



GOVERNMENT OF KARNATAKA
DEPARTMENT OF TECHNICAL EDUCATION
GOVERNMENT ENGINEERING COLLEGE, HAVERI- 581 110

A

Project Report On

**“AN EXPERIMENTAL EVALUATION OF ULTIMATE
LATERAL LOAD CAPACITY OF 2x2 PILE GROUPS AT 3D
PILE SPACING IN LAYERED COHESIONLESS SOIL”**

**(Approved by Karnataka State Council for Science and Technology,
Indian Institute of Science, Bangalore-560012, Ref.No:37S0237)**

Submitted in the partial fulfillment for the award of degree of

Bachelor of Engineering
In
Civil Engineering

Presented

by

Basavaraj.S.Karadagi	:	(2GO10CV008)
Kirankumar Gaddad	:	(2GO10CV020)
Nagaraja.R	:	(2GO10CV026)
Vinay Kumar.D Rane	:	(2GO10CV056)

Under The Guidance Of
PROF. B.S.CHAWHAN

M.Tech (Geo-Tech Engg)



VISVESVARAYA TECHNOLOGICAL UNIVERSITY
JNANA SANGAM, BELGAUM-590014. (2013-2014)

ABSTRACT

Experimental investigations on model pile groups of configuration 2x2 for embedment length- to- diameter ratios $L/d=24$ and spacing from 3 pile diameter, and pile friction angle $\delta=20^{\circ}$ and 31° ; subjected to lateral loads, were conducted in dry Tungabhadra River sand obtained from Harihar taluk, Davangere dist, Karnataka state, India. The load-displacement response, ultimate resistance, and group efficiency with spacing and number of piles in a group have been qualitatively and quantitatively investigated. Analytical methods have been proposed to predict the ultimate lateral capacity of single pile and pile groups, The proposed methods account for pile friction angle, embedment length- to-diameter ratio, the spacing of piles in a group, pile group configuration, and soil properties.