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Zoning of the Kazan City territory by the stability of foundation soil during dynamic impact

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Abstract

© 2017, Advanced Engineering Solutions [AES.COM] Ottawa, Canada. All rights are reserved. The article presents the results of zoning of the Kazan City territory by dynamic instability of the foundation soils. The work is based on mathematical analysis of databases of the geological environment digital model constructed by the results of drilling more than one thousand boreholes. This GIS model incorporates all the environment components necessary to evaluate the occurrence possibility of soil dynamic instability patterns: spatial location of sands, their grain-size composition and the database of mechanical properties of soils and rocks. A complex of some criteria such as the soil occurrence depth, degree of humidity, relative density made it possible to distinguish the soil conditions subtypes and also to construct the map of potentially possible dynamic instability for the city territory.

Keywords

Dynamic impact, Foundation soil, Kazan, Stability, Zoning

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