


CLEVER CRACKED CLEANOUT CAPS

Public education tool helps to stem inflow and infiltration 

Walton J. Summers

All cities struggle with inflow and infiltration (I/I) challenges. The Jacksonville (Ark.) Wastewater Utility is no exception; the city has spent more than \$12 million during the past 12 years to curb I/I. Work has included replacing main lines and pipe bursting existing lines. Flow monitoring before and after rehabilitation has confirmed between a 20% and 63% reduction in I/I in various basins throughout the city.

To build on this success, Jacksonville sought a way to educate the public about maintaining the integrity of private service lines. Most engineering estimates conclude that private service lines can contribute as much as 50% of I/I to the sanitary sewer system. The city's private service line policy requires homeowners to repair faulty service lines, and has resulted in more than 1200 service line repairs.

But to go beyond enforcing the policy to educating and empowering its customers, Jacksonville developed a unique and effective outreach tool for local festivals and city activities. The city built a display to show the necessity of keeping service line clean-out caps in good condition.

A clean-out is an opening into the private sewer service line that may be used to clear the service line in the event it becomes clogged. These clean-outs are located outside somewhere near homes.

They often are found where the runoff from the roof lands on the lawn. If caps are broken or missing, rainwater pours into the sewer system through these openings. This rainwater flows to the water resource recovery facility and must be treated as though it were sanitary wastewater. For Jacksonville, clean-outs are a huge I/I source.

The display is a trailer-mounted mockup of a series of clean-out caps with water flowing over them. Buckets below the clean-outs catch the water that passes through – what in the real world would be I/I.

The display illustrates differing conditions from a slightly broken lid to badly broken to completely missing. One clean-out is intact and waterproof. Water running from the roof provides a real depiction of how much water is allowed into the sanitary sewer system through a faulty clean-out cap.

Customers who visit the display are educated on the basics of how the water resource recovery facility operates and how the collection system lines and pump stations transport the water.

Customers also learn some steps they can take to assist the city in reducing I/I. Customers are asked to check their clean-outs on a regular basis to ensure the caps are properly in place.

Walton J. Summers is collection systems manager at the Jacksonville (Ark.) Wastewater Utility.

Photos courtesy of JWU



THE DISPLAY SIMULATES WHAT HAPPENS WHEN RAIN RUNS OFF OF ROOFS AND FALLS ONTO CLEAN-OUT CAPS. THE EXCESS INFILTRATION AND INFLOW LEADS TO STRESS ON THE DOWNSTREAM TREATMENT FACILITY.



THE JACKSONVILLE (ARK.) WASTEWATER UTILITY CREATED A PUBLIC EDUCATION DISPLAY TO SHOW THE EFFECTS A BROKEN OR MISSING CLEAN-OUT CAP ON THE COLLECTION SYSTEM. THIS EDUCATIONAL PROGRAM WORKS HAND-IN-HAND WITH THE UTILITY'S PRIVATE SERVICE LINE POLICY THAT REQUIRES HOMEOWNERS TO REPAIR FAULTY SERVICE LINES.