

عنوان مقاله:

Effect of hydraulic properties of fill and geocomposite drainage materials on seepage response in reinforced earth walls

محل انتشار:

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خلاصه مقاله:

This research aims to investigate the effect of water retention characteristic of the fill soil and drainage material (geocomposite) on seepage responses in mechanical stabilized earth walls using geocomposite as an alternative drainage system. A set of experiments on physical models was conducted such that the dataset obtained from the tests were used to calibrate the numerical models. Obtained calibrated numerical models were then used to perform a series of parametric calculation. The studied parameters were van Genuchten parameters (g_s , and g_{se}) and coefficient of permeability (k) of the relevant materials. Results from the parametric study indicate that the water retention characteristic of the soil outside the reinforced zone plays little role to the hydraulic response of the soil inside the reinforced zone. However, the coefficient of permeability of the soil outside the reinforced zone plays important role to the level of the phreatic surface inside the reinforced zone. Hence, the coefficient of permeability of the soil outside the reinforced zone must be taken into account as designing drainage system.

کلمات کلیدی:

mechanical stabilized earth wall, geocomposite, drainage system, numerical modeling

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