**Section 604.525 Tube or Plate Settlers**

a) Settler units consisting of variously shaped tubes or plates installed in multiple layers and at an angle to the flow may be used for sedimentation, following flocculation.

b) Tube or plate settlers must meet the following requirements:

1) Inlet and outlet design must maintain velocities suitable for settling in the basin and to minimize short-circuiting;

2) Plate units must be designed to minimize maldistribution across the units;

3) Drain piping from settler units must be sized to facilitate a quick flush of the settler units and to prevent flooding of other portions of the plant;

4) Outdoor installations must be protected against freezing, including sufficient freeboard above the top of the settlers;

5) Tubes must have a maximum application rate of 2 gpm per square foot of cross-sectional area, unless higher rates are shown through pilot plant or in-plant demonstration studies;

6) Plates must have a maximum application rate of 0.5 gpm per square foot, based on 80 percent of the projected horizontal plate area;

7) Flushing lines must be provided to facilitate maintenance and must be properly protected against backflow or back-siphonage;

8) Inlets and outlets must conform with Section 604.515(b) and (d);

9) The units' support system must be able to carry the weight of the settler units when the basin is drained plus any additional weight to support maintenance; and

10) Settler units must accommodate:

A) A water or air jet system for cleaning their tubes or plates; and

B) Dropping their water level to allow cleaning with the system identified in subsection (b)(10)(A).

(Source: Amended at 47 Ill. Reg. 7503, effective May 16, 2023)