Shubham Case Study – Kalpvan

Gray water treatment plant – 200 KLD

ABOUT KALPVAN

Kalpvan project master plan provides for residential, commercial, retail, K12 School, MOBs, sport zones, and entertainment zones. Kalpvan is strategically located in Rajkot city near second ring road on Rajkot- Gondal Rd. in Gujarat, India. Kalpvan is spread over 18 acres and offers green living with finest design. Kalpvan Design and Implementation is planned respecting to Indian Green Building Council (IGBC) Energy & Ecosystems Team explores a wide range of interconnected issues, including the production of sustainable and renewable energy and fuels, the greening of supply chains and production processes, ecosystem services and market-based solutions to environmental management, climate change adaptations, and the promotion of sustainable practices.

EXPECTED GENERATED EFFLUENT:

COD – 200 PPM

BOD – 80 PPM

Disposal of Treated Water: Drain

Sensitivity of Treated Water: Medium

Hence gray water treatment plant was provided for it's treatment.

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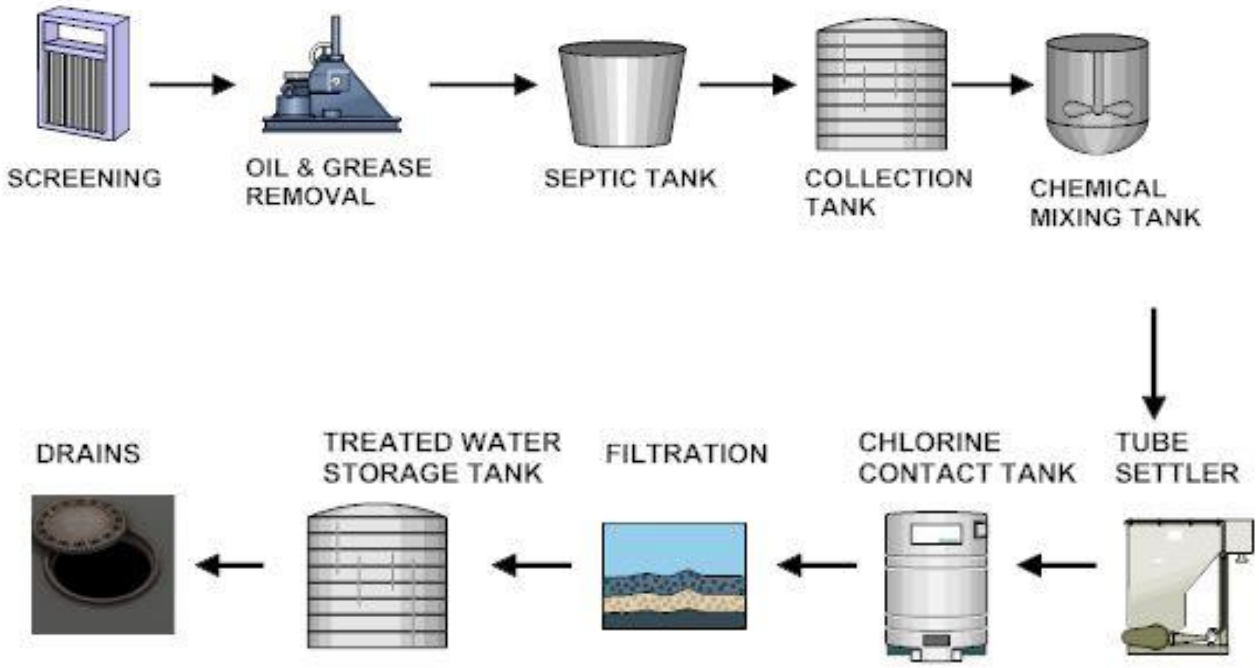
PROCESS FLOW DIAGRAM



PROCESS SUMMARY

As shown in the diagram initially in the primary treatment screening is provided so as to remove the floating impurities and then oil and grease removal mechanism is provided.

For the settling of the sludge at initial basis septic tank is provided and in the collection tank the MLSS is maintained so that load on further process decreases and treat waste water by giving retention time.

To overcome the chemical variations proper chemical dosing and mixing is done so that proper reaction occurs and then the solids are settled in the tube settler and the solids concentration is decreased.

After that disinfection is done in the chlorine contact tank and then through filtration odor turbidity and rest of the suspended solids are removed..

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RESULTS

INLET WATER PARAMETERS -

BOD - 65

COD – 174

TSS – 155

pH – 8.5

OUTLET WATER PARAMETERS

BOD - 21

COD – 50

TSS – 9

pH – 6.9

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SUMMARY

Compared to other aspects of environmental sanitation, such as toilet wastewater or solid waste, greywater traditionally receives the least attention. In urban areas of low and middle-income countries, greywater is most often discharged untreated into storm water drains .

Our approach of centralised, water-based sewer systems was applied to attain considerable public health improvement at the location and living conditions of communities with proper design and treatment.

Grey water treatment approaches range from simple, low-cost devices that route grey water directly to drains and the plant is running very well giving tremendous reports in terms of parameters.

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