

Mountainview Thoroughbred Racing Association Wastewater Treatment Facility

Hollywood Casino at Penn National Race Course, Grantville, PA



The Mountainview Thoroughbred Racing Association (MTRA) has operated a wastewater treatment facility (WWTF) in Grantville, Pennsylvania since the 1970s. The WWTF serves the Hollywood Casino at Penn National Race Course and local hotel and small snack shop. The expansion of the entertainment complex and the establishment of more stringent wastewater discharge limits required the replacement of the 1970s vintage treatment plant with a modern facility. The NPDES permit includes seasonal ammonia limits of 2 mg/L (summer) and 6 mg/L (winter), and total nitrogen and total phosphorus mass loading limits equivalent to 8 mg/L and 1 mg/L based on an annual average daily flow of 0.23 mgd, respectively. The MTRA WWTF has a maximum month hydraulic capacity of 0.40 mgd. The MTRA WWTF also accomplishes water reuse to reduce demand on groundwater resources and impacts on the assimilated capacity of local streams.

The sequencing batch reactor (SBR) provides conditions to perform biochemical oxygen demand removal, nitrification, and denitrification (nitrogen removal) to meet NPDES discharge limits. Tertiary filtration is provided by an Aqua-Aerobic Cloth-Media Disk Filter (CMDf) system. Disinfection is provided by chlorination, dechlorination, and cascade aeration. The MTRA WWTF reused approximately 25% of the WWTF flow during the first year of operating the water reuse system; which includes water reuse transfer pump, piping, supplemental disinfection system, and a 150,000-gallon storage tank components for dirt and turf track watering and for flushing water in the complex's restroom facilities. The 150,000-gallon water reuse storage tank and water reuse pumping station are located adjacent to the race course which is approximately 2,500 feet from the MTRA WWTF.



*Water Reuse 150,000-Gallon Storage Tank and
Main Water Reuse Pumping Station*



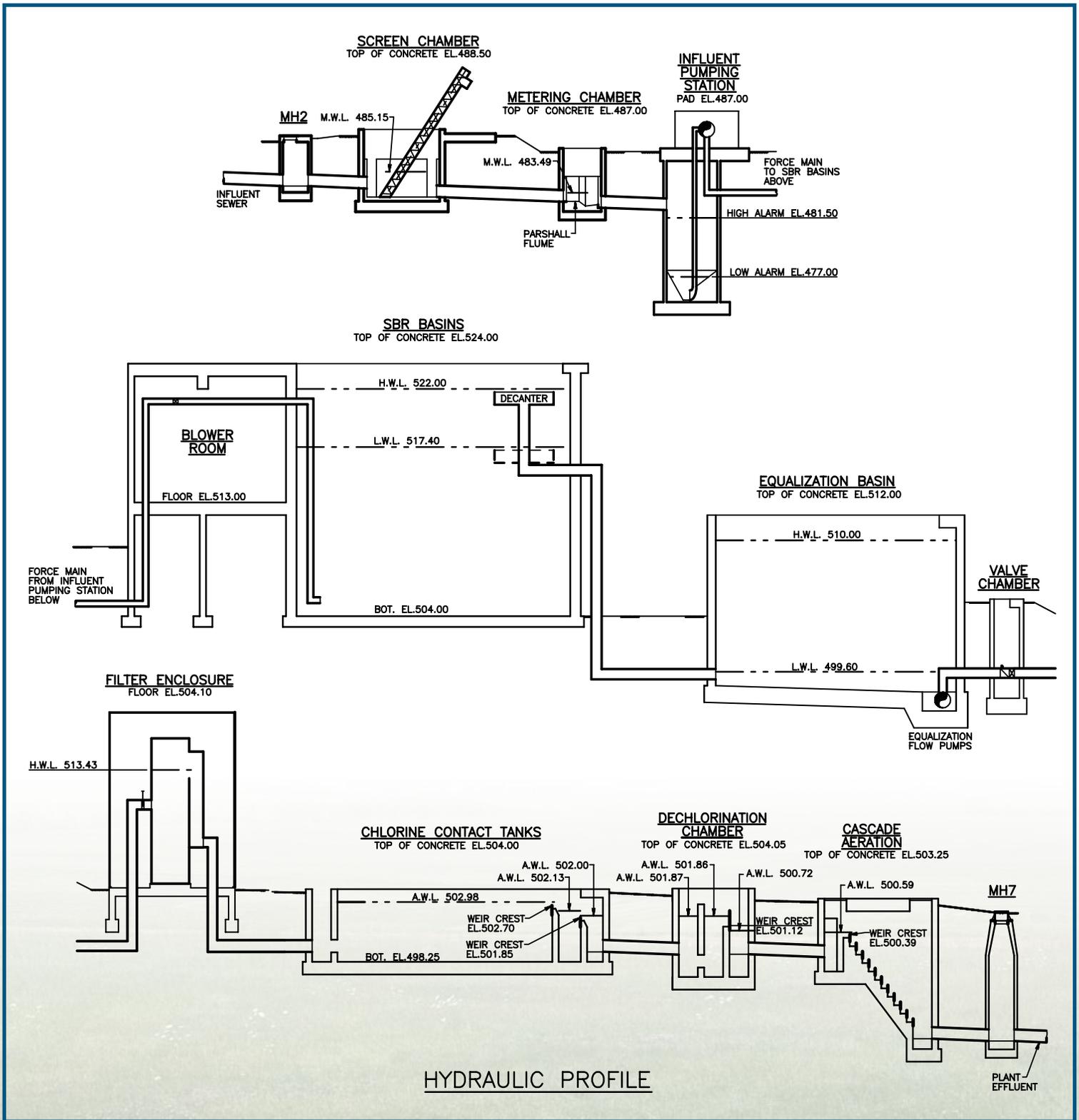
Reuse Pumping Station (Interior)

The water reuse system is designed to handle a maximum daily turf and track usage of approximately 120,000 gpd and a maximum daily sanitary flushing water demand of 35,000 gpd. Signs, color coding and a dye injection system for sanitary flushing water demands at the Casino guards against cross contamination of the reuse water with the potable water system.

Gannett Fleming, the on-call engineer since the mid 1980s, was directed to design the WWTF in four months and also utilize design-build techniques for this project. The project was delivered on schedule to meet the client's timeline. The new wastewater treatment plant was brought on-line successfully in January 2007 and received the first wastewater reuse permit issued in Pennsylvania under current reuse regulations.

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