

عنوان مقاله:

Physical Modeling of Joint Effect on Interaction Behavior of Expansive Soil and Canal Lining

محل انتشار:

دهمین کنگره بین المللی مهندسی عمران (سال: 1394)

تعداد صفحات اصل مقاله: 8

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خلاصه مقاله:

Construction of irrigation networks on unsaturated expansive soil have led to serious damages to the structure of unreinforced canals. In current paper, this phenomenon is studied by physical modeling. In this research, Tabriz plain canal is selected as a case study and based on characteristics of this canal, the physical model is constructed as small scale (1/10) in laboratory. During the tests, PIV method is used for evaluating the soil swelling behavior and the lining deformations are measured by the appropriate sensors. Considering joints on lining is a way to reduce the effect of swelling on canals. This solution is studied in this paper to obtain the optimal number and location of joints on lining. Test results show the distribution of soil displacement, the amount of lining uplift and the location of maximum interaction force. In addition, the effect of joints on lining behavior is completely determined

کلمات کلیدی:

Physical modeling, expansive soil, canal, PIV, joint

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<https://civilica.com/doc/364270>

