Figure: 30 TAC §317.4(d)(5)

Effective[c] Detention Design	Maximum Surface[a] Loading at Peak Flow	Minimum Effective[c] Detention Time at Peak Flow	Maximum Surface[a] Loading at Design Flow	Minimum Time at Flow
Clarifier	**(gal/day/sq ft)**	**(hrs)**	**(gal/day/sq ft)**	**(hrs)**
Primary and Intermediate	1,800		1000	
Final:				
Fixed Film Secondary	1,600	1.1	800	2.2
Fixed Film Enhanced	1,400	1.3	700	3.0
Secondary[b]				
Activated Sludge (except extended air) Secondary	1,400	1.3	700	2.6
Enhanced Secondary[b]	1,200	1.5	600	3.0
Extended Air Secondary	1,000	1.8	500	3.6
Extended Air Enhanced Secondary[b]	800	2.2	400	4.5
Second Stage Nitrification	1,200	1.5	600	3.0

a. Does not include recirculation

b. Enhanced Secondary Treatment refers to enhanced solids removal achieved through reducing the hydraulic and solids loading to the clarifier

c. Overflow rate and sidewater depth (SWD) may be adjusted, keeping the detention time unchanged, over a range of 8 feet to 16 feet of SWD. The detention time is based on the effective volume and the overflow rate of the circular or rectangular clarifier. (The effective volume includes all liquid above the sludge blanket). For cone bottom tanks, the top of the sludge blanket is considered to be at the top of the cone. For flat bottom tanks, a sludge blanket of 3 feet should be allowed for development of maximum return sludge concentration.