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BEHAVIOUR OF SINGLE TENSION PILE SUBJECTED TO SURCHARGE LOADING

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Abstract:

In this paper, an experimental method has been proposed to study the uplift behaviour of a single pile embedded in sand and subjected to surcharge load. A series of uplift tests on piles is carried out in case of a pile with and without surcharge placed around the pile head. This research takes into consideration the installation method, sand density, pile rigidity and surcharge intensity. The results show that the existence of surcharge can significantly improve the uplift capacity and modify the load displacement curves of piles. The surcharge can also, increase the soil pile interaction and decrease the disturbance of the surrounding soil due to the driving process. The average skin friction and the obtained earth pressure coefficient are dependent on surcharge intensity, installation method and pile rigidity.

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