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Numerical Analysis of Reinforced Embankment on Algeria Sabkha Subgrade

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Abstract : This paper is interested by numerical analysis using PLAXIS code of geosynthetic reinforced embankment crossing a section about 11 km on sabkha soil of Chott El Hodna in Algeria. The site observations indicated that the surface soil of this sabkha is very sensitive to moisture and complicated by the presence of locally weak zones. Therefore, serious difficulties were encountered during building the first embankment layer. This paper focuses on the use of geosynthetic to mitigate the difficulty encountered. Due to the absence of an accepted design methods, parametric studies are carried out to assess the effect of basal embankment reinforcement on both the bearing capacity and compaction conditions. The results showed the contribution conditions of geosynthetics to improve the bearing capacity of sabkha soil.

Keywords : reinforced embankment, numerical modelling, geosynthetics, weak bearing capacity
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