

# **Water Treatment Standards used for CTC 450 Class**

**Not to be used for design; not checked for currency**

## **Water Treatment (rapid mixing)**

Rapid mixing detention time: <30 seconds

## **Water Treatment (floc formation)**

Floc basin detention time: >30 minutes

Floc basin flow through velocity: (0.5-1.5 ft/minute)

## **Water Treatment (sedimentation)**

Sedimentation basin detention time: >4 hours (2 by approval)

Sedimentation basin horizontal velocity:  $\leq 0.5$  ft/minute

Sedimentation overflow rate: 500-800 gpd/square foot

Sedimentation weir loading rate: <20,000gpd/linear foot

## Wastewater Treatment Standards used for CTC 450 Class

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### Wastewater Treatment –Primary Clarifier: EPA Standards

Average Monthly	Peak Flow
Overflow rate: 800-1,200 gpd/sq ft	Overflow rate: 2,000-3,000 gpd/sq ft
Side Water Depth: 10-13 ft	Side Water Depth: 10-13 ft
Weir Loading: 10,000-40,000 gpd/ft	Weir Loading: 10,000-40,000 gpd/ft

### Wastewater Treatment –Primary Clarifier: Waterworks Standards

Average Monthly	Peak Flow
Overflow rate: <1,000 gpd/sq ft	Overflow rate: <1,500 gpd/sq ft
Side Water Depth: 7'	
Weir Loading: <10,000 gpd/ft	

### Wastewater Treatment (intermediate clarifier)

Overflow rate: <1,000 gpd/sq ft

Side Water Depth: >7'

Weir Loading: <20,000 gpd/linear ft

### Wastewater Treatment (secondary or final clarifier)

Overflow rate: <800 gpd/sq ft

Side Water Depth: >7'

Weir Loading: <20,000 gpd/linear ft

Detention Time: 2-3 hours

### Wastewater Treatment (trickling filter;-high stage)-not “two-stage”

Recirculation Ratio (0.5-3)

BOD Loading: 30-90#/1000 cubic ft/day (or 1300-3900#/acre-ft/day)

Hydraulic Loading: 10-30 million gallons/acre-day (or 0.16-0.48 gpm/sq ft)