

Investigating the Effect of Groundwater Level on Nailing Arrangement in Excavation Stability

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Abstract : Different methods are used to stabilize the sticks, among which the method of knitting is commonly used. In recent years, the use of nailing for the stability of excavation has been considered much, which is providing sufficient stability and controlling the structural defects of the guardian, also reduces the cost of the operation. In addition, this method is more prominent in deep excavations than other methods. The purpose of this paper is to investigate the effect of groundwater level and soil type on the length and designing of nails. In this paper, analysis and modeling for vertical arena with constant depth and different levels of groundwater have been done. Also, by changing the soil resistance parameters and design of the nails, an optimum arrangement was made and the effect of changes in groundwater level and soil's type on the design of the nails, the maximum axial force mobilized in the nails and the confidence coefficient for the stability of the groove was examined.

Keywords : excavation, soil effects, nailing, hole analyzing

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