

ABSTRACT

Construction of Abutment A1 Sei Siak II Bridge in Pekanbaru City was planned to use a 60 cm pile foundation with 28 piles in one pile group. Abutment A1 of Sei Siak II Bridge in Pekanbaru City was built in an area close to the residents' area, so that the implementation of the pile driving caused sounds and vibrations that disturbed the surrounding residents. The foundation is used to hold large load structures with excess not causing vibration and sound that can interfere with the surrounding environment. The bored pile foundation is planned with 3 alternatives of diameter, such as 40 cm, 60 cm and 80 cm. The purpose of this research is to find out how much the bearing capacity of the foundation, diameter, and number of piles when using bored pile foundation.

The researcher wants to plan the construction using bored pile foundation. Bored pile foundation design of Sei Siak II Bridge in Pekanbaru City uses static method based on the SPT test results. Analysis of A1 Abutment structure of the Sei Siak II Bridge in Pekanbaru City is intended to obtain axial forces and moment forces.

The results of the analysis of the carrying capacity of the Meyerhoff method group of poles 40 cm, 60 cm, and 80 cm obtained results of 15697,46 kN, 15842,39 kN, and 16785,653 kN, greater than the P value of 15176,86 kN. Whereas the results of the analysis of the supporting capacity of the pole group in the Reese and Wright method with a diameter of 40 cm, 60 cm, and 80 cm obtained results of 16631,754 kN, 17654,58 kN, and 18122,528 kN, greater than the P value = 15176,86 kN. Based on the 3 available diameter alternatives, 80 cm diameter Meyerhoff method was chosen with 8 piles in one pile group. This is based on the number of fewer piles, so that it can save work time. In addition, based on the results of the analysis of single and group pile bearing capacities, the 80 cm diameter Meyerhoff method is safe to support the structural loads above.

Keywords : Meyerhoff, Reese and Wright, foundation, bearing capacity, settlement.