

ABSTRACT

The study entitled Organic Pool Water Recycling System in Island Cove Hotel and Leisure Park provides a complete design of pool water recycling system that ensures effectiveness, efficiency, and economic feasibility. The design includes structural plans with full specifications, and pipeline system layout with complete details.

The establishment has no existing treatment system and is therefore in need of one. The researchers made a simulation based on their design and what treatment the pool needs.

The proposed organic pool water recycling system showed effectiveness through providing successful simulation of treatment processes, treated water test passing on E-coli and Total Coliform Count, proper scheduling of pool water changing through maintenance calendar and design of treatment processes. It also showed efficiency through providing storage tank designs with minimum possible dimensions, and pipeline system layout all without compromising quality. Finally, the system also showed economic feasibility since the proposed system showed more promising values against the establishment's present system in terms of total monthly cost (Php 2,258.00 vs. Php 132,101.01) and other intangible benefits. The proposed system also showed better future value of **Php 127,314,333.30** versus the present system's value of **Php 119,870,826.70** on the method Comparison of Alternatives.