

ABSTRACT

talud and transitional shelter house patient of mental hospital of Grhasia construction project will be doing earth moving work with 370,13 m³ cut volume and 769,75 m³ fill volume. This work will be executed using some heavy equipment which usually used on the cut and fill work such as excavator, wheel loader and dump truck. The purpose of this observation is to know the optimal combination of heavy equipments in order to measure the cost and time of work.

There are some alternative calculations to get optimal combination of heavy equipment. The analysis has resulted three alternatives. From the first alternative, the cut and fill work can be completed in 25 hours with Rp 12.193.500,00- of total cost. The second alternative result is that the work needs 23 hours with Rp 12.193.000,00- of total cost. Dan the third alternative calculated that the work needs 17 hours with Rp 11.517.000,00- of total cost.

Those field data results then compared with the first alternative as comparison to get the optimal combination of heavy equipment. In the conclusion, the canal of fourth alternative holds the most optimal combination in both time and cost aspects. The second alternative consists 2 units of Komatsu PC-200 Eexcavator, 2 units of WA380-3 wheel loader and 3 units of dump truck with 7 m³ capacity to be recommended at earth moving work on talud and transitional shelter house patient of mental hospital of Grhasia.

Keywords: *Combination, Heavy Equipment, Excavator, Wheel Loader, Dump Truck*