

ABSTRAK

PERANCANGAN STRUKTUR BANGUNAN GEDUNG ASRAMA KARYAWAN PT. BUKIT ASAM TANJUNG ENIM PROVINSI SUMATERA SELATAN

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Pembangunan hunian yang aman sangat penting untuk mendukung efektivitas operasional PT. Bukit Asam di Tanjung Enim. Sehubungan dengan hal tersebut, dilakukan Perancangan Struktur Bangunan Gedung Karyawan Tanjung Enim Provinsi Sumatera Selatan setinggi 3 lantai ditambah dak atap. Gedung asrama ini direncanakan sebagai hunian layak dan efisien guna meningkatkan produktivitas karyawan di kawasan operasional.

Analisis elemen struktural utama dilakukan menggunakan perangkat lunak pemodelan yang berpedoman pada SNI. Berdasarkan perhitungan beton bertulang, ditetapkan spesifikasi teknis: pondasi tiang pancang 25×25 cm kedalaman 12 m, *pile cap* $1,6 \times 1,6 \times 0,5$ m, *tie beam* 25×50 cm, kolom 40×40 cm, balok induk 25×50 cm, balok anak 20×35 cm, serta tebal pelat lantai 120 mm. Mutu material menggunakan beton $f'c$ 28 MPa dan baja f_y 420 MPa. Struktur dinyatakan stabil, aman, dan layak digunakan jangka panjang.

Perancangan ini juga mencakup manajemen proyek berupa volume, analisa harga satuan, estimasi biaya sebesar Rp. 5.529.126.499,73,- dan durasi konstruksi selama 176 hari kerja. Perencanaan matang ini diharapkan menghasilkan hunian ekonomis yang menunjang kinerja karyawan secara berkelanjutan.

Kata Kunci: Perancangan Struktur, Beton Bertulang, Permodelan Struktur, SNI, Estimasi Biaya.

ABSTRACT

BUILDING STRUCTURE DESIGN OF EMPLOYEE DORMITORY OF PT. BUKIT ASAM TANJUNG ENIM SOUTH SUMATRA PROVINCE

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Building safe housing is very important to support PT. Bukit Asam's operational effectiveness in Tanjung Enim. In this regard, the design of the Tanjung Enim Employee Building Structure in South Sumatra Province is carried out, consisting of 3 floors plus a roof deck. This dormitory is planned as livable and efficient housing to boost employee productivity in the operational area.

The analysis of the main structural elements is done using modeling software based on SNI standards. Based on reinforced concrete calculations, the technical specifications are set as follows: 25×25 cm pile foundation with a depth of 12 m, 1.6×1.6×0.5 m pile cap, 25×50 cm tie beam, 40×40 cm columns, 25×50 cm main beams, 20×35 cm secondary beams, and a 120 mm thick floor slab. The material quality uses f_c 28 MPa concrete and f_y 420 MPa steel. The structure is declared stable, safe, and suitable for long-term use.

This design also includes project management in terms of volume, unit price analysis, cost estimation of Rp. 5.529.126.499,73,- and a construction duration of 176 working days. This careful planning is expected to result in economical housing that supports employee performance sustainably.

Keywords: Structural Design, Reinforced Concrete, Structural Modeling, SNI, Cost Estimation.