

Comparative Study of Designing of Common Effluent Treatment Plant by STAADX PRO Software and by Manual Calculations

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Abstract

The increasing small and medium scale industries in India, environmental pollution and wastewater percentage increases. So waste minimization and cleaning technology are encouraged under Swachh Bharat Abhiyan. The government has many facilities to promote the CETP in small-scale industry. According to that Abhiyan, every industry should have their Effluent Treatment Plant, so that water will be treated before leaving it outside the industry. In this paper, the designing of a Common Effluent Treatment Plant (CETP) for 20 MLD is studied. The design parameters and the design verification of the plant are also done using certified design software of STAADX PRO. Therefore, the establishment of CETP plant is considered in saving rivers from adverse effects of industrial pollution. The treated water can also be used for boiler or gardening purposes. The calculations for all the equipment like sedimentation tank, precipitator, etc. have done. The simulation of CETP plant gives an overall idea about the minimization of pollution then according to treatment we can modify the design of a common effluent treatment plant.

