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DESIGN OF WATER SUPPLY SYSTEM OF BARANGAY
BANCOD, INDANG, CAVITE

Design Project

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**DESIGN OF WATER SUPPLY SYSTEM OF BARANGAY
BANCOD, INDANG, CAVITE**

An Undergraduate Design Project
Submitted to the Faculty of
Cavite State University
Indang, Cavite

In partial fulfillment
of the requirements for the degree
of Bachelor of Science in Civil Engineering

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ABSTRACT

ABESTADO, PEE-JAY E. and RIALYN R. MANOY, Design of Water Supply System of Barangay Bancod, Indang, Cavite. Undergraduate Design Project. Bachelor of Science in Civil Engineering, Cavite State University, Indang, Cavite. April 2010. Adviser: Engr. Renato B. Cubilla.

The Design of Water Supply system at Barangay Bancod, Indang, Cavite was conducted at Cavite State University, Indang Cavite and Bancod, Indang, Cavite from October 2009 to February 2010.

The primary objective of the study was to design a water supply system which can be used by barangay Bancod as reference for future plan in the development of the barangay.

The study included the design of pipe network analysis, pump house, ground concrete reservoir, and a cost estimate of the project.

The structural analysis and detailed analysis of the design of the concrete reservoir were both computed manually and proven to be safe and economical. The pump house has a dimension of 1.50 m x 1.50 m and a height of 2.5m. The option 1 for reservoir has a dimension of 3.50 m x 3.50 m and a height of 4.0 m. Option 2 for reservoir has a dimension of 5.50 m x 5.50 m and a height of 6.50 m.

The average water demand of the Barangay is 55,125.5 liters per day. The method and type of distribution system adapted was gravity distribution system and the fill-and-draw system. The size of submersible pump to be installed is 10 horsepower.

The estimated cost of the design project is Php 5,271,881.68.

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DESIGN OF WATER SUPPLY SYSTEM OF BARANGAY BANCOD, INDANG, CAVITE¹¹

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¹¹An undergraduate design project submitted to the faculty of the Department of Civil Engineering, College of Engineering and Information Technology, Cavite State University, Indang, Cavite in Partial fulfillment of the requirements for the degree of Bachelor of Science in Civil Engineering with Contribution No. BSCE-2009-10-006. Prepared under the supervision of Engr. Renato B. Cubilla.

INTRODUCTION

In everyday living of any individual, water is really essential to sustain the physiological need of any body, besides the demand for water in doing household chores and some works. Almost seventy five percent of the world is composed of water but only one percent of it is potable. To sustain the necessity for water a community must have enough supply of water that is appropriately designed and constructed.

The earlier water source of Bancod, Indang, Cavite was spring; the spring box is located at the Brgy. Kaytapos Indang, Cavite, but due to dry season the spring box failed to deliver the demand water. On the later part of 1990, the Barangay decided to establish a water supply system by means of a deep well. Now, Bancod has three 2HP submersible pumps which is the major source of the water supply system at the Barangay. Barangay Bancod is not member of the Indang Water District instead they had their own water