

Comparative study of condition survey investigation on building affected by bridge piling installation

ABSTRACT

The building rating system enables the assessor to determine the performance of the building based on approved standards. This paper aims to evaluate the effect of the bridge piling installation on the surrounding building, assess the building condition by using approved standards and propose appropriate rehabilitation to the defects. In this study, the condition assessment of a residential building was performed using three (3) standards; CSP 1 Matrix, BARIS and QLASSIC 2006. There is a similarity between the concept of the CSP 1 Matrix and BARIS. However, BARIS has a more detailed score evaluation than CSP 1 Matrix. QLASSIC 2006 covers more specific components that can be evaluated according to Structural, Architectural, Mechanical and Electrical (M&E) and External Works. Based on the CSP 1 Matrix and BARIS analysis, the building is in Fair condition and requires attention for repair works. The data obtained from QLASSIC analysis is 17.44%. This percentage indicates that most of the elements do not comply with the standards from CIBD, and the performance of the building is poor. The causes of the defects are determined, and their respective rehabilitation is discussed. The effects of the Tebobon 3 Bridge construction on the surrounding building are analysed, and the finding shows that the bridge has no significant impact. The data assessed is before visual inspection basis. Hence, the scope of the study shall be expanded by conducting a Destructive Test (DT) and Non-Destructive Test (NDT) on the defects encountered by the building to determine the significance and their level of severity as well as verify the results from visual inspections. This study can also be widened to assess different categories of buildings by using a similar building rating system. So, using these methods, the quality and performance of other types of building categories can be assessed.