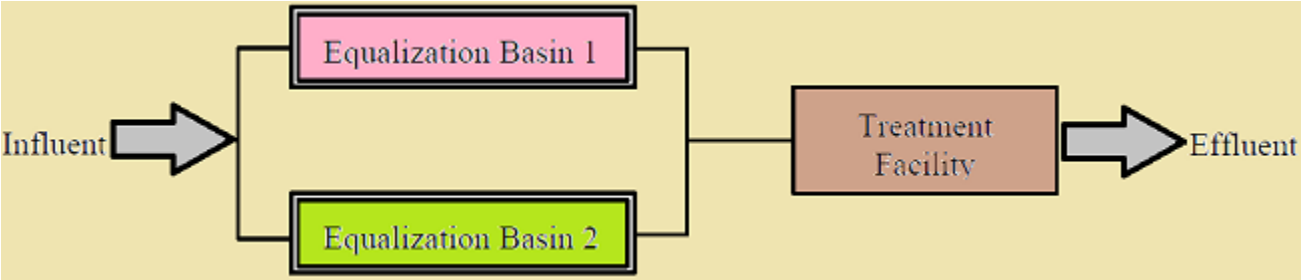
Flow Equalization tank

Flow equalization is method used to overcome the operational problems and flow rate variations to improve the performance of downstream processes and to reduce the size & cost of downstream treatment facilities. To prevent flow rate, temperature, and contaminant achieves its objective by providing storage to hold water when it is arriving too rapidly, and to supply additional water when it is arriving less rapidly than desired. A smaller the screen opening, greater will be the amount of material screened.



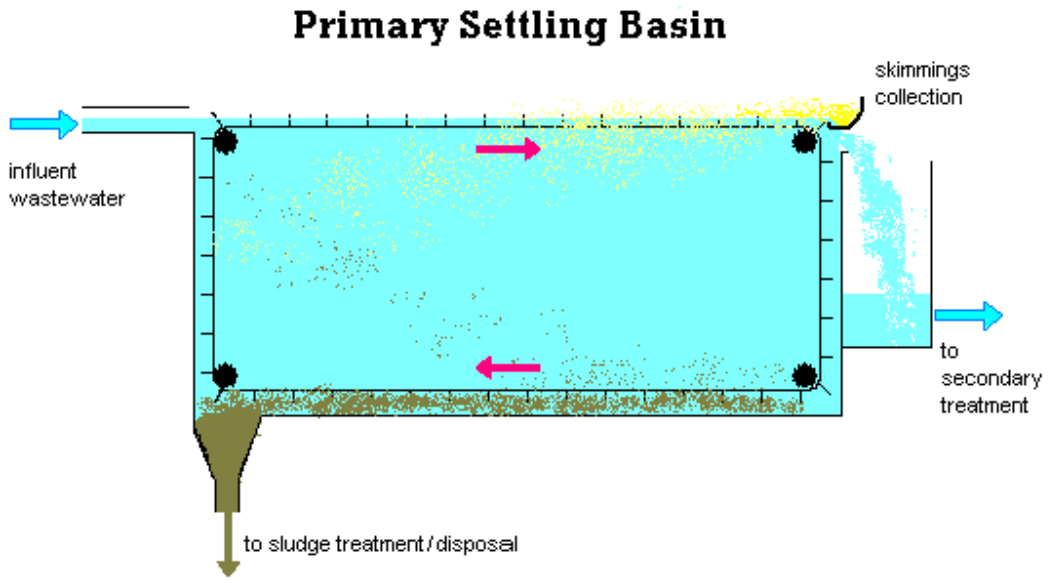
In order to improve the performance of a reactor, particularly the biological processes, it is required to equalize the strength of wastewater and to provide uniform flow, an equalization tank is design after screen and grit chamber. This may be in the line-off or off-line, as shown in the

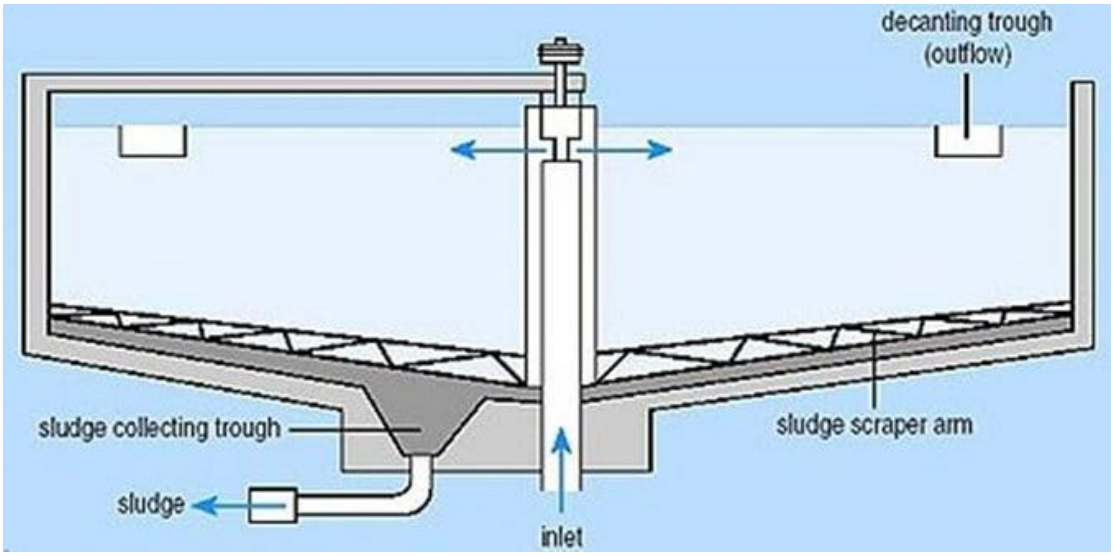
primary treatment

sedimentation tank ,settling tank,clarifier

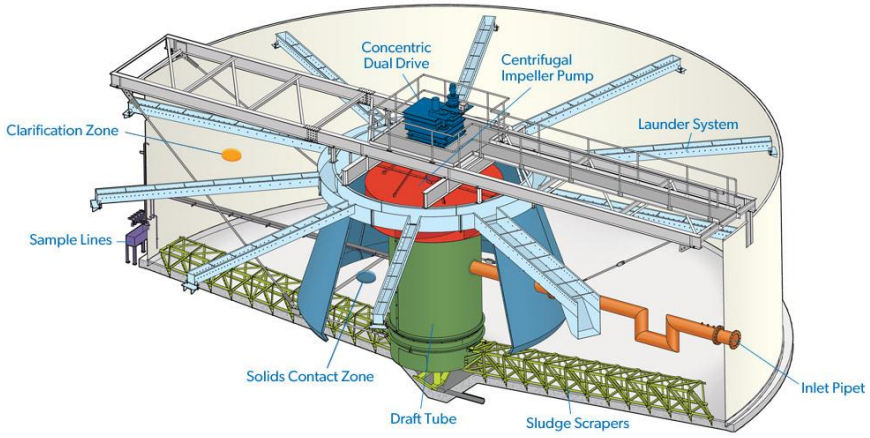
After grit removal in grit chamber, the wastewater containing mainly lightweight organic matter is settled in the primary sedimentation tank (PST). Due to involvement of many unknown parameters under settling of light weight, sticky, and non regular shaped particles, the classical laws of sedimentation as applicable in grit removal are not valid and this settling is called as flocculant settling. The primary sedimentation tank generally removes 30 to 40% of the total BOD and 50 to 70% of suspended solids from the raw sewage. The flow through velocity of 1

cm/sec at average flow is used for design with detention period in the range of 90 to 150 minutesPrimary sedimentation is the process by which the velocity of the sewage is reduced below the point at which it can transport the suspended matter, so that much of this settles and can be removed as sludge. Basically, the purpose of sedimentation is to remove the maximum amount of polluting matter, in the form of readily settleable solids, from the sewage as quickly and as economically as possible.

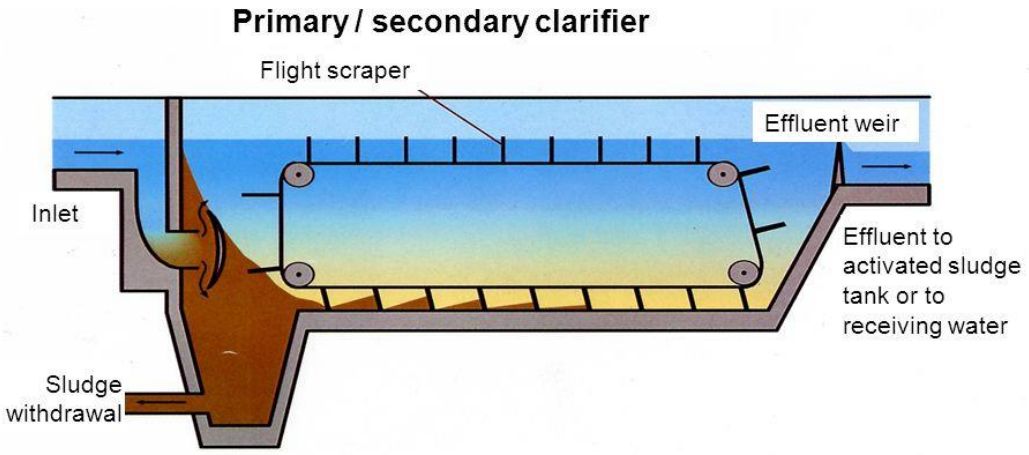




Elements of a True CONTACT CLARIFIER™



Rectangular sedimentation tank



Surface:

Primary clarifier	q_A = 2 to 6 m/h
Secondary clarifier	q_A = 0.5 to 1.5 m/h