ABSTRACT

Expansive clay soil has a high shrinkage expansion that requires soil improvement efforts in construction of road works. Efforts are being made to improve the soil conditions, by using bamboo pile woven or limestone as a medium improvement. The aim of this research is to compare the cost, quality and time of work sub base road between those two materials .The specimen is taken from a XYZ residential road work project in Cibitung. The bamboo piles which are used in this research are bamboos with the size 7.5cm diameter and 1.5m length, while a woven bamboo which is used is a bamboo split 4 with spaced 15cm. Bamboo pile woven material is used to reduce by half the thickness of limestone required. The result for the research is shown that the work of the sub base path by using bamboo pile woven provide a cheaper cost 19.35%, lower value of field CBR 6.06% and faster timing 10.00% than using limestone. Work productivity of bamboo pile is 59.52 m^2/man/day, woven bamboo is 82.21 m^2/man/day, limestone is 9.11 m^2/man/day, first layer limestone is 6.67 m^2/man/day and second layer limestone is 6.67 m^2/man/day.

Keyword: expansive clay soil, sub base road, cost, quality, time, productivity, bamboo pile woven, limestone