

Numerical and analytical study to evaluate the modulus of subgrade reaction on laterally loaded large diameter monolithic pile

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Extended Abstract

The paper describes study of 2.4 m diameter embedded monolithic test pile at 30m with a free head. The illustrations is interpreted with three methods non-dimensional, IS 2911 and pressure-meter. This methods are correlated with each other to design the pile by evaluating the coefficient of soil modulus variation (n_h) [2]-[12].

The deformation of monolithic pile is calculated by In-Place inclinometer and load cell. The load cell is of capacity 500 tons is installed in test pile and reaction is in line with loading beam and hydraulic jack, the horizontal deflection under lateral load is measured with displacement transducer ranging from 0 to 100 mm.

The aim is to evaluate coefficient of soil modulus variation from the parameters used in non-dimensional, IS 2911 and pressure-meter methods. The undisturbed samples in grained silty sand are collected at different level in thin walled sampling tube of 65 mm inside diameter and 3 mm thick wall tube. The tests were conducted in accordance with IS 2132-1981. The value of coefficient of soil modulus variation (n_h) is considered for evaluating the spring constant carried out by Bowel's method and gives proper design specifications [1].

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