

PERBAIKAN STABILITAS TANAH DENGAN BAHAN TAMBAH ABU SEKAM PADI, SEMEN, PASIR UNTUK TIMBUNAN SUBGRADE JALAN

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ABSTRACT

Bamboo and coarse aggregates are materials that are easy to get so bamboo and coarse aggregates are used as retrofitting to increase the carrying capacity of the soil. This research aims to: (1) find out the type on the soil in the area of Soropadan Village, Tawang Sari, Kec. Loving, Kab. Kulon Progo, DI. Yogyakarta based on the soil classification system, (2) know the characteristics of clay soil after stabilization using a combination of rice husk ash, (3) know the carrying capacity of the soil against the load due to the stabilization of subgrade soil road structures if using soil originating from Soropadan Village, Tawang Sari, Kec. Loving, Kab. Kulon Progo, DI. Yogyakarta. This research is an experimental study by conducting loading methods with the modeling of overburdened soil conditions carried out in the Soil Mechanics Laboratory and the JPTSP FT UNY Structure Laboratory. This study used a suppressor model made of iron plates measuring 20 cm x 20 cm x 10 mm. While the tub as a test foundation measuring 100 cm x 100 cm x 40 cm, with a thickness of 4 mm iron plates. A hydrolysed jack is used as a pressure tool to provide load on the foundation and to find out the amount of load installed proving ring with a capacity of 3 tons. The clay soil to be used is 30 cm high. Then given the stability of the pile using the mixing of rice husk ash, cement and sand. The results showed the type of soil according to USCS OH (organic clay with moderate to high plasticity), while according to AASHTO is a base soil that has moderate to bad crib. Strengthening the addition of cement and rice husk ash on the pile, in addition to increasing the pile harder, can reduce its own weight and can distribute the load evenly on all layers of foundation soil. Plus the addition of a layer of sand at the bottom of the foundation can help spread the load from the pile to the surface of the foundation of the water saturated and soft soil. The composition of the mixture of ETP D (clay soil (native soil) and Abu Husk 9%), appears to have the highest compressive strong value among other variations of 711 kg or 16.3 times compared to the original soil without strengthening the original soil without strengthening with a carrying capacity ratio (BCR) of 3.42. This research shows that mixing rice husk ash, cement and sand is effective in stabilizing the heap and transferring the load to the soil

Kata Kunci: *abu sekam, semen, pasir, tanah*