

**PERENCANAAN GEOMETRIK JALAN DAN TEBAL PERKERASAN
KAKU JALAN TANJUNG KEMALA – SP. LEKIS BATUMARTA UNIT II
STA 0+600 – STA 8+850 KABUPATEN OGAN KOMERING ULU
PROVINSI SUMATERA SELATAN**

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ABSTRAK

Meningkatnya kebutuhan transportasi darat menuntut tersedianya infrastruktur jalan yang mampu memberikan pelayanan secara aman, nyaman, dan efisien. Oleh karena itu, dilakukan perencanaan geometrik jalan dan tebal perkerasan kaku pada ruas Jalan Tanjung Kemala – SP. Lekis Batumarta Unit II STA 0+600 sampai STA 8+850 di Kabupaten Ogan Komering Ulu, Provinsi Sumatera Selatan. Perencanaan ini bertujuan meningkatkan konektivitas wilayah, mendukung mobilitas masyarakat serta distribusi hasil perkebunan, meningkatkan aksesibilitas, dan menunjang pertumbuhan ekonomi daerah melalui penyediaan infrastruktur jalan yang memenuhi persyaratan teknis. Perencanaan dilakukan pada ruas jalan sepanjang 8.209,439 m yang diklasifikasikan sebagai Jalan Kolektor Rural Kelas I dengan tipe jalan 2/2-TT, lebar perkerasan 7 m, lebar bahu jalan 2 m, volume lalu lintas 37.434 SMP/hari, kondisi medan datar dengan kemiringan rata-rata 2,36%, serta kecepatan rencana 60 km/jam. Perencanaan geometrik mengacu pada Pedoman Desain Geometrik Jalan (PDGJ) Tahun 2021, perencanaan perkerasan mengacu pada Manual Desain Perkerasan Jalan (MDPJ) Tahun 2024, sedangkan sistem drainase mengacu pada Pedoman Desain Drainase Jalan Tahun 2021. Hasil perencanaan menunjukkan alinyemen horizontal terdiri atas 6 tikungan, yaitu 2 tikungan *Full Circle* (FC) dan 4 tikungan *Spiral Circle Spiral* (SCS), serta alinyemen vertikal terdiri atas 27 lengkung yang meliputi 13 lengkung cekung dan 14 lengkung cembung. Struktur perkerasan menggunakan *Jointed Reinforced Concrete Pavement* (JRCP) dengan mutu beton f'c 35 MPa, tebal pelat beton 170 mm, *Lean Concrete* 125 mm, lapis drainase 200 mm, dan Lapis Pondasi Agregat Kelas A 200 mm. Sistem drainase menggunakan saluran U-Ditch berukuran 1 × 1 m yang dilengkapi 8 unit box culvert berukuran 1 × 1 m. Estimasi biaya pembangunan sebesar Rp114.157.201.185,00 dengan waktu pelaksanaan selama 152 hari.

Kata kunci : Perencanaan Geometrik Jalan, Perkerasan Kaku, Drainase Jalan, Rencana Anggaran Biaya, Infrastruktur Jalan

**GEOMETRIC ROAD DESIGN AND RIGID PAVEMENT THICKNESS
PLANNING OF THE TANJUNG KEMALA – SP. LEKIS BATUMARTA
UNIT II ROAD SECTION STA 0+600 – STA 8+850, OGAN KOMERING ULU
REGENCY, SOUTH SUMATRA PROVINCE**

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ABSTRACT

The increasing demand for land transportation requires road infrastructure that provides safe, comfortable, and efficient service. This study focuses on the geometric design and rigid pavement thickness planning of the Tanjung Kemala – SP. Lekis Batumarta Unit II Road section from STA 0+600 to STA 8+850 in Ogan Komering Ulu Regency, South Sumatra Province. The objective of this study is to design road geometry, rigid pavement structure, drainage system, and construction cost estimation to support regional connectivity, community mobility, agricultural product distribution, accessibility improvement, and regional economic development. The designed road section has a total length of 8,209.439 m and is classified as a Class I Rural Collector Road with a 2/2 undivided roadway type, 7 m pavement width, and 2 m shoulder width. The traffic volume is 37,434 PCU/day, with flat terrain conditions and an average slope of 2.36%, and a design speed of 60 km/h. The geometric design follows the Geometric Road Design Guidelines (PDGJ 2021), pavement design is based on the Pavement Design Manual (MDPJ 2024), and drainage design refers to the Road Drainage Design Guidelines (2021). The geometric design results in 6 horizontal curves consisting of 2 Full Circle (FC) curves and 4 Spiral Circle Spiral (SCS) curves. The vertical alignment consists of 27 vertical curves, comprising 13 concave vertical curves and 14 convex vertical curves. The rigid pavement structure uses Jointed Reinforced Concrete Pavement (JRCP) with concrete strength of $f'c$ 35 MPa, a 170 mm concrete slab thickness, 125 mm lean concrete layer, 200 mm drainage layer, and 200 mm Class A aggregate base layer. The drainage system consists of 1 × 1 m U-Ditch channels equipped with 8 units of 1 × 1 m box culverts. The total construction cost is estimated at IDR. 114.157.201.185,00 with a construction duration of 152 days.

Keywords: Road Geometric Design, Rigid Pavement, Road Drainage, Cost Estimation, Road Infrastructure.