



### First Mahr Bar Screen Installed in the United States - Still Running Strong!

#### Background

The fourth largest city in the United States is home to Headworks® headquarters and also boasts the first Mahr® Bar Screen installed in the United States. The Beltway Wastewater Treatment Plant is located on the west side of Houston, TX and receives wastewater from Alief, Kirkwood, Dairy Ashford, Richmond, and other surrounding residential areas. Wastewater flows have steadily been on the rise as Houston's population continues to grow and the plant that previously handled approximately 6 MGD now receives anywhere from 8 MGD to upwards of 20 MGD.

#### Why Beltway chose Headworks

Since Headworks Inc. is based in Houston, Texas it made perfect sense to approach the City of Houston for a bid in 1994 that involved replacing two old climber type screens at the Beltway WWTP. Headworks was new to the United States and the City of Houston wanted to witness firsthand the operation of the Mahr Bar Screen before they would consider the product for their application.

The City requested that Dr. Truett Garrett, former City Engineer at the City of Houston, visit an installation in Vienna, Austria while in route to the IAWQ 17th Biennial International Conference in Budapest, Hungary (no travel expense was paid by the City of Houston). Dr. Garrett made a few stops at plants around Vienna where the Mahr Bar Screen was in operation. Most notable was the Left Danube Pumping Station, where 8 Mahr Bar Screens had been operating at depths of 34 feet (10 meters) since 1980.

**QUALITY THAT NEVER QUILTS**

**Customer:** City of Houston

**Industry:** Municipal

**Location:** Houston, TX, USA

#### First Mahr Bar Screen

**Installed:** 1996

**Bar Spacing:** 3/4 in (19 mm)

**Design Flow:** 45 MGD (7,100 m<sup>3</sup>/hour)

**Material of Construction:** 316 SS

**Channel Width:** 5 feet (1.5 m)

**Channel Depth:** 5 feet (1.5 m)

# Beltway WWTP - Houston, TX



The Mahr Bar Screen operated for 10 years of run time with no chain, sprockets, or lower bearings requiring replacement.

*“Compared to other types of bar screens that I have worked with in the past, the rakes on the Headworks Mahr Bar Screen are very durable. They have been able to withstand plenty of harsh solids without breaking.”*

*- LeAndrea Scott  
Operations Section Chief of the  
Beltway WWTP*

After his trip, Dr. Garrett reported back to the City of Houston that the Mahr Bar Screens were operating with ease.

Based on his feedback, the City decided to sole source the original climber screen for one channel and try the Headworks Mahr Bar Screen for the second channel. The screen was designed to handle flows of 45 MGD with  $\frac{3}{4}$  inch bar spacing for a channel 5 feet wide by 5 feet deep. All of the components of the Mahr Bar Screen are made from stainless steel which met the plant's requirement of all 316 stainless steel construction.

## Solution

The screen was installed in 1996 and Dr. Garrett's report held true at the

Beltway WWTP. Since then, the Mahr Bar Screen has successfully protected the treatment process at the plant, including aeration basins and clarifiers and has been especially useful for improving solids capture and keep debris out of the grit systems, optimizing their overall performance.

When asked about the strength of the screen, Mr. LeAndrea Scott, Operations Section Chief of the Beltway WWTP, stated, “Compared to other types of bar screens that I have worked with in the past, the rakes on the Headworks Mahr Bar Screen are very durable. They have been able to withstand plenty of harsh solids without breaking.”

What's most impressive is that the screen operated for ten years of run time with no chain, sprockets, or lower bearings requiring replacement – a testament to the strength and durability of the Headworks design. Today, the Mahr Bar Screen remains in operation and serves as a reference for the quality engineering and sturdy design that is synonymous with the Headworks brand name.

**To learn more about the maintenance friendly Mahr Bar Screen, contact:**

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