

# INGENUITY WINNERS AT WEFTEC®

**F**our inventors received awards from the 2015 Ingenuity Contest at WEFTEC® 2015 in Chicago. This marks the fourth year that the competition has recognized fixes that tackle a persistent problem with nothing more than the materials at hand and a hearty dose of ingenuity.

## CAPTAINS OF THE INSPECTION SQUADRON

When the City of Casper, Wyo., worried about the condition of the pipes within its water resource recovery facility, the wastewater crew found a floating solution. The crew pieced together some foam-board, a piece of wood, rope, and fasteners to create a raft for its collection system camera. The crew nicknamed the contraption The U.S.S. WWTP.



THE U.S.S. WWTP SITS READY TO SAIL THROUGH THE FACILITY'S PIPES. City of Casper, Wyo.

## VALEDICTORIANS OF THE SCHOOL OF HARD KNOCKS

During a March 2011 thunderstorm, operators at the Hill Canyon Wastewater Treatment Plant (Thousand Oaks, Calif.) noticed the pipe from secondary clarifiers to emergency retention basins was not flowing fully. After the storm, the crew determined that nothing but air was blocking the pipe, but it remained less than half full.

Restoring the pipe's full 189-m<sup>3</sup>/d (50-mgd) flow required getting the air out at the high point. Instead of a major construction project to lower the high point of pipe to prevent the air blockage, the crew installed a \$500 vacuum pump to the exiting air release valve. With the air removed, the line regained its full capacity.

## MASTER OF THE MACHINES

Vikas Bhaskaran, senior skilled trade technician at the Village Creek Water Reclamation Facility (Fort Worth, Texas), builds tools to aid his fellow mechanics. He created a plasma and oxy-acetylene cutting machine using parts salvaged from old traveling bridge filters. The machine cuts metal precisely to enable operators to fabricate metal pieces for custom repairs. Bhaskaran also created a ratchet to help remove and attach the stator from a screw pumps more safely. The ratchet enables a single person to do a task that, before, took five people.



BUILDING A PRECISION CUTTING TOOL FROM SALVAGED PARTS ENABLES THE VILLAGE CREEK WATER RECLAMATION FACILITY (FORT WORTH, TEXAS) TO MAKE THE CUSTOM PIECES IT NEEDS FOR REPAIRS. Village Creek Water Reclamation Facility

## DEAN OF PUBLIC EDUCATION

The Jacksonville (Ark.) Wastewater Utility wanted to educate customers about how line inspections work. To achieve this, operators built a display that includes a replica manhole, lateral, and cleanout cap. Part of the display gives an underground view of the lateral, which is cracked and wrapped with tree roots. Operators can show residents how smoke added to the manhole seeps up out of the grass – green outdoor carpet – and signals the need to televise the line to produce a defect drawing.

## SHARE YOUR INGENIOUS FIXES

WE&T will feature each of these award winners as well as many of the other Ingenuity Contest entries here in future Operator Ingenuity articles.

We also want to share your smart fixes and quick repairs. The

submission window for the 2016 Ingenuity Contest opens on Oct. 15.

So, throw together a roughly 1-page description of the problem you faced and the fix you found. If your invention or idea can be photographed, snap a picture and include it. See the full entry details at [www.weftec.org/ingenuity](http://www.weftec.org/ingenuity).