GEOLOGI DAN ANALISIS DAYA DUKUNG TANAH TERHADAP PEMBANGUNAN *FLY OVER* PEGANGSAAN 2 JAKARTA UTARA

Antoni Walter Panjaitan

ABSTRAK

Penerapan ilmu geologi dalam menunjang kemantapan suatu bangunan sarana masyarakat dirasa sangat diperlukan, salah satunya analisis daya dukung pondasi. Penelitian ini bertujuan untuk menjelaskan kondisi geologi daerah penelitian dan melakukan analisis daya dukung pondasi pada ada pembangunan *Fly Over* Pegangsaan 2 Jakarta Utara. Metode penelitian meliputi Studi Literatur berupa pengumpulan data pendukung. Penelitian lapangan meliputi analisis kondisi permukaan, dan pengambilan data lapangan berupa data Bor, SPT, dan sample tanah. Analisis laboratorium meliputi Uji Atterberg, Uji Berat Spesifik tanah, Analisis Ukuran Butir, dan Uji Geser Langsung. Analisis Studio berupa analisis Geomorfologi. Analisis daya dukung pondasi menggunakan metode Meyerhof. Hasil penelitian yaitu Geologi daerah penelitian terdiri dari 3 satuan geologi dan 1 satuan geomorfologi. Berdasarkan analisis daya dukung tanah metode Meyerhof didapat daya dukung izin sebesar 920 ton/m^2 (BH-1), 1245 ton/m^2 (BH-2), 1135 ton/m^2 (BH-3), dan 1100 ton/m^2 (BH-4. Beban keseluruhan jembatan adalah 600 ton/m^2. Hasil analisis daya dukung pondasi menunjukan nilai daya dukung izin lebih besar dari beban jembatan, yang dimana tanah dan pondasi layak menahan beban keseluruhan jembatan.

Kata Kunci: *Fly Over*, Pegangsaan 2, Daya Dukung, Geologi, Tanah, Jakarta Utara.

GEOLOGY AND SOIL BEARING CAPACITY ANALYSIS TOWARDS THE CONSTRUCTION OF FLY OVER PEGANGSAAN 2 NORTH JAKARTA

Antoni Walter Panjaitan

ABSTRACT

The application of geological sciences in supporting the stability of public facilities construction is considered indispensable, one of which is the analysis of bearing capacity of the foundation. The aims of this research are to explain the geological condition of the area and to perform the soil bearing capacity analysis towards the construction of Fly Over Pegangsaan 2 North Jakarta. The method that used in the research is Literature Study in order to gather additional supporting data. Field researches include surface conditions analysis, and field data collection in the form of drilling log data, SPT, and soil samples are used.. Laboratory analysis include Atterberg Limit Test, Soil Density Test, Grain Size Analysis, and Direct Shear Test. Studio analysis in the form of geomorphological analysis. Analysis of bearing capacity uses Meyerhof method. The research results, based on geological aspect, are the research area consist of 3 rock formations and 1 geomorphological unit. Based on the soil bearing capacity analysis by Meyerhof method, the bearing capacity that allowed for each drilling point are 920 ton / m2 (BH-1), 1245 ton / m2 (BH-2), 1135 ton / m2 (BH-3) and 1100 ton / m2 (BH- 4. The overall bridge load is 600 ton / m2, The results of the bearing capacity analysis show that the allowed bearing capacity value is greater than the bridge load, so in the other words, the soil and the foundation are ables to hold the overall load of the bridge.

Keyword: Fly Over, Pegangsaan 2, Bearing Capacity, Geology, Soil, North Jakarta