

**PERENCANAAN GEOMETRIK DAN TEBAL PERKERASAN JALAN
KAKU RUAS JALAN NASIONAL PENINGGALAN - BATAS JAMBI
STA 41+000 – STA 49+258
PROVINSI SUMATERA SELATAN**

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ABSTRAK

Peningkatan aktivitas ekonomi dan mobilitas masyarakat menyebabkan bertambahnya volume lalu lintas pada Ruas Jalan Nasional Peninggalan – Batas Jambi STA 41+000 – STA 49+258 Provinsi Sumatera Selatan. Kondisi tersebut memerlukan perencanaan jalan yang memenuhi aspek keselamatan, kenyamanan, dan kapasitas lalu lintas. Tujuan penelitian ini adalah merencanakan geometrik jalan, tebal perkerasan kaku (Rigid Pavement), bangunan pelengkap jalan berupa saluran samping dan box culvert, serta manajemen proyek yang meliputi Rencana Anggaran Biaya (RAB), Bar Chart, Kurva S, dan Network Planning. Perencanaan geometrik mengacu pada Pedoman Desain Geometrik Jalan Nomor 13/P/BM/2021, perencanaan perkerasan mengacu pada Manual Desain Perkerasan Jalan Nomor 03/M/BM/2024, dan perencanaan drainase mengacu pada Pedoman Desain Drainase Jalan Nomor 15/P/BM/2021. Hasil perencanaan menunjukkan bahwa ruas jalan direncanakan sebagai jalan nasional tipe 4/2-TT dengan kecepatan rencana 60 km/jam, panjang trase $\pm 8,258$ km, lebar jalur $2 \times 5,5$ m, median 1 m, bahu luar 1 m, dan saluran tepi 1,5 m. Perkerasan yang digunakan adalah perkerasan kaku dengan struktur berupa lapis stabilisasi tanah dasar 200 mm, lapis fondasi agregat kelas A 200 mm, lean concrete 100 mm, dan pelat beton semen setebal 280 mm. Bangunan pelengkap jalan meliputi saluran samping menggunakan U-Ditch dan box culvert yang direncanakan pada STA 41+205, STA 42+750, STA 43+385, STA 44+575, dan STA 48+545. Berdasarkan hasil perhitungan Rencana Anggaran Biaya (RAB), diperoleh total biaya pembangunan sebesar Rp192.982.648.594,00 termasuk PPN 12%.

Kata Kunci: Geometrik Jalan, Perkerasan Kaku, Drainase Jalan, Box Culvert, RAB.

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ABSTRACT

The increase in economic activities and community mobility has led to higher traffic volumes on the Peninggalan – Jambi Border National Road Section at STA 41+000 – STA 49+258, South Sumatra Province. This condition requires a road design that fulfills safety, comfort, and traffic capacity requirements. The purpose of this study is to design the road geometry, rigid pavement structure, complementary road structures including side drains and box culverts, as well as project management consisting of the Cost Estimate Plan (RAB), Bar Chart, S-Curve, and Network Planning. The geometric design refers to the Road Geometric Design Guidelines No. 13/P/BM/2021, pavement design refers to the Pavement Design Manual No. 03/M/BM/2024, and drainage design refers to the Road Drainage Design Guidelines No. 15/P/BM/2021. The results indicate that the road section is designed as a 4/2-TT national road with a design speed of 60 km/h, a route length of approximately 8.264 km, lane width of 2×5.5 m, median width of 1 m, outer shoulder width of 1 m, and side drainage width of 1.5 m. The pavement structure consists of a 200 mm stabilized subgrade layer, 200 mm Class A aggregate base course, 100 mm lean concrete layer, and a 280 mm concrete slab. The complementary road structures include U-Ditch side drains and box culverts located at STA 41+205, STA 42+750, STA 43+385, STA 44+575, and STA 48+545. Based on the cost estimation analysis, the total construction cost is Rp192,982,648,594.00, including 12% Value Added Tax (VAT).

Kata Kunci: *Road Geometric Design, Rigid Pavement, Road Drainage, Box Culvert, Cost Estimate.*