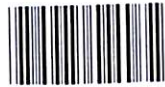


**PROPOSED REINFORCED CONCRETE DESIGN OF HYDRAULIC
LABORATORY BUILDING**

**DARWIN H. ANDAMO
GILBERT R. ACUNA**

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Indang, Cavite**

APRIL 2001

**PROPOSED REINFORCED CONCRETE DESIGN OF HYDRAULIC
LABORATORY BUILDING**

An Undergraduate Design Project
Submitted to the Faculty
CAVITE STATE UNIVERSITY
Indang, Cavite

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

DARWIN H. ANDAMO
GILBERT R. ACUÑA
March 2001

ABSTRACT

**ACUÑA, GILBERT R. AND ANDAMO, DARWIN H. “ Proposed Reinforced Design of Hydraulic Laboratory Building “. Bachelor of Science in Civil Engineering Cavite State University, Indang, Cavite, April 2001.
Adviser: Engr. Cene M. Bago.**

The design of the Hydraulic Laboratory Building was conducted at the College of Engineering, Cavite State University. The analysis of the building frames and truss members was made through the aid of STAAD III Linear Analysis. This software simplified the complexity of mathematical expressions involving matrix operations and dynamic equation. The structures were analyzed for combined seismic and vertical loads.

The design computations of structural members were made manually including drawings, plans, and elevations.

The authors used reinforced concrete design (Ultimate Strength Design (USD) using the existing scientific principles and engineering applications to design the most economical and safe materials.

This proposed design enables the College of Engineering to comply with the accreditation requirements set by the Accredited Agency for Chartered Colleges and Universities of the Philippines (AACUP), will which serve as a reference for its future implementation. The design provided large spaces for laboratory classes and lecture classes, including wide and large spaces for the different laboratory equipment and machineries.

TABLE OF CONTENTS

	Page
BIOGRAPHICAL DATA -----	iii
ACKNOWLEDGMENT -----	iv
ABSTRACT -----	v
LIST OF FIGURES -----	vi
LIST OF TABLES -----	viii
LIST OF APPENDICES -----	x
INTRODUCTION -----	1
Nature and Importance of the Study -----	3
Objectives of the Study -----	3
Time and Place of the Study -----	4
Limitation of the Study -----	4
REVIEW OF RELATED LITERATURE -----	5
Concrete as Structural Materials -----	5
Reinforced Concrete -----	6
Foundation -----	7
Concrete Columns -----	8
Concrete Beams -----	9
Concrete Slab -----	9
Wall Construction -----	10
Roof System -----	11

TABLE OF CONTENTS

	Page
Design Loads -----	11
METHODOLOGY -----	12
Gathering Technical Data -----	12
Preparation of Preliminary Drawings / Structural Frames -----	14
Design of Structural Members -----	15
Purlins -----	15
Steel Truss -----	16
Concrete Slabs -----	18
Concrete Beams -----	18
Concrete Columns -----	20
Footing -----	22
Preparation of Detailed Cost Estimates -----	25
Preparation of Scaled Model-----	29
RESULTS AND DISCUSSION-----	30
SUMMARY, CONCLUSIONS AND RECOMMENDATION-----	38
Summary-----	39
Conclusion-----	40
Recommendation-----	41
BIBLIOGRAPHY -----	43
APPENDICES-----	44

LIST OF FIGURES

Figure		Page
1	Vicinity Map -----	2
2	Location Map-----	3
3	Perspective-----	4
4	Ground Floor Plan-----	5
5	Second Floor Plan-----	6
6	Third Floor Plan-----	7
7	Front Elevation-----	8
8	Left Side Elevation-----	9
9	Right Side Elevation-----	10
10	Rear Side Elevation-----	11
11	Longitudinal Frame-----	53
12	Traverse Frame-----	54
13	Roof Plan-----	55
14	Roof Truss Plan-----	56
15	Truss Frame Plan-----	57
16	Roof Framing Plan-----	58
17	Details of Truss-----	59
18	Details of Purlins and Sag Rods -----	60
19	Details of Truss Connection-----	61
20	Truss 1-----	62

LIST OF FIGURES

Figure		Page
21	Half Truss 1-----	63
22	Half Truss 2-----	64
23	Truss to Beam Connection-----	65
24	Slab Framing Plan (2 nd to 3 rd floor)-----	66
25	Slab Framing Plan (ground floor)-----	67
26	Beam Framing Plan (2 nd to 3 rd floor)-----	68
27	Beam Framing Plan (roof beams)-----	69
28	Column Plan (2 nd floor)-----	70
29	Column Plan (3 rd floor)-----	71
30	Details of Footing-----	72
31	Details of Beams-----	73
32	Details of Stairs -----	74

LIST OF TABLES

Table		Page
1	Tabulation of Stresses -----	12
2	Frame Analysis at Traverse Direction -----	14
3	Frame Analysis at Longitudinal Direction-----	44
4	Slab Schedule-----	45
5	Beam Schedule-----	46
6	Column Schedule -----	48
7	Footing Schedule -----	49
8	Cost Estimate -----	50

LIST OF APPENDICES

Appendix	Page
A Architectural Drawings-----	1
B Truss Frame Longitudinal Frame, and Traverse Frame Analysis-	2
C Details. Frames, and Structural Plans-----	52
D Structural Computations-----	154
E Specifications-----	229

PROPOSED REINFORCED CONCRETE DESIGN OF A HYDRAULIC LABORATORY BUILDING ^{1/}

**Darwin H. Andamo
Gilbert R. Acuña**

^{1/} An undergraduate design project presented to the faculty of the Department of Civil Engineering, College of Engineering, Cavite State University, Indang, Cavite in partial fulfillment of the requirements for the graduation of Bachelor of Science in Civil Engineering (BSCE) with Contribution No. CE-2000-2001- 46-14. Prepared under the supervision of Engr. Cene M. Bago.

INTRODUCTION

The College of Engineering as one of the fastest growing colleges in the university has five active departments: Department of Agricultural and Food Engineering (DAFE); Department of Engineering Science (DES); Department of Industrial Engineering and Technology (DIET); Department of Computer Science (DCS); and the Department of Civil Engineering (DCE).

These engineering development and progress made has been the results of simultaneous and successive effort of a large number of engineers and faculty in a continuously widening academic and technical community.