OPTIMALISATION OF TIME AND COST BY USING HEAVY EQUIPMENT ON CONSTRUCTION MANYAR SURGICAL HOSPITAL, SURABAYA

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ABSTRACT

The object of composing this final project is Bedah Manyar Hospital Surabaya which is located in Manyar Street, Surabaya. The building comprise with 4 floors, using concrete K-300 grade which total volume 2268.5 m$^3$ and 311 points of pile, arise therefore an idea to optimize heavy equipments utilization in order to efficiency of time and cost. Efficiency means optimize time of utilization in vainly hiring equipment (idle time) which inflict rent cost of equipment. Those heavy equipments are pile tool and concrete pump.

There are two alternative plans to gain efficiency of time and cost for each equipment. Alternative toward pilling operation compare between one and two pile equipments. Whereas alternative toward pouring compare lend time of concrete pump.
between normal condition (8 hours/day or 4 hours/day) and normal + overtime condition (8 hours/day or 4 hours/day + overtime).

The results from each alternative calculation are: first (one pile equipment), the work spend 41 days with cost IDR 1,417,902,319,10; second (two pile equipments), the work spend 21 days with cost IDR 1,415,789,897,10. Meanwhile, the result of pouring are: first, normal condition spend 26 days with cost IDR 1,347,427,400,00; second, normal + overtime condition spend 21 days with cost IDR 1,346,704,882,00.