

CASE STUDY:

Spiralman™ at Southwest Wastewater Treatment Plant



Customer: City of Houston  
Location: Houston, Texas

## Background

The 60 MGD Southwest wastewater treatment plant in Houston, TX was originally constructed in the 1940s. As the metropolitan population grew and the City expanded rapidly, several problems arose, resulting in the need for two plant expansions.

In 1998, the installation of an odor control system became a necessity. It was determined that the original bar screens and grit chambers were contributing factors to the odor problems. When they were removed in 1998, a new problem surfaced. Floating debris accumulated in unwanted areas such as the influent channel and within the plant's clarifiers. Southwest WWTP had no onsite way of coping with this and as a result the debris had to be pumped to another wastewater treatment plant, resulting in obviously major operations costs.

The City of Houston determined that a scum screening system was vital to the removal and screening of the floating debris from the wastewater stream and scum flow. Engineering company Klotz Associates, Inc. ultimately determined that for the best operations and maintenance results, the scum would have to be screened onsite at the Southwest WWTP.

Klotz Associates, Inc. determined that the Headworks® Spiralman™ Plus was the single solution for the problems at the Southwest WWTP. The shaftless in-channel spiral screen with ¼-inch openings is contained in a stainless steel Black Box™ design, and cleans and removes debris from the incoming scum, then discharges into a dumpster. The technology boasts an average design flow rate of 800 GPM and a peak design flow rate of 2,500 GPM with an influent solids concentration of 300 mg/L.

In addition to creating a safer working environment for operations personnel who no longer have to manually remove the scum from various areas of the plant, the improvements to the City of Houston's Southwest WWTP have resulted in vast savings in operation and maintenance costs. "The estimated reduction in labor and power costs as a result of the constructed improvements is \$30,000 per year." (Klotz Associates, Inc. 2001 City of Houston, Final Engineering Design Report, Southwest WWTP Improvements).

This means that over the last 6 years since the Headworks® screens were installed, the plant owners have saved approximately \$180,000. Headworks® is proud to be a part of such upgrade projects, helping to improve the quality of life for nearby residents and providing solutions to the toughest of water and wastewater challenges!

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