

The location of the research area is administratively located along the Piyungan -Patuk national road between Sleman and Gunungkidul regency in Special Region of Yogyakarta. Geographically, it is located at  $7,50^{\circ}02' - 7,52^{\circ}13'$  South Latitude and  $110,27^{\circ}53' - 110,30^{\circ}36'$  East Longitude, or at 441000 mE – 446000 mE and 9130000 mN – 9134000 mN in Universal Transverse Mercator (UTM), within 20 km<sup>2</sup> width area. Based on morphologic study, the area was divided into two basic landform which are structural landform and fluvial landform, and then divided again into three geomorphic units which are homoklin hills geomorphic unit (S1), cesarean escarpment geomorphic unit (S2), and alluvial geomorphic unit (F1). The stratigraphy of this area was stacked by three litologic unit, ascending from older to younger one, which are Semilir tuffic sandstone, Nglanggran vulcanic breccia, and Alluvial sedimentary unit. Semilir tuffic sandstone and Nglanggran vulcanic breccia were stratigraphically related with facies differences correlation, by the age of Early Miosen to Middle Miosen. The Alluvial sedimentary unit was formed above those two with unconformities correlation by the age of Holosen. Based on Markland Method using stereoplot analysis, most of the apparent plane was not intersect inside the critical zone and was not paralleling the slope face. Based on safety factor analysis, the value of the failure indicated LP are : LP 54 (FK = -0,6 (peak value of sandstone); FK = -0,865 (residual value of sandstone); FK = 0,096 (peak value of tuff); FK = -0,41 (residual value of tuff)) and LP 58 (FK = -2,17 (peak value of sandstone); FK = -1,753 residual value of sandstone); FK = -1,45 (peak value of tuff); FK = -1,15 (residual value of tuff)).