**Journal of Construction Research**

**The cover letter**

Dear Editor,

Please consider our revised article “*A Comparative Computational Study of the Thermal Performance of Plastic Bottle Wall against Traditional Composite Brick Wall Typologies*" for the Journal of Construction Research. We look forward to receiving your comments and to publish the article in your reputable journal. The following is the required information per your author guidelines.

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**iii. A brief description of the novelty and importance of the findings detailed in the paper**

Using Plastic bottles in construction has proved good thermal performance characteristics. Plastic bottle walls can replace brick walls as they are good insulators especially when using large bottles instead of small bottles to increase the thermal mass of the wall and still, they provide acceptable structural properties. Using large plastic bottles showed better thermal performance than brick wall systems typically used in the country where the experiments are conducted The flexibility of using different glass bottle sizes and typologies, the workmanship challenges, and structural performance as a wall filler vs. a structural load bearing wall are yet issues that require further consideration. Based on the thermal performance alone, the PET bottle walls can replace traditional brick walls especially the traditional typologies formed of clay fired brick and plaster. Limited research is published on the topic of utilization of plastic bottles in wall construction where detailed multi-physics simulation is used to validate the design assumptions. The results of this preliminary study will allow us to optimize the use of plastics as a building material.

**iv. Declaration**

The authors declare no conflict of interest.

**v. Conflict of Interest**

No conflict of interest

**vi. Informed Consent**

A written consent was obtained from all participants prior to the study.

**vii. Ethical Approval**

Our institution does not require the approval of an Ethics committee in advance of publication.

**viii. Trial Registration**

N/A

**ix. Contributorship**

“All authors have read and agree to the published version of the manuscript”. Conceptualization, K.T. and K.N.; methodology, K.T.; software, M.S.; validation, K.N., K.T. and M.S.; formal analysis, M.S.; investigation, K.T.; resources, K.T.; data curation, K.N.; writing—original draft preparation, M.S.; writing—review and editing, K.T.; visualization, M.S.; supervision, K.N.; project administration. This section affirms that each credited author has had a significant contribution to the article.