

**CORELATION OF CBR LABORATORY TEST AND
DYNAMIC CONE PENETROMETER TEST
(Selokan Mataram Road Maguwoharjo – Babarsari)**

Final Project

By:

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Faculty of Engineering
Department of Civil Engineering
International S1 Program
AUGUST 2011**

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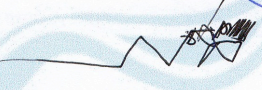
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PREFACE

First and foremost, the author would like to thank Jesus Christ so that the author could prepare and finish the final project report with the title **CORELATION OF CBR LABORATORY TEST AND DYNAMIC CONE PENETROMETER TEST (Selokan Mataram Road Maguwoharjo – Babarsari)**. This report was arranged to finish the S1 degree at Faculty of Engineering, Department of Civil of Engineering, University of Atma Jaya Yogyakarta.

The author realized that there is still limitation and flaws in this final project report. However the author still hopes that this final project report might be useful for the readers and the author herself.

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Yogyakarta, August, 2011

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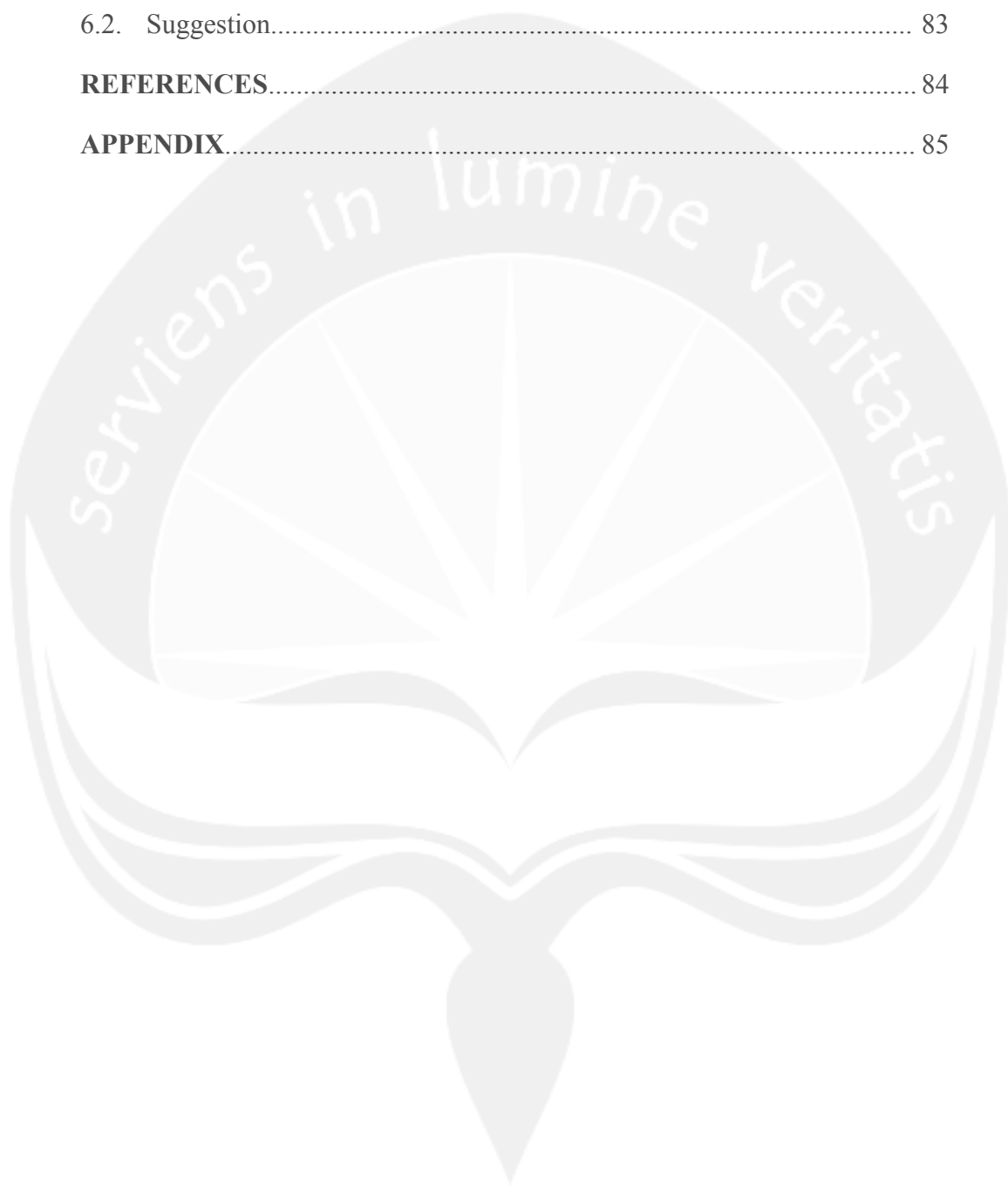
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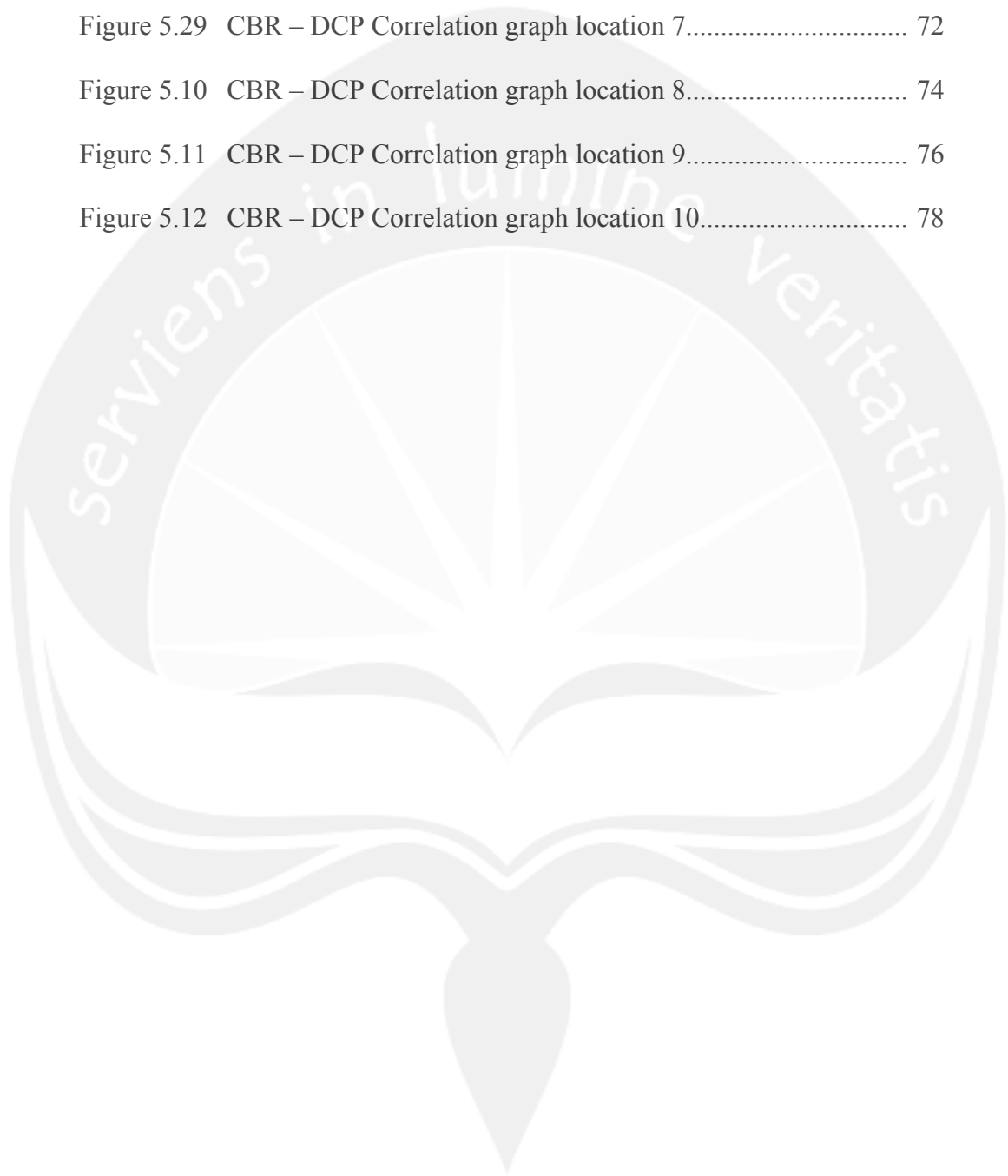


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ABSTRACT

CORELATION OF CBR LABORATORY TEST AND DYNAMIC CONE PENETROMETER TEST (Selokan Mataram Road Maguwoharjo – Babarsari), prepared by Ambrosius Brian Rahardian Parahita, SN: 06 13 12508, year of 2011, Civil Engineering, Engineering Faculty, University of Atma Jaya Yogyakarta.

The use of Dynamic Cone Penetrometer resulted in an estimated ratio of soil strength. Dynamic cone penetrometer can also be used as an indicator of changes in soil moisture in situ testing in accordance through the soil profile. Research in this study is laboratory test at the Department of Civil Engineering, Faculty of Engineering, University of Atma Jaya Yogyakarta and DCP test field (along the Selokan Mataram Road Maguwo - Babarsari to obtain a minimum of 15 samples). The purpose of this research is to find the correlation value of CBR (California Bearing Ratio) and DCP (Dynamic Cone Penetrometer). The research divided into two tests, first for the DCP test in order to find the DCP value (mm / blow). The second test is CBR laboratory test to find the CBR value. CBR and DCP values are plotted on a graph and then look for the value of its correlation with a linear regression methods. After correlation CBR - DCP resulting equation $\text{Log CBR} = 1.175494 - 0.011362 \text{ Log (DCP)}$, the CBR value (%) of each DCP test locations can be searched by this equation. CBR and DCP correlation values in this study at location 1 close to the correlation of previous studies by NCDOT (1998) with the equation $\text{log (CBR)} = 2.60 - 1.07 \text{ log (DCP)}$, and at location 2 to 10 close to the correlation of previous studies by Livneh et . al. (1992) with the equation $\text{log (CBR)} = 2.45 - 1.12 \text{ log (DCP)}$. From the correlation obtained, laboratory CBR value can be correlated with value of DCP in the field. From this correlation obtained the DCP test value every location at the field closed to the CBR laboratory value with the real condition.

Keywords : CBR laboratory, Dynamic Cone Penetrometer