عنوان مقاله:

Investigation of the factors affecting the deformation and stability of deep excavation walls with the guardian truss structures under Pseudo-Static seismic analysis and its comparison with Static analysis

محل انتشار:

سومین کنفرانس بین المللی پژوهش های کاربردی در مهندسی سازه و مدیریت ساخت (سال: 1398)

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خلاصه مقاله:

Since the control of deformation and stability of the deep excavation walls under seismic and static loads is one of the important issues in geotechnical engineering. Therefore, in the present study, using finite element method and taking into account Mohr-Coulomb s behavioural model, the effect of different parameters affecting the performance of the deep excavation walls with the guardian truss structures in a quasi-static analysis and its comparison with static analysis has been studied. According to the most important results, the increase in soil resistance parameters (adhesion, friction angle and elastic modulus) reduced horizontal displacement (vertical trench wall) and settling (in the adjacent ground) and swelling (in the bottom of the excavation) and increase the factor of safety of stability will be and by increasing the horizontal distance between the trusses, contrary of this issue is true. In addition, the responses obtained from the quasi-static seismic analysis of the vertical trench restrained by the structure of guardian truss structure (the horizontal displacement of vertical trench wall and the settling in the adjacent ground and the swelling of .the floor) are much more than the analysis static

کلمات کلیدی:

Finite element, Quasi-static seismic analysis, Static analysis, Guardian truss structures