

ABSTRAK

Perencanaan Pembangunan Relokasi Jalan Nasional Sei Duri-Mempawah Provinsi Kalimantan Barat

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ABSTRAK: Perencanaan Geometrik Jalan: Menghitung perencanaan geometrik jalan menggunakan Pedoman Desain Geometrik Jalan (PDGJ) tahun 2021. Perhitungan meliputi alinyemen horizontal (menentukan titik koordinat, menghitung panjang trase jalan, sudut azimuth dan bearing, medan jalan, serta tikungan seperti *Full Circle* (FC) dan *Spiral Circle Spiral* (SCS), alinyemen vertikal (perhitungan kelandaian dan lengkung vertikal). Perencanaan Tebal Perkerasan Lentur (*Flexible Pavement*): Menggunakan standar Manual Desain Perkerasan Jalan (MDPJ) Bina Marga tahun 2024. Ini termasuk perhitungan kumulatif beban lalu lintas (ESA4 & ESA5) dan penentuan tebal perkerasan serta bahu jalan. Manajemen Proyek dan Anggaran Biaya: Menghitung volume pekerjaan, produksi kerja alat berat, koefisien alat, tenaga kerja, dan material. Selain itu, laporan ini mencakup perhitungan biaya sewa alat per jam, jumlah jam dan hari kerja, serta analisis harga satuan pekerjaan (AHSP) tahun 2024 untuk menyusun Rencana Anggaran Biaya (RAB) dan rekapitulasi biaya. Jadwal Pelaksanaan Kerja Optimal: Penyusunan jadwal menggunakan metode *Critical Path Method* (CPM). Penelitian ini diharapkan menjadi referensi dalam bidang perencanaan dan rekayasa transportasi, khususnya terkait relokasi jalan nasional, serta memberikan rekomendasi teknis bagi pemerintah dan masyarakat sekitar.

Kata kunci: Jalan, Geometrik Jalan, CPM, Perhitungan, Biaya

ABSTRACT

Planning for the Relocation of the National Road Sei Duri–Mempawah, West Kalimantan Province

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ABSTRACT: Geometric Road Design Planning: This study focuses on calculating geometric road design based on the Geometric Road Design Guidelines (PDGJ) issued in 2021. The calculations include horizontal alignment (determining coordinate points, calculating road alignment length, azimuth and bearing angles, terrain classification, and curves such as Full Circle (FC) and Spiral-Circle-Spiral (SCS), as well as vertical alignment (grade calculation and vertical curves). Flexible Pavement Thickness Design: The pavement design follows the Manual for Road Pavement Design (MDPJ) by Bina Marga, 2024 edition. This includes the calculation of cumulative traffic loads (ESA4 & ESA5), determination of pavement thickness, and shoulder design. Project Management and Cost Estimation: The report includes calculations of work volume, heavy equipment productivity, equipment coefficients, labor, and material requirements. It also covers the calculation of equipment rental costs per hour, total working hours and days, as well as Unit Price Analysis (AHSP) for 2024 to prepare the Cost Budget Plan (RAB) and cost recap. Optimized Work Schedule: The project schedule is developed using the Critical Path Method (CPM) to achieve an efficient and realistic implementation timeline. This study is expected to serve as a reference in the field of transportation planning and engineering, particularly in relation to national road relocation projects, and to provide technical recommendations for the government and surrounding communities.

Keywords: Road, Geometric Design, CPM, Calculation, Cost.