

TREATMENT PROCESS

PRIMARY TREATMENT

PRIMARY CLARIFIERS

PHYSICAL PROCESS

After grit removal, wastewater flows to primary clarifier tanks. Wastewater velocity is slowed to 1-2 feet/minute (1 foot /second in grit channel), and detention time is a minimum of 2 hours in the primary clarifier tanks. Removal of floatable material (plastics, wrappers, grease) and settleable material (sludge- settleable and total suspended solids) is accomplished in the primary tanks. Floatable materials are collected by a scum arm on the surface of the wastewater, deposited in a sump, and it is periodically pumped to anaerobic digesters. The scum arm is attached to the sludge collection machinery in the bottom of the tank. The concentric movement of the sludge collection machinery (comprised of ploughs) concentrates the sludge to a center sump. This primary sludge is pumped each shift every day.

Approximately 90-95% of the settleable solids, 40-60% of the total suspended solids, and 25-50% of the BOD is removed in the primary clarifiers. An average of 25,000 gallons of 3% solids primary sludge is pumped each day to the anaerobic digesters.