

COMPARATIVE COST ESTIMATE OF STEEL AND REINFORCED
CONCRETE DESIGN OF THREE-STOREY
INDANG MUNICIPAL BUILDING

Design Project

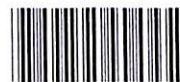
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**COMPARATIVE COST ESTIMATE OF STEEL AND REINFORCED
CONCRETE DESIGN OF THREE-STOREY
INDANG MUNICIPAL BUILDING**

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

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



*Comparative cost estimate of steel and
reinforced concrete design of three-storey*
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ABSTRACT

LOPEZ, JUDY ANNE D. and LUNDAY, DENNIS L. “Comparative Cost Estimate of Steel and Reinforced Concrete Design of Three-Storey Indang Municipal Building” Bachelor of Science in Civil Engineering, Cavite State University, Indang, Cavite. March 2012. Adviser: Engr. Cene M. Bago

Comparative Cost Estimate of Steel and Reinforced Concrete Design of Three-Storey Indang Municipal Building was conducted from June 2011 to February 2012 at the Cavite State University, Indang, Cavite.

The objective of the study is to conduct a comparative cost estimate of Steel and Reinforced Concrete Design of three-storey Indang Municipal Building, and to provide a complete architectural plan and structural plans of the design project. This study served as reference for the university and community for their future project.

The Engineering Software STAAD (Structural Aided Analysis and Design) was used in the analysis of structural framework. The guidelines set by the National Structural Code of the Philippines (NSCP) were followed in the design computation. The ultimate moment, shear and axial loads were the basis for the design.

The study focused on comparison between reinforced concrete and steel design of the 3-storey Indang Municipal Building in terms of material, labor and equipment costs. The study included the structural design of both steel and reinforced concrete Indang Municipal Building.

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COMPARATIVE COST ESTIMATE OF STEEL AND REINFORCED CONCRETE DESIGN OF THREE-STOREY INDANG MUNICIPAL BUILDING¹

**LOPEZ, JUDY ANNE D.
LUNDAY, DENNIS L.**

¹An 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. CEN 2011-2012 092 under the supervision of Engr. Cene M. Bago.

INTRODUCTION

Indang is an inland municipality centrally located in the province of Cavite. Indang had a total land area of 8,920 hectares and can be locate in globe at bearing of 120°52' longitude and 14°11' latitude. As of 2011 Indang's population is 65,178 with population density of 681 per person per square kilometer and has a 3.97% increase in population per annum. (*www.cavite.gov.ph*)

It is bounded on the north by the municipality of Naic and Trece Martires City, on the south by municipality of Mendez and Tagaytay City, on the west by municipalities of Alfonso and Maragondon, and on the east by the municipalities of Amadeo and General Trias.

From a rural farming area, Indang has minimal transformation with the presence of commercial establishments and a state university. Aside from that, Indang is also