

## ABSTRAK

Industri telekomunikasi seluler di Indonesia mengalami peningkatan perkembangan yang sangat pesat baik dari sisi teknologi, variasi layanan maupun jumlah pelanggannya. Sering dengan hal tersebut kebutuhan akan infrastruktur berupa menara telekomunikasi yang berupa bangunan khusus yang berfungsi sebagai sarana penunjang untuk menempatkan peralatan telekomunikasi khususnya untuk keperluan tower BTS juga meningkat pesat.

Fondasi yang digunakan pada struktur tower SST 41 m 3 kaki adalah fondasi dalam berupa fondasi tiang bor.

Hasil analisa struktur tower SST 41 meter didapat gaya tekan = 221,015 kN, gaya tarik = 340,250 kN, gaya geser = 21,242 kN, dan momen = 0,884 kN m. Dan fondasi yang digunakan fondasi tiang bor sebanyak 2 tiang dengan diameter 40 cm dengan panjang 200 cm pada kedalaman 150 cm. Stabilitas fondasi didapat faktor keamanan (FK) gaya angkat = 1,30, FK daya dukung = 1,75, dan FK geser = 9,33. Volume material beton yang didapat adalah 8,71 m<sup>3</sup> dan volume pembesian yang didapat sebesar 1139,30 kg.

Kata Kunci : tower, fondasi tiang bor, faktor keamanan (FK), FK gaya angkat, FK daya dukung, FK geser

## ABSTRACT

*The cellular telecommunications industry in Indonesia has experienced a very rapid development, both in terms of technology, variety of services and the number of subscribers. Often with this, the need for infrastructure in the form of telecommunication towers in the form of special buildings that function as a supporting facility for placing telecommunication equipment, especially for BTS towers, also increases rapidly.*

*The foundation used in the 41 m 3 legs SST tower structure is a deep foundation in the form of a bored pile foundation.*

*The results of the analysis of the 41 meter SST tower structure obtained compressive force = 221.015 kN, tensile force = 340.250 kN, shear force = 21.242 kN, and moment = 0.884 kN m. And the foundation used is 2 bored piles with a diameter of 40 cm and a length of 200 cm at a depth of 150 cm. The stability of the foundation obtained by the factor of safety (FK) uplift force = 1.30, FK bearing capacity = 1.75, and FK shear = 9.33. The volume of concrete material obtained is 8.71 m<sup>3</sup> and the volume of iron obtained is 1139.30 kg.*

Key Words : tower, bored pile foundation, safety factor (SF), SF uplift, SF bearing capacity, SF sliding