

**PERANCANGAN GEOMETRIK DAN TEBAL PERKERASAN KAKU PADA
RUAS JALAN SIMP. BETUNG BERDARAH – SIMP. KUAMANG
STA 20 + 400 – STA 28 + 700 PROVINSI JAMBI**

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ABSTRAK

Perancangan Ruas Jalan Simp. Betung Berdarah – Simp. Kuamang, demi memperlancar lalu lintas, menghemat waktu, serta meningkatkan konektivitas perekonomian masyarakat. Proyek merupakan penghubung berbagai provinsi. Hitungan lalu lintas harian sebesar 19.619,635 SMP/hari, dengan kategori Jalan Kolektor kelas 2 yang total lebar jalan 6 m dan bahu jalan 1 m, serta tipe jalan 2 lajur – 2 arah. Jalan sepanjang 8300 m ini digolongkan sebagai medan datar dengan kecepatan rencana 80 km/jam. Perencanaan geometrik alinyemen horizontal mencakup 6 tikungan yang terdiri dari 1 tikungan *Full Circle* (FC) dan 5 tikungan *Spiral-Circle-Spiral* (SCS), serta alinyemen vertikal mencakup 11 lengkung yang terdiri dari 7 lengkung cembung dan 4 lengkung cekung. Perkerasan yang digunakan adalah tipe perkerasan kaku (*Rigid Pavement*) dengan beton bersambung tanpa tulangan, menggunakan mutu beton fs 45 MPa dengan tebal pelat beton 23 cm, *lean concrete* 15 cm, lapis fondasi atas agregat kelas A 20 cm dan Stabilisasi Tanah Dasar 20 cm. Desain saluran samping yang digunakan berbentuk persegi, serta dilengkapi dengan 5 *box culvert* tipe *single* berukuran 200 x 150 cm. Total biaya untuk pembangunan jalan ini diperkirakan sebesar Rp 109.631.529.000,00 (Seratus Sembilan Miliar Enam Ratus Tiga Juta Satu Juta Lima Ratus Dua Puluh Sembilan Ribu Rupiah) dengan durasi pelaksanaan selama 164 hari kerja.

Kata Kunci : Jalan, Desain Geometrik, Tebal Perkerasan Kaku, Rencana Anggaran Biaya.

**GEOMETRIC DESIGN AND RIGID PAVEMENT THICKNESS
SIMP. BETUNG BERDARAH ROAD SECTION – SIMP. KUAMANG
STA 20 + 400 – STA 28 + 700 PROVINSI JAMBI**

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ABSTRACT

The design of the Simp. Betung Berdarah – Simp. Kuamang Road Section aims to improve traffic flow, reduce travel time, and enhance connectivity as well as the economic activities of the community. This project serves as a strategic route connecting various provinces. Based on the analysis, the average daily traffic volume reaches 19,619.635 PCU/day (Passenger Car Units/day), classifying this road as a Class II Collector Road with a pavement width of 6 m, shoulder width of 1 m, and a 2-lane, 2-way road type. The road section has a total length of 8,300 m and is categorized as flat terrain, with a design speed of 80 km/h. The geometric design of the horizontal alignment includes 6 curves, consisting of 1 Full Circle (FC) curve and 5 Spiral-Circle-Spiral (SCS) curves. Meanwhile, the vertical alignment consists of 11 vertical curves, including 7 crest curves and 4 sag curves. The pavement type used is Rigid Pavement in the form of jointed plain concrete pavement without reinforcement, using concrete with a strength of 45 MPa. The pavement structure consists of a 23 cm concrete slab, 15 cm lean concrete, 20 cm Class A aggregate base course, and 20 cm subgrade stabilization. The side drainage system is designed in a rectangular shape and is equipped with 5 single-type box culverts measuring 200 × 150 cm. The total estimated construction cost for this road project is IDR 109,631,529,000.00 (One Hundred Nine Billion Six Hundred Thirty-One Million Five Hundred Twenty-Nine Thousand Rupiah), with an estimated implementation period of 164 working days.

Keywords: Road, Geometric Design, Rigid Pavement Thickness, Cost Estimate (Budget Plan).