

**TEKNIK REKAYASA LERENG UNTUK PENGELOLAAN LONGSOR DI
DUSUN PENCIL, DESA KALIJERING, KECAMATAN PITURUH,
KABUPATEN PURWOREJO, PROVINSI JAWA TENGAH**

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INTISARI

Pada tanggal 26 Oktober 2020 telah terjadi longsor di Dusun Pencil, Desa Kalijering, Kecamatan Pituruh, Kabupaten Purworejo. Kejadian tersebut mengakibatkan kebun campuran milik warga ambrol, 5 rumah dan kandang hewan ternak milik warga hancur, dan 1 orang luka ringan. Selain itu terdapat lereng yang berada di sebelah timur lereng pasca longsor yang berpotensi terjadi longsor ditandai dengan adanya rekahan sepanjang 3,9 m. Tujuan dari penelitian ini adalah untuk mengetahui karakteristik longsor, mengetahui kestabilan lereng berdasarkan nilai faktor keamanan pada lereng pasca longsor dan lereng belum longsor, dan merencanakan arahan teknik rekayasa lereng untuk pengelolaan longsor.

Metode yang dilakukan dalam penelitian ini meliputi pengumpulan data dan analisis data. Pengumpulan data dilakukan dengan cara survei dan pemetaan lapangan, pengambilan sampel tanah, uji laboratorium berupa sifat fisik dan mekanik tanah. Analisis data dilakukan dengan cara penentuan faktor keamanan dengan metode Fellenius dan aplikasi *Rockscience Slide* 6.0 serta analisis hasil data dengan metode deskriptif.

Hasil penelitian menunjukkan longsor memiliki karakteristik berupa tipe longsor *Debris Rotational Slide* dengan arah longsor ke barat, bagian-bagian longsor berupa *crown*, *main scrap*, *main body*, terjadi pada ketinggian 90-117 mdpl, kemiringan lereng terjal dan sangat terjal, tersusun atas batupasir, tanah latosol dengan tebal 1,5 m-3,6 m bertekstur geluh lempung debu, dan material longsor berupa tanah dengan sedikit batuan. Kestabilan lereng pada kedua lereng stabil dengan nilai faktor keamanan pada lereng pasca longsor 2,147 dan pada lereng belum longsor 2,591. Arahan teknik rekayasa lereng untuk pengelolaan longsor yang dapat dilakukan adalah saluran drainase, rekayasa vegetatif, pendekatan sosial, dan pendekatan institusi.

Kata Kunci: Longsor, Kestabilan Lereng, Faktor Keamanan, Teknik Rekayasa Lereng

**SLOPE ENGINEERING TECHNIQUES FOR LANDSLIDE MANAGEMENT
IN PENCIL, KALIJERING VILLAGE, PITURUH SUBDISTRICT,
PURWOREJO REGENCY, CENTRAL JAVA PROVINCE**

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ABSTRACT

On October 26, 2020, there was landslide in Pencil, Kalijering Village, Pituruh subdistrict, Purworejo Regency. The incident caused mixed gardens collapse, five houses and livestock cages have been destroyed by landslide materials, and one person has a minor injury. In addition, there is a slope to the east of the post-slide slope which has the potential for landslides to occur, marked by a 3.9 m long fracture. The purpose of this study is to know characteristics of landslide, to know the stability of slopes based on the value of safety factors on fallen slopes and landslides that have not yet fallen, and to plan directions on engineering slopes that have been landslides and those that have not fallen.

The methods involved in this study include collection of data and data analysis. Data collection is conducted by way of field observation and mapping, sampling, laboratorium test of the physical and mechanical properties of land. Data analysis is done by determining safety factor values by fellenius method using Rockscience Slide 6.0 application and descriptive data results analysis.

The results of the study show that landslides have the characteristics of a landslide type Debris Rotational Slide with the direction of the landslide to the west, the landslide parts are crown, main scrap, main body, landslides occur at an altitude of 90-117 masl, the slope is steep and very steep, composed of sandstone, latosol soil with a thickness of 1,5 m – 3,6 m, textured loamy clat dust, and landslide material in the form of soil with a little rock. The stability of the slopes on both slopes is stable with the value of the safety factor on the post-slide slopes of 2,147 and on the slopes that have not been landslide 2,591. Directions for slope engineering techniques for landslide management that can be carried out are drainage channels, vegetative engineering, social approaches, and institutional approaches.

Keywords: Landslide, Slope Stability, Safety Factor, Slope Engineering Techniques