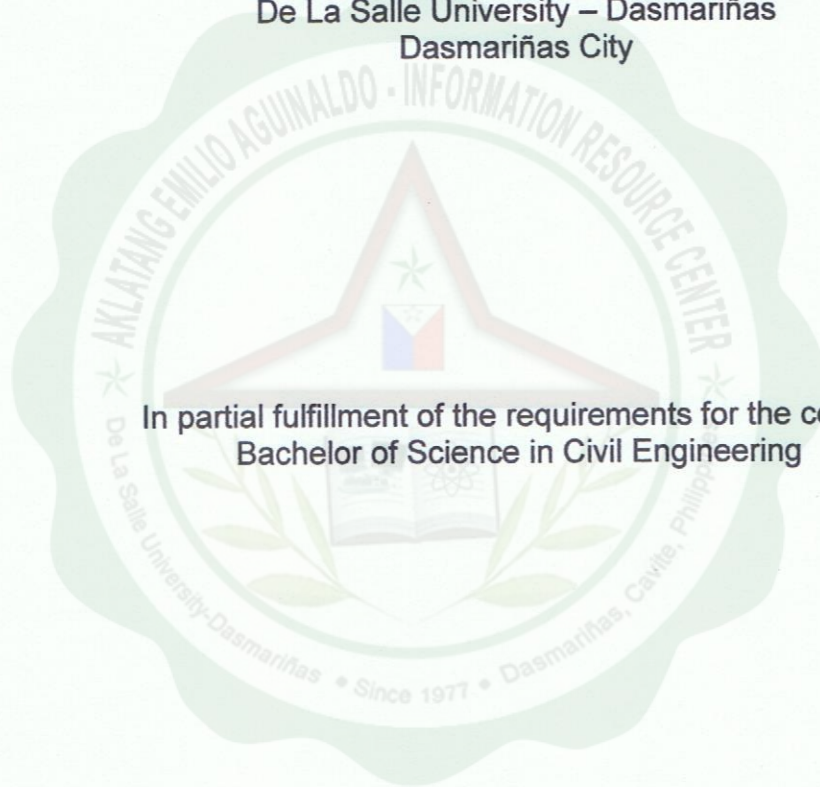


Utilization of Whiteware Ceramics Waste as Admixture for  
Fine Aggregate on Concrete

A Thesis Presented to the Faculty of Civil Engineering  
College of Engineering, Architecture, and Technology  
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## ABSTRACT

Whiteware ceramics (WC) are products that we encounter in our everyday lives. It is further classified in their different kinds as earthenware, stoneware, chinaware, porcelain, and technical ceramics. It is considered as a solid waste material when it has damage or defects that adds waste disposal problem and occupies a landfill. In order to utilize this waste, the researcher have sought to reuse and manage these as a useful material for construction purposes. As emphasized in the objective of the study, the researcher will determine the proportion of whiteware ceramic fine aggregate and its compressive strength with its workability by testing experimented concrete samples. Hard material will be produced by the combination of such materials as cement, coarse and fine aggregates, and water and the substitute of whiteware ceramics as fine aggregates such as porcelain and tableware. The author used one mix proportion of sand to whiteware ceramics fine aggregates with a class mixture of concrete and different curing days and get the slump and test of compressive strength. The slump result is appropriate on beams and reinforced walls and building columns. The specimen with the highest compressive strength increase is 50% WC with 34.03 MPa (4,933.33 psi) which is the optimum compressive strength that passed on control which is 29.57 MPa (4283.33 psi) and undergo statistical analysis with data have a p-value 6.04E-10 which is lower than 0.05 level of significance with lowest variance value.

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