

**REINFORCED CONCRETE STRUCTURE PLANNING OF 8TH FLOOR
SCHOOL BUILDING IN JAKARTA WITH DUAL SYSTEM METHOD**

ABSTRACT

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Planning the structure of a multi-story building, apart from taking into account the forces that occur due to the loads carried, must also take into account the forces due to the earthquake that will be received on the building. The dual system is a combined structural system between moment-bearing frames and shear walls, with the bearing frames capable of carrying at least 25% of the earthquake force and the remainder being supported by the shear wall structure. Dual system used to increase resistances of lateral and rotation, so that the structure building is strong and flexible in dampening vibration due to earthquake and survive from collapse. The structure planned is 8 floors school building located in East Jakarta using a drilled pile foundation. The purpose of the planning is to obtain a reinforced concrete building structure in accordance with SNI 1726:2019 and SNI 2847:2019, to obtain the dimensions and details of the reinforcement of beams, plates, columns and shear walls, and to obtain budget plans for the 8 floors building plan. Based on the analysis result, the story drift and stability control of P-Delta effect has fulfill the strength requirements and the building considered safe. The results of the structural elements obtained are the thickness of slab used 110 mm, the beam is divided into two types, namely the main beam with dimensions of 500 × 750 mm and sub-beams with dimensions of 200 × 400 mm, columns with dimensions of 750 × 1000 mm, and shear walls with a thickness of 300 mm. The drill pile foundation uses a pile diameter of 500 mm with a depth of 34 m. The total drill point was 150 with total of bored pile was 150 piles. Total of the budget plan for 8 floors school building structure is Rp44.831.068.643 with the building cost per m² is Rp. Rp3.905.145.

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(xxiv + 202 + Appendix)*