ABSTRACT

JANSEN (02120010006)

APPLICATION OF VISUAL BASIC PROGRAM IN CALCULATING THE BEARING CAPACITY OF SPREAD FOOTING FOUNDATION WITH PRANDTL-BUISMANN-RAES METHOD

(xiv + 80 pages : 51 figures, 6 tables, 6 appendixes)

Spread footing foundation is the enlargement of column that spreads the upper structure's load into the soil. Two aspects that should be considered in designing the foundation are the bearing capacity and also the settlement of the soil. Settlement is not considered in this program

There are many theories for bearing capacity of the soil. Prandtl-Buismann-Raes is the theory used in this paper. This theory is a combination method from Prandtl and then completed by Buismann-Raes. Din 4017 uses this theory to calculate bearing capacity of the soil. Soil's characteristic parameter such as specific weight and shear strength parameter is the main factor in calculating bearing capacity of the soil.

Visual Basic 6.0 is a great programming tool that can be utilized to compute the bearing capacity with Prandtl-Buismann-Raes method. Visual Basic 6.0 can help the iteration process, so we don't need to repeat the manual calculation.

The conclusion is by using Visual Basic 6.0 we can easily get the result of the bearing capacity of spread footing foundation with Prandtl-Buismann-Raes method.

Reference: 12 (1979 – 2005)