

EAST WINDSOR WATER POLLUTION CONTROL AUTHORITY

MAY 2010 COLLECTION SYSTEM MAINTENANCE

An ongoing concern of the East Windsor Water Pollution Control Authority has been the Sanitary Sewer Collection System. Over the last several years we have had to meet the challenge of first replacing our twenty something year old Jet Truck with the new Vector 2100 Series Vehicle, as well as battling man-power shortages. The old Jet Truck hadn't been reliable to use for preventative maintenance, only emergency work.



This meant that we were not able to perform normal yearly line cleaning for several years prior to receiving the new Vector. Our Collection System has become a priority, in need of attention.

Five of our operators are New England Water Environment Association and Professional Wastewater Operations - Water Environment Federation Board Certified. This level of certification gives us the confidence and experience necessary to begin our collection system maintenance program. Our first order of business would be addressing two problem locations in the Warehouse Point section of East Windsor, Pleasant Street and North Main Street.

Prior flushing operations revealed issues with these sections of pipe; our Certified Collection System Plant Operators found that as they flushed these sections they were experiencing blockages, sluggish line flow as well as the appearance of dirt or mud in the pipe suggesting that the pipe was cracked or broken. We realized that we would need to have the line inspected with a camera.

Our new Superintendent, Art Enderle, has twenty-years experience working with Mobile Robotics out of Hadley, Massachusetts. Charles Brown is the owner / operator of this 22-year old company. Mobile Robotics would present to us accurate and concise infrastructure investigation with full motion media including voice narration and on-screen information / data (footage, grade of pipe, time-date, condition of pipe).



Some highlights of Mobile Robotics equipment are:

- The ROVVER® 600 is the only steerable crawler that can inspect pipes from 6 to 60 inch diameter.
- At 12-inches long, it is more compact than similar inspection crawlers yet packs the power to move through restricted pipe, large offsets and protruding pipe taps.
- The system's automatic motorized cable reel senses the crawler's movement and automatically reels it in or out of pipes.
- The hand-held remote pendant easily steers the ROVVER® 600 around multiple elbows and solid obstructions and controls the crawler's focus, lighting, speed and pan & tilt functions.
- The ROVVER® 600 is the most advanced inspection system for sewer, drain, water, electrical conduit and process lines.

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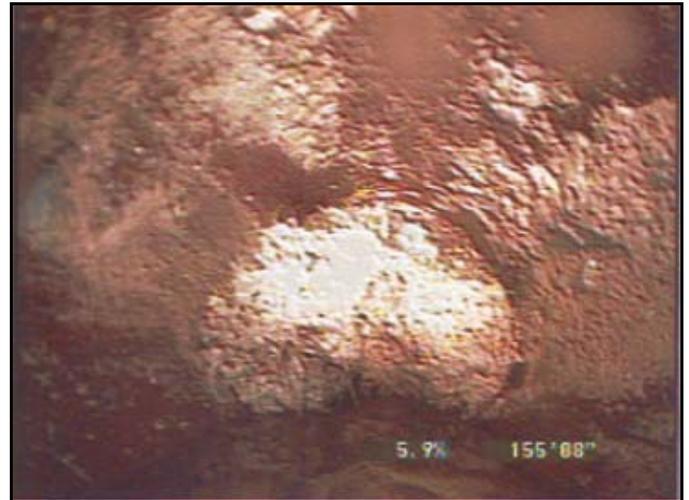


The complete length of Pleasant Street was inspected. The system consisted of 8" clay sanitary sewer pipe. What was found consistently throughout this length of pipe was a series of minor sags and offset joints. Severe roots are visible blocking the line at several sections. There is broken pipe at a few locations. Toward North Main Street severe grease buildup is evident within the line.

Plant Operators were able to use the visual provided by the camera, as well as the experience of Charles Brown of Mobile Robotics, to flush and cut through much of these sections of pipe. Knowing what you are up against allows our operators to choose the correct head for the flushing mechanism. Having this knowledge also gives them the confidence to send in the root cutter, something which is frowned upon without first "seeing" the pipe.



The section of sanitary sewer line from the intersection of Pleasant Street south along North Main Street has been an ongoing issue for us. This was revealed to be 10" clay sanitary pipe. Unfortunately, severe grease, roots and debris were seen within the first 50' section, with the camera unable to continue within this section without more thorough cleaning. This is a 600' run without an intermediate manhole. Useful information gathered thus far includes the need for an additional manhole at some date, along with the warning to not use the root cutter on the jet flushing mechanism until more of the line can be viewed. The fear is that by cutting "blind", we could end up plugging the line downstream as we would not yet know what the condition of the pipe is.



Despite being temporarily stopped from camera work on this section, our staff continued to flush and break down grease throughout the line in preparation for a return trip from Mobile Robotics. It may not happen overnight, but within time we hope to have a complete and better understanding about what exist "underground" in East Windsor's collection system.

Edward Alibozek
East Windsor WPCA Chief Operator
May 25, 2010

Photos from Mobile Robotics, Clockwise from upper left: Severe Roots. Severe Grease and Broken Pipe.