

**PROPOSED DESIGN OF A FOUR STOREY BUILDING IN GOVERNOR
FERRER MEMORIAL NATIONAL HIGH SCHOOL - BUENAVISTA
ANNEX AT BUENAVISTA II, GENERAL TRIAS, CAVITE**

Design Project

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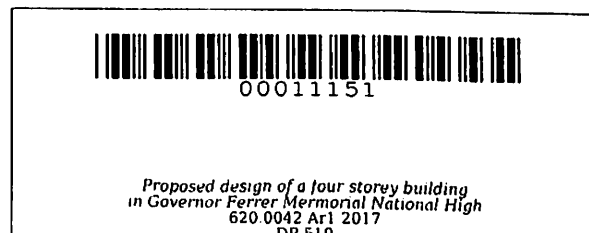
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MEMORIAL NATIONAL HIGH SCHOOL- BUENAVISTA ANNEX
AT BUENAVISTA II, GENERAL TRIAS, CAVITE**

**Undergraduate Design Project
Submitted to the Faculty of the
College of Engineering and Information Technology
Cavite State University
Indang, Cavite**

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



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ABSTRACT

ARAHAN, FRANCIS HENRIX M. and PATUGA, DEAN MARK B. Proposed Design of a Two Storey Building in Governor Ferrer Memorial National High School- Buenavista Annex at Buenavista II, General Trias, Cavite. Undergraduate Design Project. Bachelor of Science in Civil Engineering. Cavite State University Indang, Cavite. April 2017. Adviser: Engr. Larry E. Rocela.

The study entitled “Proposed Design of a Two Storey Building in Governor Ferrer Memorial National High School- Buenavista Annex at Buenavista II, General Trias, Cavite” was conducted at Cavite State University – Main Campus from August 2016 to March 2017.

The study aimed to prepare a physical development plan and to design a four storey School Buiding for the City of General Trias. The lot allotted for the complex has an area of 3207.9383 square meters and the proposed structures have an area of 1213.92 sq. meters. The development plan is composed of school building. The study included the architectural plan and structural details of the proposed structures. Architectural plans included perspective, floor plans and elevations. Structural plans included detailed design of reinforced beams and columns, tie beams and footings and other structural members. Architectural and structural plans of the school building were drawn using Auto Computer Aided Design (AutoCAD) and Google Sketch up software to show the site development and perspective. The analysis of the individual structural member was obtained with the aid of Structural Aided Analysis and Design (STAAD) software.

The data gathered for the computations of structural design of the school building including the design of trusses, purlins, sag rods, reinforced concrete beams and columns,

steel beams and columns, baseplate and anchor bolts, slab, pedestal, tie beams and footings were safe and economical.

The estimated total project cost of the proposed structures is P 58,619,686.08. The unit cost per square is P 12,072.40.

The authors recommend a more comprehensive study in the electrical and plumbing field of the proposed design of school building comprised of rooms, computer laboratory, function area and etc. including other materials that could be used such as reinforced concrete for future implementation.

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INTRODUCTION

Education system in the Philippines is K to 12 program covers kindergarten and 12 years of basic education (six years of primary education, four years of Junior High School, and two years of Senior High School) to provide sufficient time for mastery of concepts and skills, develop lifelong learners, and prepare graduates for tertiary education.

This program is the one of the main reason why we need more buildings in the Philippines and also the fast growth of population in our country. Like in the province of Cavite, General Trias has a population of 243,322 people in a land area of 81.46 square kilometers (31.45 sq. mi) and politically subdivided into 33 barangays. One of this barangays is called Buenavista II, where Governor Ferrer Memorial National High school – Buenavista Annex is located.