EVALUASI STABILITAS DINDING PENAHAN TANAH TIPE KANTILEVER PADA AREA TIMBUNAN TOSERBA KDS SITUBONDO

Oleh:

Farah Adelia Putri[1]

Arief Alihudien[2]

Ilanka Cahya Dewi[3]

Universitas Muhammadiyah Jember

Alamat: JL. Gumuk Kerang, Karangrejo, Kec. Sumbersari, Kabupaten Jember, Jawa Timur (68124).

Korespondensi Penulis: farahadelia97@gmail.com, ariefalihudien@unmuhjember.ac.id, ilankadewi@unmuhjember.ac.id.

ABSTRACT

This study aims to evaluate the stability of a cantilever-type earth-retaining wall in the fill area of the KDS Situbondo Department Store construction project. The analysis was conducted using laboratory soil test data from Modified Proctor and Direct Shear tests to determine the soil properties required for geotechnical design. The Proctor test results showed that the fill soil had an optimum moisture content of 11.4% with a maximum dry unit weight of 1.75 g/cm³, while the existing soil had an optimum moisture content of 13.9% and a maximum dry unit weight of 1.67 g/cm³. The Direct Shear analysis showed an increase in soil shear strength as normal stress increased, so the cohesion and internal friction angle parameters can be used as the basis for stability analysis. The evaluation results for the cantilever-type retaining wall show a safety factor against overturning of 2.216, against lateral shear of 1.550, and a soil bearing capacity of 3.275. These values meet the safety requirements based on SNI 8460:2017; therefore, the retaining wall design is deemed safe for implementation in the fill soil conditions at the study site.

Keywords: *Retaining Walls, Geotechnical Engineering, Cantilevers, Stability, Fill Soil.*