

**STRUCTURAL ANALYSIS OF FOUR-STOREY HOUSING
UNIT BUILDING OF THE PROPOSED NATIONAL
CORRECTIONAL FOR MAXIMUM SECURITY**

Design Project

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April 2014

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OF THE PROPOSED NATIONAL CORRECTIONAL
FOR MAXIMUM SECURITY**

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



*Structural analysis of four-storey housing
unit building of the proposed national
690.08 P19 2014
DP-391*

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ABSTRACT

PANELO, ARVIN C. and SIERRA JOHN CHRISTOPHER N. Structural Analysis of Four-Storey Housing Unit Building of the Proposed National Correctional for Maximum Security. Undergraduate Design Project. Bachelor of Science in Civil Engineering, Cavite State University, Indang, Cavite. April 2014. Adviser: Engr. Cene M. Bago.

Structural Analysis of Four-Storey Housing Unit Building of the Proposed National Correctional for Maximum Security was conducted from June 2013 to February 2014 at Cavite State University, Indang, Cavite.

The objective of the study was to design a four-storey housing unit building for the proposed National Correctional for maximum security, and 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 projects.

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.

All specification needed were followed in the design process. Detailed analysis of the design was proven safe and economical after the manual computation of the design.

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An 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. CEIT-2013-14-051. Prepared under the supervision of Engr. Cene M. Bago.

INTRODUCTION

Philippines' population is undoubtedly increasing fast. It is also inevitable that number of crimes and law breakers are also increasing. Extreme overcrowding of inmates is one of the problems in penitentiaries and jails maintained by the Bureau of Jail and Management Penology, an agency of the Department of Interior and Local Government. Over congestion in penitentiaries and provincial jails make the life of inmate harder. Over congestion breeds diseases, breaks down discipline and create mere tensions. (<http://www.preda.org/en/media/research-documents>, 2010)

Modernization of facilities is needed. Inspectors encountered old, dilapidated and congested buildings, no longer suited of human existence, defective comfort rooms resulting to unsanitary conditions, lack of sleeping paraphernalia and undersized cells with poor ventilation and defective water system and even lack of potable water (Lara and Raposon, 2012).