort your data to drill down to the information you need to perform critical repairs or to generate bid files for CIP programs. View pictures from the tool, group like manholes together and print combined reports in PDF. The power of the project is at your fingertips!

