ANALISIS 2 DIMENSI PADA PONDASI JALAN MENGGUNAKAN PERKUATAN GEOTEKSTIL STUDI KASUS PADA RUAS JALAN MAKAM RAJA IMOGIRI

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ABSTRACT

Indonesia is a developing country that is actively developing to improve economy sector. The sector is important to make this happen is transportation. Transportation an important role in improving the mobility of people and goods. Short-distance traffic such as crosses between cities or between provinces is dominated by land transportation. One of the transportation infrastructures is roads. Based on Law No. 22 of 2009 on Road Traffic and Transportation, roads can be divided into national roads, provincial roads, district roads, and municipal roads. To meet the needs of large road capacities and improve national connectivity, the central government through the Ministry of Public Works and Public Housing is responsible for providing national roads. This is by Law No. 38 of 2004 concerning Roads which states that national roads are public roads that are part of the road network system. The national road is designed as a freeway. Based on PP Number 8 of 1990, the lowest speed for intercity toll roads is 80 km/hour and 60 km / h for urban area toll roads. With this fairly high speed of the plan, the safety and comfort of road users are important aspects to consider. Therefore, geometric planning of the road is needed which includes vertical and horizontal alignment planning. The upper structure of the road includes a surface layer and a pavement layer. While the lower structure of the road can be in the form of a foundation structure or heap soil. However, in the implementation in the field, some special conditions may be encountered, such as poor heap soil conditions and so on. This study used primary and secondary data. The primary data used in this study is by taking soil samples at the point to be analyzed to determine the soil properties index. The secondary data used in this study were soil contours, subgrade layers, lower foundation layers, upper foundation layers, surface layers, and vehicle loads. Soil contour data is used to determine the geometry of the location/road, and vehicle load data to analyze the amount of load that will be received by the road foundation layer and the heaped soil. Analysis of road foundations and heap soils at the study site with numerical analysis using Plaxis 2D to determine the decrease in the upper and lower foundation layers when above them are given vehicle loads. If the foundation layer decreases beyond the permitted limit, an alternative strengthening solution will be carried out in the form of providing a geotextile layer.

Kata Kunci: *Settlement, safety factor, Plaxis*