

ABSTRACT

This study is aimed to improve the engineering properties of MS11 materials by mechanical stabilization by blending with gravel from MS 10 for Oinamoi-Kapluk-Barwesa Road (C392) project. In this research, a study was carried out to establish the possibility of improving the engineering properties of MS11 gravel to meet G30 material specifications as outlined in Low Volume Sealed Roads (LVSR) manual. Neat materials from MS 10 and MS11 were subjected to preliminary tests (sieve analysis and Atterberg's limits) and strength tests (compaction, California bearing ratio (CBR)). Different mix proportions (10:90, 20:80, 30:70, 40:60, and 50:50 as a percentage for MS 10 and MS 11 respectively) were as well subjected to the same tests. Results of the tests above showed that MS 11 engineering properties improves towards G30 requirements as the proportion of MS 10 was increased i.e. the CBR increased while the PI and PM reduced. Graphs are drawn for the test results obtained and G30 minimum requirements indicated on the graphs to show the mix proportions that can be used for the construction of the subbase layer without violating the specifications. Conclusions are then drawn from the graphs and a minimum mix proportion recommended.