IJARSCT
ISSN (Online) 2581-9429
International Journal of Advanced Research in Science, Communication and Technology (IJARSCT)
International Open-Access, Double-Blind, Peer-Reviewed, Refereed, Multidisciplinary Online Journal
Impact Factor: 7.53
Volume 4, Issue 6, April 2024

To Study the Behaviour of Single Pile Foundation Under Vertical Loading using Geo 5''

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Abstract: *The objective of the project is to analyze a pile foundation and determine it's load bearing capacity by static method and a software and compare the results. This project includes the analysis of pile formed on black cotton soil atsite of the "Galaxy Sky Residency" Miraj.. The calculations were carried out using the commercial software GEO5 from FINE Inc. This software computes the load-displacement curve on the pile head and the distribution of normal andshear forces along the shaft. The shear behavior of the pile-soil interface is de-scribed according to a modified Mohr- Coulomb's theory. This paper also focuses on the de-termination of parameters of strength (angle friction and cohesion)and settlement (Young modulus) for deep foundation. The use of GEO4 for foundation design is explained in details herein.*

Keywords: bearing capacity, Commercial software, black cotton soil, pile-soil interface

REFERENCES

[1]. Arora, K, R. (2003), Soil Mechanics and Foundation Engineering, Standard Publishers Distributors, New Delhi.
[2]. Gopal Ranjan and A. S. R. Rao (2000),Basic and Applied Soil Mechanics, New Age International Publishers, New Delhi.
[3]. Scholarly Journal Articles (ASCE and ASME for Civil and Mechanical Engineering, IEEE for electrical engineering) Example
[4]. K. Madhusudan Reddy1 And R. Ayothiraman, A.M.Asce2 , 2015 "Experimental Studies On Behavior Of Single Pile Under Combined Uplift And Lateral Loading", Article In Journal Of Geotechnical And Geo Environmental Engineering.
[5]. Akbar Firoozi, M.R. Taha, B.P.Naveen, A. Asghar Firoozi , 2014, "A Case Study: Design And Construction Of Pile And Numerical Simulation By Plaxis", Article In Australian Journal Of Basic And Applied Sciences.
[6]. J. Pruška ,2009 "Comparison Of GeotechnicSoftwares - Geo Fem, Plaxis, Z-Soil"
[7]. Anjos, G.J.M.*Cunha, R.P. , Kuklik, P.‡Miroslav, B. ,2006,"Numerical Evaluation of Bored Piles In Tropical Soils By Means Of The Geo-Technical Engineering "Geo4" Fine Software".
[8]. R.P.Cunha, University Of Brasília,2003 , "Experimental And Numerical Analyses Of Bored Pile Foundations In A Tropical Soil"
[9]. R.P. Cunha* And P. Kuklík, 2003, "Numerical Evaluation Of Deep Foundations In Tropical Soils Of The Federal District Of Brazil By Means Of A Semi-Analytical Mathematical Procedure".
[10]. R.P. Cunha, 2003 University Of Brasília, Department Of Civil And Environmental Engineering, Brasília, Brazil, Rpcunha@Unb.Br P. Kuklík, Czech Technical University In Prague, Faculty Of Civil Engineering, Prague, Czech Republic J. Laurin, Fine Professional Civil Engineering Software Company Ltd., Prague, Czech Republic, 2003, "Numerical Evaluation Of Deep Foundations In A Tropical Soil Of Brazil".