

Bigger Than Expected

What appeared to be a routine video inspection turned into a major cleaning project for a pipeline services firm in Virginia

By Jean Brandolini

Inspecting sanitary sewer lines is routine for Wayne Norman and his team at Capital City Services Company. So when the Department of Community Development in the City of Richmond, Va., called to ask Norman to inspect the 3,000 feet of 18-inch sanitary sewer line below an abandoned 30-acre apartment complex, he thought televising the line for inflow and infiltration (I&I) would take three days.

Instead, Norman encountered a line heavily filled with debris. In a project that took eight days, Capital City personnel used water jetting and flushing equipment and a clamshell to clean the line thoroughly before inspection.

During video inspection, the camera crawler contributed to the cleaning job by pushing large rocks to manhole positions for removal.

Checking for integrity

The City of Richmond was preparing the apartment complex for demolition, and before going ahead, engineers needed to ensure the integrity of the sewer and cap lateral lines. The main line had been installed in the 1940s when a housing development was built beyond the location of the apartments to be razed. The complex went up in the 1960s when the rest of the pipes were installed; it was abandoned in the 1970s.

Although it isn't unusual for pipes to be neglected for decades, Norman had never encountered debris such as he found below this subdivision. "The 18-inch lines were filled one-third with debris," says Norman, president of Capital City. "Normal debris was found, but it was further compounded by large rocks that were probably deliberately put in the sewer."

After the first moments on site, Norman knew he was facing not just an



A video camera used to inspect a sewer pipeline below an apartment complex in Richmond, Va., actually helped push rocks out of the pipeline. (Simulated photo supplied by Everest VIT.)

pounds of pocket change, and a great deal of sand and grit.

On to inspection

With the cleaning complete, the Capital City crew turned to televising the lines. Based on experience, they believed that between the high-pressure jets and a

we had to put a locator on the camera to find a manhole cover that had been overgrown by leaves, debris and growth."

On the last day of the inspection, conducted with water running through the line, the camera and crawler encountered an obstruction 380 feet into a pipe. It turned out to be a large rock.

Rolling rocks

The only way the crew could envision removing the rock was to push it with the crawler. "We did think that the force of the water would eventually lead it downstream," reports Norman. "We had used the crawlers in the past to move bricks and balls of grease, so we thought that, if we had to, we could push it to the next manhole."

The inspection crawler was soon pushing not just the first rock but also three smaller rocks picked up along the way. When the Capital City team met the crawler at the next manhole, they used a clamshell to remove the smaller rocks,

clamshell, all of the debris blocking the lines would have been removed.

Using a crawler-mounted pan and tilt camera, the team set out to locate leaks or fissures that might affect the integrity of the lines. "Part of the job was also locating the manholes in advance of the demolition," says Norman. "At one point,

inspection but a cleaning job. The only way to inspect the lines was to jet and vacuum them first. The crew began high-pressure cleaning using a Myers Jet Flush truck and a Myers Combination truck. With the excessive amount of the blockage, the cleaning added five days to the job, removing 25 to 30 rocks, five

TOUGH JOB

PROJECT:

Inspect and clean 3,000 feet of 18-inch sanitary sewer line

CUSTOMER:

Department of Community Development, City of Richmond, Va.

CONTRACTOR:

Capital City Services Company, Mechanicsville, Va.

EQUIPMENT:

Everest VIT robotic inspection crawlers, Myers combination truck, Myers Jet flush truck

Left to right: Sam Perez, Wayne Norman and Lee Bowling of Capital City Services.



then entered the manhole to remove the largest rock by hand when the clamshell failed. It weighed 65 pounds. In all, the crawler had pushed 95 pounds of rock more than 100 feet.

Capital City Services needed eight days to clean and inspect the 3,000 feet of 18-inch line. It wasn't the first nor will it be the last time Norman uses innovative methods. "He's come up with many different ways of completing jobs," says Bill Alley of MSC Equipment in Richmond. "If there is anyone who can do it, it's Wayne; he's pretty innovative with his equipment."

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