

CHAPTER I

INTRODUCTION

A. Background

The first step to do for building construction is the foundation work. The foundation is a very important part for a building, because the foundations that sustain and withstand the whole load acting thereon. Foundation design depends on the type of soil and the type of structure to be built upon. So that type of foundation will be built must be adapted to the conditions and the properties of the soil where the foundation was built.

The shape of the foundation can be determined by knowing the weight of the building or the number of floors to be built and the state of the soil around the building, while the depth of the foundation is determined by where the soil solid support foundation. The type of foundation is divided into two shallow foundation and deep foundation. Shallow foundation is usually made close to the soil surface and can go ahead and spread the load to the ground like a spider's web foundation, footing and foundation raft. Deep foundations is the foundation that can forward the load to the hard ground or gravel as pile foundation and foundation caissons.

The Sunan Hotel Solo using bored pile foundation where these foundations include the type of shallow foundation. In this case the author tries to analyze building of the sunan hotel solo with spider-web foundation. So the purpose of this paper is to calculate the bearing capacity of foundation and to plan the calculation on the sunan hotel solo using spider-web foundation.

B. Problem Formulation

In preparation of final report of this problem only focuses on the under structure especially to analysis the spider-web foundation. Accordance with the disciplines of civil engineering.

C. Aim and Benefit of Research

1. Research aims

- a) To calculate the bearing capacity of spider-web foundation in The Sunan hotel Solo.
- b) To calculate the structure of spider-web foundation in The Sunan hotel Solo.

2. Research benefit

- a) To give information about spider-web foundation.
- b) To add information to students or others who need the information and study the related issues discussed in the final report.

D. Limitation Problem

in order to prevent the expansion of the discussion in this research, then in the study were given the following limitation :

1. The location on the The Sunan Hotel, Solo.
2. Its terms are spider-web foundation.
3. Calculating the bearing capacity of spider-web foundation using N-SPT and field data.
4. Calculating the settlement, dimension and reinforcement of spider-web foundation.

E. Similar Research

In this final project titled " Calculation Analysis Structure of Spider-Web Foundation in The Sunan Hotel Solo" has similarities with Ratna Sari Cipto Haryono, Tirta rahman Maulana, Universitas Diponegoro Semarang (2007) with the title "Analisis Penggunaan Struktur Pondasi Sarang Laba-Laba Pada Gedung BNI '46 Wilayah 05 Semarang". The results show the calculation of the bearing capacity of spider-web foundation, calculation of spider-web structure, and calculating the total cost of the foundation. the authors only discuss about bearing capacity of spider-web and the calculation of spider-web foundation.

Research of Dwi Magfira, Arifin B., and Astri Rayahu , Universitas Tadulako (2007) with the title " Perencanaan Alternatif Pondasi Konstruksi Sarang Laba-Laba Pada Palu Grand Mall " this research also calculate until the cost. But have differences include: location and different types of buildings studied.

M Bagus Rizal Riyanansyah, Universitas Muhammadiyah Surakarta (2017) with the title "Building Structure Design of The Sunan Hotel 7(seven) Floors and 1 (one) Basement Using Intermediate Moment Resisting Frame (IMRF) in Surakarta". It has the same building but the author only calculate the bearing capacity of foundation and calculate the foundation using the spider-web foundation, whereas the research calculates by using the driven pile foundation.