Written by MT Staff
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Municipal supervisors are increasingly turning to zooming, a pipeline inspection technique that delivers quick, comprehensive information about pipe condition using inexpensive equipment and few personnel. The goal of zooming is to rapidly classify infrastructure as either satisfactory or in need of maintenance, mapping, rehab or additional CCTV inspection. These classifications allow a supervisor to prioritize maintenance activities confidently, committing precious maintenance resources— *inspection crawlers, cleaning trucks, cutters/rodders, GPS surveyors and grouting and relining crews* —exactly where they're needed most.

Very often, time, budget and resources keep a municipality from maintaining comprehensive, up-to-date information on the condition of pipeline infrastructure. Without a complete picture of infrastructure condition, however, it is difficult to prioritize and schedule maintenance activities. As a result, a vicious cycle of emergencies, including backups, collapses and overflows, can erupt unexpectedly. When this happens, these emergencies must be dealt with on a triage basis—*often at great expense*. Unfortunately, these incidents can detract from the inspection work that is meant to prevent them in the first place.

Zooming complements other inspection techniques, it doesn't replace them. Inspection crawlers cannot be matched for their detailed, 360° inspection of pipe, but they move slower, require substantial investment and demand considerable manpower and overhead.

By contrast, zooming allows a single operator to make a rapid visual assessment of pipe using an inexpensive, ultra-portable zoom inspection camera. Such a camera identifies satisfactory regions of pipe, and also finds problem areas where detailed crawler inspection or other action must be taken.

Zooming's simplicity is its power. A typical zoom inspection system consists of a camera, lamps, a positioning pole and a video display. Grasping the pole, an operator at street level lowers the camera into a manhole and orients it to look down an adjoining pipe. Starting with a wide-angle view, the operator slowly increases zoom so the camera's view advances down the pipe. In this manner, an operator inspects the entire length of the pipe for anomalies, and then classifies its condition accordingly. With zooming, you don't have to squander time and resources crawling every foot of pipe—*you can deploy your crawler only where conditions warrant*.

Sewer Technologies of Port Perry, ON—one of Canada's leading trenchless sewer rehabilitation companies—finds that zooming with Envirosight's QuickView and having the ability to conduct on-the-spot inspections affords it an edge on bid jobs with City of Toronto departments and agencies. The company's estimates are much more accurate and it can assess job parameters very quickly. "We've used zooming technology to accurately assess infrastructure conditions without pulling in the big CCTV unit," says Brent Giles, VP of sales and marketing at Sewer Technologies. "It allows us to rapidly assess the condition of the sewer lines in the contract and price them accordingly. The zoom camera is responsible for the increased growth of both our municipal and construction projects."

Woolpert, Inc., a Dayton, OH-based engineering, geospatial and architectural consulting services firm, uses zoom cameras to keep abreast of manhole conditions. Zooming allows this company to capture unlimited digital images with greater magnification and illumination than a traditional camera. Woolpert also uses the QuickView to measures focal length, which is a helpful and accurate way to estimate the distance of a pipe defect from the camera. This ultimately allows crews to better estimate the location of needed repairs. Upon completion of the inspection, the operator classifies the pipe as "satisfactory," or in need of additional CCTV inspection, new mapping, cleaning or rehabilitation.

Can it work for you?
Any operation with water systems to inspect can benefit from zooming technology. Although crawlers will always be essential to pipeline inspection, zooming simply helps you use your crawling capability more effectively and gives you an affordable option for maintaining a thorough, upto- date assessment of infrastructure condition. Savings in equipment costs, time, labor and resource allocation are all important factors for any organization, large or small. **MT**

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