PERANCANGAN TEBAL PERKERASAN BAHU JALAN PADA JALAN PAKEM-TEMPEL DENGAN METODE MANUAL DESAIN PERKERASAN JALAN 2017

ABSTRAK

Jalan Tempel-Pakem yang berada di Kecamatan Pakem adalah salah satu jalan kolektor kelas IIIA yang dilewati truk-truk pengangkut pasir dari Kecamatan Tempel. Setiap hari sebagian truk bermuatan pasir melintas dan sebagian lain terparkir di tepi jalan tersebut. Pembebanan yang berlebihan tersebut dikhawatirkan berdampak buruk pada bahu jalan. Tujuan penelitian ini adalah untuk menganalisis beban lalu lintas, kekuatan daya dukung tanah, dan menentukan tebal perkerasan bahu jalan pada Jalan Turi-Tempel, Kecamatan Tempel, Kabupaten Sleman, Daerah Istimewa Yogyakarta.

Pengumpulan data dalam penelitian ini dilakukan dengan pengamatan geometri jalan serta pengujian CBR tanah menggunakan metode DCP. Pengamatan dan pengujian tersebut dilakukan berurutan, dimulai dari segmen I hingga segmen IV yang berlangsung selama 1 hari. Metode analisis data yang digunakan adalah Metode Bina Marga 2017.

Berdasarkan penelitian yang telah dilakukan, didapatkan urutan nilai CBR karakteristik tanah dasar sebesar 4,13 %, 2,25 %, 2,71 %, dan 2,48%. Pehitungan beban lalu lintas rencana bahu jalan pada segmen I hingga IV adalah 309615,0, 251752,7, 263523,6, dan 311237,3. Berdasarkan hasil tesebut, diperoleh tebal rencana pondasi berurutan dari segmen I-IV adalah 100 mm, 1000 mm, 175 mm, dan 1000 mm. Sedangkan tebal struktur perkerasan pada segmen I-IV memiliki tebal perkerasan yang seragam yaitu HRS WC 50 mm, LFA kelas A 150 mm, dan kerikil alam 150 mm.

Kata Kunci: Beban lalu lintas, Daya dukung tanah, Pengujian DCP, Struktur perkerasan jalan, Metode Bina Marga 2017.

DESIGN OF HIGHWAY SHOULDER PAVEMENT THICKNESS ON PAKEM-TEMPEL ROADS WITH THE MANUAL METHOD OF HARDWARE DESIGN 2017

ABSTRACT

Jalan Tempel-Pakem, which is located in Pakem District, is one of the class 3A collector roads passed by sand trucks from Tempel District. Every day some trucks filled with sand, pass by and some others are parked by the side of the road. It is feared the excessive loading will have a negative impact on the shoulder of the road. The purpose of this study was to analyze traffic loads, soil bearing strength, and determine the thickness of the pavement on the shoulder of the road on Jalan Turi-Tempel, Tempel District, Sleman Regency, Yogyakarta Special Region.

Data collection in this study was carried out by observing the road geometry and testing the soil CBR using the DCP method. Observation and testing are carried out sequentially, starting from segment I to segment IV which lasts for 1 day. The data analysis method used is the Methode of Bina Marga 2017.

Based on the research that has been done, the order of the CBR value of subgrade characteristics obtained through the DCP test results for Jalan Pakem-Tempel Sta 6+000 to Sta 12+000 in segment I-IV are 4.13%, 2.25%, 2.71%, and 2.48%. The calculation of the traffic load for Jalan Pakem-Tempel's roadside in segment I-IV is 309615,0, 251752,7, 263523,6, and 311237,3. Based on these results, it is obtained that the thickness of the foundation plan for Jalan Pakem-Tempel sta 6+000 - sta 12+000, respectively, from segment I-IV, are 150 mm, 250 mm, 250 mm, and 1100 mm. Meanwhile, the pavement structure thickness in segments I-IV has a uniform pavement thickness, namely HRS WC 50 mm, LFA class A 150 mm, and gravel 150 mm.

***Keywords**: Traffic load, soil bearing capacity, DCP test, pavement structure, Method of Bina Marga 2017.*