

DESIGNING RAINWATER REUSE SYSTEM: A CASE STUDY IN DONG NAI PROVINCE

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Summary

This paper presents the designing results of rainwater reuse treatment system, a case study in Dong Nai province. The results showed that the content of rainwater biochemical parameters in Dong Nai where did not meet national technical regulation for directly using purposes on domestic and drinking water quality. The proposed model were simple, easily operation, and highly effective in the rainwater pollutants removal. The process of rainwater treatment technology is as follows: Rainwater - Screen - Raw water tank - Composite filter - Intermediate tank - Micron filter - Intermediate tank - Water tower. The composite and micron filters were effectively pollutants removal from rainwater as well as particulate matter from the liquid medium. Results of output parameters analysis were met the national technical regulation on water quality for domestic use (QCVN 02:2009/BYT). The water quality parameters such as ammonium, total iron, hardness, turbidity were low, respectively 0.04 mg/l, 0.03 mg/l, 26 mg/l and 5 NTU. The rainwater collection and treatment system showed the water reuse potential and supply water replacement. In the long term, the model should be encouraged and applied for small and medium enterprises in order to contribute to saving and reducing pressure on water resources.

Keywords: *Rainwater, reuse, Dong Nai, design, removal.*