



HUBER TRASHMAX® ENHANCES HIGH-CAPACITY FLOOD PROTECTION FOR MAJOR STORMWATER PUMP STATIONS

BACKGROUND & CHALLENGES

In August 2017, Harvey made landfall in Texas as a Category 4 hurricane, causing unprecedented flooding that resulted in more than 100 deaths and \$125 billion in property damage. Hundreds of thousands of homes were destroyed when the area was pummeled with over 40 inches of rain, the wettest storm on record in the United States.

Dubbed as “Americas Flooding Capital” by the National Weather Service, the Houston area continues to see frequent major storms. Their system of levees, pump stations, reservoirs and retention ponds are designed to manage the flow of water in this near-sea level, flat landscape. Fort Bend County has over 100 miles of levees to contain these flood waters.

To better protect the area from possible 100-year flood events, Fort Bend Levee Improvement District No. 2 (FBLID#2) initiated an improvement project to increase the drainage and capacity by 400% at one of its pump stations. The district tapped consulting firm AECOM for the pump station design. At the heart of the design was the incorporation of seven 1,500HP vertical turbine pumps which have the combined capacity to pump an astonishing one million gallons per minute. Large screens to protect the pumps from oversized debris that is commonly found in storm drainage areas was vital to the success of the project.

SOLUTION PROVIDED BY HUBER TECHNOLOGY, LLC

The original design was based on multi-rake, front-rake bar screens like the Huber RakeMax®, however HUBER partnered with the contractor, consultant and owner to offer an even more robust solution in the HUBER TrashMax®. Its unique rake design can lift and transport larger storm debris than conventional multi-rake, front-rake screens, so objects like tree branches, building wreckage, bicycles and shopping carts can be washed down after a storm.

Six Huber TrashMax® screens were installed to handle a peak flow of 274 million gallons per day (MGD). These 37-foot-tall screens have 3” bar spacing and fit into 6.5-foot-wide channels that lay adjacent to the levee and in front of the pump station.

PROJECT DATA

Client: Fort Bend Levee Improvement District #2 (FBLID#2)

Location: Sugar Land, TX

Project Type: Storm Water Screening

HUBER Technology, LLC
Solution: HUBER TrashMax® Screen

Completion Date: October 2021

Client Testimonial:

“The reliability of these screens are paramount. They are an essential part in the protection of the large flood control pumps. These screens have to be ready and have proven to operate flawlessly even during the most recent Hurricane Beryl which struck the area in July 2024.”

-Chief Operator, FBLID#2

RESULTS & BENEFITS

Performance Improvements:

- ✓ Fulfilled the need for long term pump protection from large debris.
- ✓ Heavy duty construction from frame to the screen field is designed for large flows and large loads.
- ✓ Rear rake design better suited for this application than conventional front rake, multi-rake screens.

Operational & Environmental Gains:

- ✓ The Screen and pump facility has protected business and homeowners from catastrophic property damage.
- ✓ Screens are ready when called for, as failure is not an option during storms, floods and hurricanes.
- ✓ Screens are part of a larger levee protection system that allow for citizens in these flood prone areas to have their property insured.



Q4 2021: Startup of six TrashMax® screens

CONCLUSION

This station, proudly named The Andre D. McDonald Pump Station in Sugar Land, TX is the largest of its kind in the state. HUBER was proud to work with FBLID #2 in providing the first line of defense in the protection of the residences, business and hospitals served by the District.

ABOUT HUBER TECHNOLOGY, LLC

Headquartered in Denver, North Carolina, HUBER Technology, Inc. operates a 206,000-square-foot state-of-the-art facility that houses offices, training centers, and advanced manufacturing capabilities. This enables us to design, produce, and deliver a wide range of wastewater treatment equipment, from dewatering screw press systems, headworks screens, grit handling, septage receiving, tertiary filtration and equipment and drying of biosolids equipment for use in the water and wastewater industry.



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For more information about the HUBER TrashMax® please scan the QR code