

Prevention of Liquefaction Susceptibility Through Chemical-Soil Stabilization  
Using Calcium Oxide in National Comprehensive High School in Rosario, Cavite

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## ABSTRACT

This study focused on the prevention of liquefaction susceptibility through chemical – soil stabilization using calcium oxide in Municipality of Rosario, Cavite. Since the municipality of Rosario is susceptible in liquefaction; potential liquefaction was identified through Seed and Idriss formula for factor of safety against liquefaction. Calcium oxide (CaO), also known as lime, was used in the study since it is proven that it has cementitious properties. Parameters such as unit weight of soil, effective stress, optimum moisture content, liquid limit and degree of saturation was evaluated by utilizing the soil tests reports of the five samples used: (a) untreated soil sample, (b) 5% CaO mixture soil sample, (c) 10% CaO mixture soil sample, (d) 15% CaO mixture soil sample and (e) 20% CaO mixture soil sample. Upon evaluation of results, the factor of safety against liquefaction of the untreated soil sample turned out to be vulnerable. In this case, chemical-soil stabilization was possible in the area. Among all the CaO mixture soil samples, 5% has the most appropriate factor of safety that can prevent liquefaction susceptibility in the municipality of Rosario.

## TABLE OF CONTENTS

<b>APPROVAL SHEET</b> .....	<b>ii</b>
<b>ACKNOWLEDGEMENT</b> .....	<b>iii</b>
<b>ABSTRACT</b> .....	<b>v</b>
<b>CHAPTER 1: THE PROBLEM AND ITS BACKGROUND</b> .....	<b>1</b>
1.1 INTRODUCTION .....	1
1.2 STATEMENT OF THE PROBLEM .....	4
1.3 OBJECTIVES OF THE STUDY .....	5
1.4 SIGNIFICANCE OF THE STUDY.....	5
1.5 SCOPE AND LIMITATIONS OF THE STUDY .....	6
1.6 STUDY FRAMEWORK .....	7
1.7 DEFINITION OF TERMS .....	8
<b>CHAPTER 2: REVIEW OF THE RELATED LITERATURE</b> .....	<b>10</b>
2.1 NATURE OF EARTHQUAKE.....	10
2.2 LIQUEFACTION .....	11
2.2.1 <i>Liquefaction in Dagupan City</i> .....	12
2.2.2 <i>Liquefaction Susceptibility in Municipality of Rosario Cavite</i> .....	13
2.2.3 <i>Factors Affecting Potential Liquefaction</i> .....	15
2.3 LIQUEFACTION MITIGATION MEASURES .....	15
2.3.1 <i>Chemical Grouting</i> .....	16
2.3.2 <i>Jet Grouting</i> .....	16
2.3.3 <i>Cement Grouting</i> .....	17
2.4 CHEMICAL - SOIL STABILIZATION .....	17
2.4.1 <i>Chemical - Soil Stabilization Processes</i> .....	18
2.5 SOIL STABILIZERS .....	19
2.5.1 <i>Portland Cement</i> .....	19
2.5.2 <i>Coal Fly Ash</i> .....	19
2.5.3 <i>Calcium Chloride</i> .....	20
2.5.4 <i>Bitumen</i> .....	20
2.6 PROPERTIES OF CALCIUM OXIDE.....	20
2.6.1. <i>Calcium Oxide as Soil Stabilizer</i> .....	21
2.6.2. <i>Application of Calcium Oxide in the Field</i> .....	22
2.6.2.1. <i>Lowering of Ground Water Table</i> .....	23
2.7 MATHEMATICAL FORMULA.....	23

2.7.1 Factor of Safety Against Liquefaction.....	23
<b>CHAPTER 3: METHODOLOGY.....</b>	<b>27</b>
3.1 METHODOLOGICAL FRAMEWORK .....	27
3.2 GATHERING OF DATA .....	29
3.3 METHODS OF RESEARCH.....	29
3.4 INSTRUMENTATION.....	30
3.5 PRESENTATION AND INTERPRETATION OF DATA.....	30
<b>CHAPTER 4: PRESENTATION, ANALYSIS AND INTERPRETATION OF DATA..</b>	<b>31</b>
4.1 ASSESSMENT OF PARAMETERS .....	31
4.1.1 Untreated Soil Sample .....	34
4.1.2 5% Calcium Oxide Mixture Soil Sample.....	35
4.1.3 10% Calcium Oxide Mixture Soil Sample.....	37
4.1.4 15% Calcium Oxide Mixture Soil Sample.....	38
4.1.5 20% Calcium Oxide Mixture Soil Sample.....	40
4.2 LIQUEFACTION SUSCEPTIBILITY ANALYSIS.....	42
4.2.1 Liquefaction Analysis for Untreated Soil Sample .....	42
4.2.2 Liquefaction Analysis for 5% CaO Mixture Soil Sample.....	45
4.2.3 Liquefaction Analysis for 10% CaO Mixture Soil Sample.....	53
4.2.4 Liquefaction Analysis for 15% CaO Mixture Soil Sample.....	60
4.2.5 Liquefaction Analysis for 20% CaO Mixture Soil Sample.....	67
4.3 COST ANALYSIS.....	74
4.4 PHYSICAL CHARACTERISTICS OF CAO MIXTURES SOIL SAMPLE.....	75
<b>CHAPTER 5: SUMMARY OF FINDINGS, CONCLUSIONS AND</b>	
<b>RECOMMENDATION .....</b>	<b>76</b>
5.1 SUMMARY OF FINDINGS .....	76
5.2 CONCLUSIONS .....	78
5.3 RECOMMENDATION .....	80
<b>BIBLIOGRAPHY .....</b>	<b>82</b>
<b>APPENDIX .....</b>	<b>85</b>

## LIST OF FIGURES

Figure 1.1 Study Framework.....	7
Figure 2.2.2 Liquefaction Susceptibility of Cavite Area .....	14
Figure 3.1 Methodological Framework .....	28
Figure 4.1 Relationships of Dry Unit Weight and Optimum Moisture Content .....	33
Figure 4.2 Depth vs Overburden Pressure (Untreated Sample).....	35
Figure 4.3 Depth vs Overburden Pressure (5% CaO – Soil Mixture).....	36
Figure 4.4 Depth vs Overburden Pressure (10% CaO – Soil Mixture) .....	38
Figure 4.5 Depth vs Overburden Pressure (15% CaO – Soil Mixture) .....	39
Figure 4.6 Depth vs Overburden Pressure (20% CaO – Soil Mixture) .....	41
Figure 4.7 Factor of Safety vs. Depth (Untreated Soil Sample).....	44
Figure 4.8 Factor of Safety vs. Depth (5% CaO Mixture Soil Sample: N12) .....	50
Figure 4.9 Factor of Safety vs. Depth (5% CaO Mixture Soil Sample: N15) .....	51
Figure 4.10 Factor of Safety vs. Depth (5% CaO Mixture Soil Sample: N18) .....	52
Figure 4.11 Factor of Safety vs. Depth (10% CaO Mixture Soil Sample: N12).....	57
Figure 4.12 Factor of Safety vs. Depth (10% CaO Mixture Soil Sample: N15).....	58
Figure 4.13 Factor of Safety vs. Depth (10% CaO Mixture Soil Sample: N18).....	59
Figure 4.14 Factor of Safety vs. Depth (15% CaO Mixture Soil Sample: N12).....	64
Figure 4.15 Factor of Safety vs. Depth (15% CaO Mixture Soil Sample: N15).....	65
Figure 4.16 Factor of Safety vs. Depth (15% CaO Mixture Soil Sample: N18).....	66
Figure 4.17 Factor of Safety vs. Depth (20% CaO Mixture Soil Sample: N12).....	71
Figure 4.18 Factor of Safety vs. Depth (20% CaO Mixture Soil Sample: N15).....	72
Figure 4.19 Factor of Safety vs. Depth (20% CaO Mixture Soil Sample: N18).....	73
Figure 4.20 Miniature Model of CaO – Soil Mixture.....	75
Figure 5.1 Magnitude vs. Factor of Safety (12 blow counts).....	79
Figure 5.2 Magnitude vs. Factor of Safety (18 blow counts).....	79

## LIST OF TABLES

Table 4.1 Mixture Percentages .....	31
Table 4.2 Assessment of Parameters.....	32
Table 4.3 Description of Soil Based on Plasticity Index .....	34
Table 4.4 Parameters of Untreated Soil Sample .....	34
Table 4.5 Parameters of 5% Calcium Oxide Mixture Soil Sample.....	35
Table 4.6 Parameters of 10% Calcium Oxide Mixture Soil Sample.....	36
Table 4.7 Parameters of 15% Calcium Oxide Mixture Soil Sample.....	38
Table 4.8 Parameters of 20% Calcium Oxide Mixture Soil Sample.....	40
Table 4.9 Factor of Safety due to Liquefaction of Untreated Soil Sample .....	42
Table 4.10 Factor of Safety due to Liquefaction of 5% CaO Mixture Soil Sample.....	45
Table 4.11 Factor of Safety due to Liquefaction of 10% CaO Mixture Soil Sample ....	53
Table 4.12 Factor of Safety due to Liquefaction of 15% CaO Mixture Soil Sample ....	60
Table 4.13 Factor of Safety due to Liquefaction of 20% CaO Mixture Soil Sample ....	67
Table 4.14 Summary of Cost Analysis for Soil – CaO Mixture.....	74
Table 5.1 Liquefaction Susceptibility Summary (Using 12 N- Value).....	76
Table 5.2 Liquefaction Susceptibility Summary (Using 18 N- Value).....	77
Table 5.3 Summary of Optimum Moisture Content .....	78