

Kawee Sirichativapee 2006: Study on Efficiency of Anaerobic Filter in the Treatment of Domestic Wastewater at Coastal Area of Chang Island. Master of Engineering (Environmental Engineering), Major Field: Environmental Engineering, Department of Environmental Engineering. Thesis Advisor: Mr. Adisak Thongkaimuk, M.Sc. 130 pages.
ISBN 974-16-2425-5

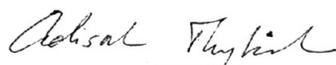
The objectives of this research work are as follows To design a small scale anaerobic filter for domestic wastewater treatment at coastal areas of Chang Island and to examine a treatment efficiency of the anaerobic filter unit under practical used and to find the optimum design criteria and analyze the system for improving the efficiency of the designed of anaerobic filter treatment for domestic wastewater.

The type of the wastewater treatment system designed for using at Chang Island community is fixed film anaerobic filter which lets wastewater flow from bottom to top. Concrete tubes of 1.5 m in diameter and 1.7 m in height are used and each of them filled with plastic media for catching bacteria.

The result found that the system was able to reduce the organic substance in wastewater of about 78-92%. The average BOD concentration in the effluent was 21.75 mg/l. Which is more than the expected value (20 mg/l). The suspended solids were removed to about 16.11 mg/l which is lower than that of expected value of 30 mg/l. Oil and grease were also reduced to about 0.84 mg/l which was still lower than the expected value of 20 mg/l. In conclusion, the wastewater treatment system of up flow anaerobic filter unit having efficiency to treat the wastewater from household since the effluent compile with the domestic effluent standard type two (BOD value is no more than 30 mg/l). This system is suitable for small community who requires on site wastewater treatment for each household.



Student's signature



Thesis Advisor's signature

26 / May / 2006