

Sedimentation Tank

Overview

There are 5 [sedimentation tanks](#) in the Marcala plant, each with two sub-sections that drain through their respective effluent launder pipes. Eight of the 10 sub-tanks have the effluent launders installed and are attached to what will be the plant leveling tank. Currently we are working on including the design of the additional 2 sub-tanks. The number and size of the orifices in each effluent launder must be designed to account to reduce the difference in flow between the longest and shortest flow paths from the sedimentation tanks to the plant leveling tank.

The design program can be seen in [Marcala Launder orifice design MathCAD File](#)

Design Constraints

- Number of sedimentation tanks and their dimensions
- The last 2 sedimentation tanks are an additional 25 cm longer than the other 8, giving them a total length of 265cm
- Diameter of effluent launders and manifolds: 6 in
- Depth of effluent launders in each sedimentation tank: 10 cm
- Flow of water into sedimentation tank
- Length of launders and manifolds leading to plant leveling tank
- The head loss from the sedimentation tank to the plant leveling tank



Photo of the Marcala sedimentation tank under construction.

Marcala Tank Dimensions

