Research due sri lanka has residual (laterite) soil

Research Proposal ASTUDY ON THE MOMENT CARRYING CAPACITY OF PAD FOOTINGS. H.

T. V. FONSEKA140167ESupervisor: DR. L. I. N.

DE SILVA 12thJanuary, 2018 Departmentof Civil EngineeringFacultyof EngineeringUNIVERSITYOF MORATUWA-SRI LANKATable of Contents

Introduction Most of the structures fail during windy seasons dueto wind load (lateral load) in Sri Lanka. Specially advertisement boards failsby overturning.

And also wind turbines also subjected to big lateral forcescontinuously. Construction of the wind turbines in Sri Lanka are also going on. All of these structures are made on shallow foundations. So it is need toinvestigate the moment carrying capacity of shallow foundations on Residual (laterite)soil. Due Sri Lanka has Residual (laterite) soil in most of the places.

In most of thestructural designs it is used to assume moment carrying capacity of shallowfoundations are significantly low or in some cases it is used to neglect theforce. If we able to predict the resistance to moment of Residual (laterite) soils, we could able to design more conservative and economical designs. To have more economical and safe structures it isneeded to investigate the moment carrying capacity of pad foundations in Residual(laterite) soil. . Problem Statement Sri Lanka mostly has Residual (laterite) soils.

Butthere is no investigation carried out to determine the behavior of Residual(laterite) soils. This is to address the Residual (laterite) soil momentcarrying capacity at different depths. Significance of the Research When designing the structures mostly it ignore or theestimate low values of moment carrying capacity of soils. From the pastresearches it is found that sandy soils moment carrying capacity is low. It wasadopted and use in Sri Lankan designs, but actually Sri Lanka has mostly Residual(laterite)soils and we those conditions are not 100% valid for Sri Lankansoils. In engineeringpoint of view, it will be a good solution for parking areas, walking paths andother paving areas where the runoff and pooling of water had been major issues.

Also it reduces the need for drainage infrastructure and irrigation systemshence the cost for them. Scope of the Study Experimental analysis of moment carrying capacity ofsquare foundation of 300mmX300mm square foundation in Residual (laterite) soilsat different depths and investigate the soil behavior and relationship betweendepth and capacity. A numerical

analysis of square foundations for themodel foundation using Midas software. A numerical analysis for full scale foundations usingMidas software.

Objectives 1. To determine the moment carrying capacity of square padfoundations at different depths using experimental data. 2. Numerical analysis of model foundations. 3.

Comparison between numerical , experimental values andTheoretical values . 4. Numerical analysis of actual size foundations Methodology Work Plan Task 2017 2018 Dec Jan Feb Mar Apr May Jun Jul Aug Sep Oct Literature Review Collect representative samples Investigate Soil parameters Experimental Studies Numerical Studies Data analysis

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