

STUDI REDESAIN PONDASI TIANG PANCANG *TRIANGLE* PADA GEDUNG RUMAH SAKIT

(Studi Kasus Rumah Sakit Umum Daerah (RSUD) Probolinggo, Kecamatan Kedopok, Kabupaten Probolinggo)

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ABSTRAK

Dalam konstruksi pondasi tiang pancang *triangle*, kapasitas daya dukung pondasi tiang pancang *triangle* harus mencapai kedalaman tanah keras, membahas desain dan jumlah pondasi tiang pancang *triangle*, desain gaya geser dan penulangan *pile cap* pada pembangunan Rumah Sakit Umum Daerah Probolinggo. Tujuan penelitian ini, untuk mengetahui kedalaman pondasi tiang pancang *triangle*, kapasitas daya dukung pondasi tiang pancang *triangle*, desain dan penulangan pada *pile cap*. Lokasi Proyek Rumah Sakit Umum Daerah Probolinggo berada di daerah Desa Kareng Lor, Kecamatan Kedopok, Kota Probolinggo, Jawa Timur. Dimensi panjang gedung : 56 m, lebar gedung : 20 m. ketinggian total gedung : 20 m. Kapasitas daya dukung tiang tunggal: 582.58 kN, Kapasitas daya dukung pondasi tiang kelompok Zona 1: 417.86 kN, Zona 2 dan Zona 3: 394.3453 kN. Konfigurasi tipe I dengan jumlah tiang: 6 bh. Konfigurasi tipe II dengan jumlah tiang: 9 bh. *Pile cap* tipe I dimensi: panjang 2.24 m dan lebar 1.44 m, tulangan arah x: D19–100 mm & arah y: D19–80 mm. *Pile cap* tipe II dimensi: panjang 2.24 m dan lebar 2.24 m, tulangan arah x: D19–130 mm & arah y: D19–130 mm. Saran penulis perlunya studi literatur lebih lanjut terhadap pondasi tiang pancang *triangle*.

Keywords : pondasi sumuran, shaking table, *plaxis 2000 3d frame*, daya dukung, deformasi.

STUDY OF REDESIGN OF TRIANGLE PILE FOUNDATION IN HOSPITAL BUILDING

*(Case Study of Probolinggo Regional General Hospital (RSUD), Kedopok
District, Probolinggo Regency)*

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ABSTRAK

In the construction of the triangular pile foundation, the bearing capacity of the triangular pile foundation must reach the depth of the hard soil, discuss the design and amount of the triangular pile foundation, the design of the shear force, and the pile cap reinforcement in the construction of the triangular pile foundation. Probolinggo Hospital. The purpose of this study was to determine the depth of the triangular pile foundation, the bearing capacity of the triangular pile foundation, and the design and reinforcement of the pile. The project location for the Probolinggo Regional General Hospital is in the Kareng Lor Village area, Kedopok District, Probolinggo City, East Java. Dimensions of building length: 56 m, building width: 20 m. total building height: 20 m. Single pile bearing capacity: 582.58 kN, Group pile foundation bearing capacity Zone 1: 417.86 kN, Zone 2 and Zone 3: 394.3453 kN. Type I configuration with multiple poles: 6 pcs. Type II configuration with multiple poles: 9 pcs. Type I pile cap dimensions: length 2.24 m and width 1.44 m, reinforcement in x direction: D19–100 mm & y direction: D19–80 mm. Type II pile cap dimensions: length 2.24 m and width 2.24 m, reinforcement in x direction: D19–130 mm & y direction: D19–130 mm. The author's suggestion is that there is a need for further literature studies regarding triangular pile foundations.

Keywords: *pile, triangle, pile cap, bearing capacity.*