An Evaluation Model of Residual Settlement of a Structure with Spread Foundation by Means of a Distributed Spring Model

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Residual settlement and inclination are important indices in evaluating the repairability of structure with spread foundation. However, the evaluation of these indices has not been adequately established. In this paper, we proposed a distributed spring model for a calculation model, and its validity was confirmed by comparing the model with the results of static loading tests and dynamic loading tests. In addition, we proposed a base plasticity ratio for an evaluation index of residual settlement. We confirmed through numerical simulations that residual settlement can be restricted by regulating the base plasticity ratio from 10 to 20%.