

## Effect of Prefabricated Vertical Drain System Properties on Embankment Behavior

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**Abstract :** This study presents the effect of prefabricated vertical drain system properties on embankment behavior by calculating the settlement, lateral displacement and induced excess pore pressure by numerical method. In order to investigate this behavior, three different prefabricated vertical drains have been simulated under an embankment. The finite element software PLAXIS has been carried out for analyzing the displacements and excess pore pressures. The results showed that the consolidation time and induced excess pore pressure are highly depended to the discharge capacity of the prefabricated vertical drain. The increase in the discharge capacity leads to decrease the consolidation process and the induced excess pore pressure. Moreover, it was seen that the vertical drains spacing does not have any significant effect on the consolidation time. However, the increase in the drains spacing would decrease the system stiffness.

**Keywords :** vertical drain, prefabricated, consolidation, embankment

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