

SETTING SAIL ABOARD THE U.S.S. WWTP



Krista Johnston

When the City of Casper, Wyo., worried about the condition of the pipes within its 37,800-m³/d (10-mgd) water resource recovery facility (WRRF), the wastewater collection crew found a floating solution. The crew pieced together some foam-board, a piece of wood, rope, and some fasteners to create a raft for its collection system camera. They nicknamed the contraption the U.S.S. WWTP.

IDENTIFYING THE PROBLEM

The crew had concerns that the some or all of the 1050-mm (42-in.) reinforced concrete pipe that runs throughout the grounds of the WRRF was suffering from hydrogen sulfide corrosion. The facility owns a closed caption television vehicle, but the liquid level, flow rate, and access to the pipes prevented its use. Still, the crew needed to assess all 760 m (2500 ft) of the pipe.

RIGGING A SOLUTION

The wastewater collection crew knew that its collection systems camera could provide the information needed, the challenge was keeping it above the water's surface. So, they started fashioning a makeshift float. Using the materials at hand, the crew created a float for the camera – the U.S.S. WWTP.

Next, they needed to safely guide the camera through the pipe and ensure it could be recovered at the downstream manhole. The crew first dropped into the pipe an inflatable ball attached to several hundred feet of twine, and tied the twine to the upstream manhole. When the ball made its way to the downstream manhole, it was pulled out with a hook, leaving a long stretch of twine running the length of the pipe between the manholes.

NAVIGATING THE WATERS

With everything ready to sail and the tow line in place, the crew gently lowered the U.S.S. WWTP into the pipe. Crew members pulled the float through the pipe at a steady rate from the downstream manhole. Upon arrival at the downstream manhole, the U.S.S. WWTP was removed safely using a long-handled hook.

The video collected from the voyage was invaluable. It showed areas of severe corrosion and pipe collapse that must be repaired in the near future.

The U.S.S. WWTP earned the members of the wastewater collection crew – Lane Christensen, David

Ferguson, Matt Wilhelms, Jared Winzenried, Brody Allen, and James Soller – the Captains Of The Inspection Squadron award from the 2015 WEFTEC® Ingenuity Contest.

Krista Johnston is sanitary sewer/stormwater manager in the Wastewater Collection division of the City of Casper, Wyo.



THE WASTEWATER COLLECTION CREW FROM THE CITY OF CASPER, WYO., SHOW OFF THE U.S.S. WWTP, WHICH THEY USED TO INSPECT THE PIPES BENEATH THE WATER RESOURCE RECOVERY FACILITY. PICTURED ARE KRISTA JOHNSTON, JARED WINZENRIED, MATT WILHELMS, DAVID FERGUSON, LANE CHRISTENSEN, BRODY ALLEN, AND JAMES SOLLER. City of Casper, Wyo.

