

DESIGN OF PROPOSED 8-STOREY VERTICAL
FARM FACILITY IN IMUS, CAVITE

Design Project

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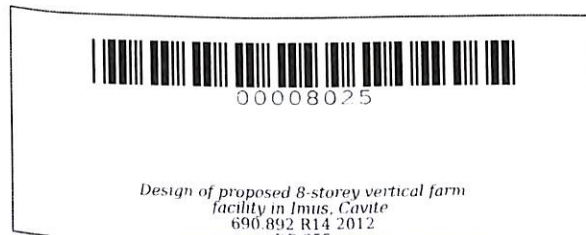
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**DESIGN OF PROPOSED 8 – STOREY VERTICAL
FARM FACILITY IN IMUS, CAVITE**

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



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ABSTRACT

VON ORVILLE A. RAMOS, AND DREXLER B. SIBAL; Design of Proposed 8 – storey Vertical Farm Facility in Imus, Cavite. Undergraduate Design Project. Bachelor of Science in Civil Engineering. March 2012. Adviser: Engr. Marcelino A. Dagasdas Jr.

The Design of Proposed 8 – storey Vertical Farm Facility in Imus, Cavite was developed from October 2010 to March 2012 at the Department of Civil Engineering, College of Engineering and Information Technology, Cavite State University, Cavite. The study was conducted to enhance the master plan of a Vertical Farm building integrating auxiliary spaces conducted by Abigail Rustique and Japhet Santillan which is entitled “A Proposed Vertical Farm Facility in Imus, Cavite.” The general objective of the study is to conduct structural analysis and design of the proposed 8 – storey Vertical Farm Facility. The study had served as a practical application of the ideas and knowledge of the authors on the concept of designing a structure based on their related design subjects.

Structural System of the proposed 8 – storey vertical farm facility, Building II, of the Cavite Agro-Green Scraper in Imus was analyzed through the use of computer software which is Structural Aided Analysis and Design (STAAD). This software was used to simplify complex computations regarding the design project.

The design project included architectural plans based on the previous study, structural plan, detailed section, and civil work estimates. The total estimated cost of the project was Php. 353,637,886.81.

TABLE OF CONTENTS

	Page
BIOGRAPHICAL DATA.....	iii
ACKNOWLEDGMENT.....	v
ABSTRACT.....	xii
LIST OF APPENDICES.....	xv
LIST OF APPENDIX FIGURES.....	xvi
LIST OF APPENDIX TABLES.....	xviii
INTRODUCTION.....	1
Statement of the Problem.....	2
Significance of the Study.....	2
Objectives of the Study.....	3
Scope and Limitation of the Study.....	4
Time and Place of the Study.....	4
Definition of Terms.....	5
REVIEW OF RELATED LITERATURE.....	6
METHODOLOGY.....	23
Data Gathering.....	23
Data Analysis.....	24
Design Computation.....	24
Design of Slab.....	24
Design of Beam.....	25

Design of Column.....	33
Design of Footing.....	38
Design of Stairs.....	41
Cost Estimate.....	42
RESULTS AND DISCUSSION.....	62
SUMMARY, CONCLUSION AND RECOMMENDATIONS.....	68
Summary.....	68
Conclusion.....	69
Recommendations.....	69
BIBLIOGRAPHY.....	71
APPENDICES.....	73

LIST OF APPENDICES

Appendix		Page
A	Architectural Lay out.....	73
B	Structural Lay out.....	91
C	List of Tables.....	111
D	STAAD Analysis Output.....	116
E	Design Computation	123
E – 1	Design Computation of Slab.....	124
E – 2	Design Computation of Beam.....	132
E – 3	Design Computation of Column.....	188
E – 4	Design Computation of Footing.....	195
E – 5	Design Computation of Stairs.....	214
F	Cost Estimate.....	219
G	Specifications.....	251

LIST OF APPENDIX FIGURES

Figure		Page
1	Locator Map.....	74
2	Vicinity Map.....	75
3	Site Development Plan.....	76
4	Perspective Drawing.....	77
5	Front Elevation.....	78
6	Left side Elevation	79
7	Right Side Elevation.....	80
8	Rear Elevation	81
9	Ground Floor Plan.....	82
10	Second Floor Plan.....	83
11	Third Floor Plan.....	84
12	Fourth Floor Plan.....	85
13	Fifth Floor Plan.....	86
14	Sixth Floor Plan.....	87
15	Seventh Floor Plan.....	88
16	Eighth Floor Plan.....	89
17	Roof Deck.....	90
18	Structural Model.....	92
19	Foundation Plan.....	93
20	Second Floor Framing Plan.....	94

21	Third Floor Framing Plan	95
22	Fourth Floor Framing Plan	96
23	Fifth Floor Framing Plan	97
24	Sixth Floor Framing Plan	98
25	Seventh Floor Framing Plan	99
26	Eighth Floor Framing Plan.....	100
27	Ninth Floor Framing Plan	101
28	Detail of Slab on Fill.....	102
29	Detail of Steel Deck	102
30	Footing, Column and Tied Beam Detailed Section.....	103
31	Detail of Beam.....	105
32	Detail of Stairs.....	108

LIST OF APPENDIX TABLES

Appendix Table		Page
1	Schedule of Beams.....	109
2	Schedule of Column.....	110
4	Footing Plan.....	110
5	Floor Live Loads.....	112
6	Concrete Proportions.....	113
7	Quantity of Cement and Sand for Mortar and Plaster in cu. meter	113
8	Quantity of Cement and Sand for CHB Mortar per square meter.....	113
9	Quantity of Cement and Sand for Plaster per Square Meter Area.....	114
11	Bd. Ft. of Wood Frame per Plywood Form.....	114
12	Quantity of Lumber for Scaffolding or Staging.....	114
13	Length of Reinforcing Bars for CHB in meters.....	115
14	No. 16 G.I. Tie Wire for CHB Reinforcement per square meter.....	115

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INTRODUCTION

The Philippines having to consider the extent and availability of natural and agro resources may not be aware of the impending food crisis that is yet to come in the near future due to the growing population and the decreasing area of land dedicated to agriculture. This will be the time to introduce holistic design approach that will integrate solutions regarding these unforeseen problems, designs that will commence preventive solutions even before the crisis might have occur.

Vertical Farming is a greenhouse-based method of agriculture where commercially viable crops would be cultivated and grown inside multi-storey buildings that will mimic the ecological system.

“Cavite Agro-Green Scraper” a vertical farm, proposed by former Architectural students of Cavite State University, Abigail A. Rustique and Japhet L. Santillan, is a