

ABSTRAK

PERENCANAAN DINDING PENAHAN TANAH COUNTERFORT PADA PROYEK PENANGANAN LONGSORAN RUAS SIMPANG SUGIH WARAS-BATAS KOTA BATURAJA

Studi ini merancang dinding penahan tanah tipe *counterfort* sebagai bagian dari penanganan longsor di ruas Simpang Sugih Waras–Batas Kota Baturaja, yang merupakan kawasan rawan longsor akibat topografi berbukit dan curah hujan tinggi. Analisis dilakukan secara geoteknik dan numerik menggunakan perangkat ASDIP RETAIN, rancangan yang diusulkan adalah DPT *counterfort* setinggi 2,5 meter dengan spesifikasi tulangan D19–150 mm, D16 – 150 mm mutu beton $f_c' = 30$ MPa, dan baja $f_y' = 420$ MPa.

Selain menganalisis stabilitas lereng dan merancang *sistem* struktur DPT, studi ini juga mencakup penyusunan anggaran biaya pembangunan DPT *counterfort* secara komprehensif sesuai kebutuhan proyek. Hasil ini diharapkan dapat menjadi acuan teknis dalam mitigasi risiko longsor, sekaligus mendukung keberlanjutan infrastruktur transportasi di wilayah terdampak.

Kata kunci: Dinding Penahan Tanah, *Counterfort*, Stabilitas Lereng, Plaxis, ASDIP RETAIN, Perencanaan Anggaran

ABSTRACT

DESIGN OF COUNTERFORT RETAINING WALLS IN THE LANDSLIDE HANDLING PROJECT AT THE SUGIH WARAS INTERSECTION- BATURAJA CITY BOUNDARY

This study designs a counterfort-type retaining wall as part of a landslide mitigation effort on the Simpang Sugih Waras–Batas Kota Baturaja road section, a landslide-prone area due to hilly topography and high rainfall intensity. The geotechnical and numerical analysis was conducted using the ASDIP RETAIN software. The proposed design is a counterfort retaining wall with an effective height of 2.5 meters, using reinforcement bars D19–150 mm and D16–150 mm, with concrete strength $f_c' = 30$ MPa and steel yield strength $f_y' = 420$ MPa.

In addition to slope stability analysis and structural design of the retaining wall, this study also includes a comprehensive cost estimation for the construction of the counterfort retaining wall according to the project requirements. The results are expected to serve as a technical reference for landslide risk mitigation, while also supporting the sustainability of transportation infrastructure in the affected area.

Keywords: Retaining Wall, Counterfort, Slope Stability, Plaxis, ASDIP RETAIN, Cost Estimation