

Headworks Screens Withstands Major Flooding Conditions in Mill Creek WWTP, Cincinnati



Purportedly the largest bar screens in the United States, the Headworks two (2) Mahr Bar screens, almost 70 feet in overall length, is installed in Mill Creek WWTP in Cincinnati, Ohio.

The Mill Creek wastewater treatment plant is on a combined sewer system. It typically encounters high flows, and large solid loads during peak rain events. Before installing their current bar screens, the plant faced problems with high maintenance and blinding that resulted in by-passing during high flow periods. These problems were a direct result of the old "climber type" screens that were used for pump protection. After facing multiple problems, the plant authorities decided to search for more efficient, low maintenance screens.

After visiting Headworks installations in Austria, consulting firm, CH2 M Hill (BBS corporation at the time), and the Cincinnati Metropolitan Sewer District (MSD), decided that installing the Headworks® Bar Screen would greatly benefit the Mill Creek facility.

MSD had three main reasons for selecting the Headworks® Bar Screen. First, installing robust, corrosion-resistant, more reliable bar screens

would provide a higher degree of protection for their main pumps. Secondly, the Headworks® Bar Screen with fine 3/8" openings obviates the need for separate fine screens thereby lowering both capital and O&M costs. Lastly, MSD wanted to eliminate by-passing the headworks at high flows, which was commonplace with their previous screens. In CSO applications such as this, the Headworks® Bar Screen is uniquely designed to not only handle both the fine and coarse screening in one step, but also to automatically increase the cleaning cycle to every 5 seconds at high flows.

Recently, the Mill Creek WWTP Bar Screens had to endure a massive quantity of floating materials that swept into the intake of the plant as the result of flooding conditions in the Cincinnati area. One screen alone handled 200 MGD at the peak of a hurricane the summer of 2005. The screens cleared out limbs, roots, tree stumps and more. Despite these extreme and unusual conditions, never once did the performance of the meanest, toughest screens on the market fail.

After witnessing the Headworks® Bar Screen hoist a chewed-up 24'

fiberglass extension ladder from the channel, H.M. Samco Rep Mr. Pat Hanlon states,

"this is the most unbelievable and difficult of applications I've ever seen in my life"

(11 March 2005). In addition to fiberglass ladder, Hanlon has also witnessed the Bar Screen lift up bowling balls, large masses of concrete, bricks, and tree roots.

Mr. Bob Kuhn of CH2 M Hill states in regards to the operation of the Mill Creek Bar Screens,

"The ability of the screens to lift up material from the sewer system is excellent. The screens have operated very successfully and are able to flawlessly handle the very high flows" (24 March 2005).

The durability of the screens seen at Mill Creek is proof that the Headworks® Mahr Bar Screen is the only technology on the market that is able to handle such severe conditions.



Information:

- * Mill Creek WWTP, Cincinnati, Ohio
- * Year: 2004
- * Two Headworks Mahr Bar Screen
- * 3/8 inch openings
- * 200 MGD per screen
- Overall 70 feet