BUILDING CONDITION ASSESSMENT ON DATIN SERI ENDON RESIDENTIAL COLLEGE

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DEDICATION

This thesis is dedicated to my father, who taught me that the best kind of knowledge to have is that which is learned for its own sake. It is also dedicated to my mother, who taught me that even the largest task can be accomplished if it is done one step at a time.

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ABSTRACT

Building Condition Assessment (BCA) to determine the building deficiency information and can plan the suitable future maintenance or repair requirements for the college building at University Technology Malaysia (UTM). This activity is also important in monitoring building maintenance to maintain the appearance and performance of the building. It needs to be preserved to ensure the value and life cycle of a building. This study relates to the problem of building structure in college buildings at University Technology Malaysia and the overall rating obtained for a building. In this case study, it only focuses on college buildings at UTM namely Datin Seri Endon College (KDSE). The main objective of this study is to determine the building that has problems in the building structure in the point view of the block occupants. This is done by distributing questionnaires to students about their room and toilet. Furthermore, for the second objective is to determine the defect rating on the structure and surrounding of the building to provide maintenance methods. Therefore, to get the data, it is necessary to conduct visual inspection activities on the site by taking pictures, taking notes, drawing and retrieving information from people living in the building. Subsequently, the data provided will summarize the actual situation and can handle future building maintenance. Based on this study, the W3 block was selected to run BCA after being surveyed from the survey. Even the rating on the building after the BCA shows that the building is still in good condition and requires minimal maintenance only on a single place. In the shell, this activity is very important for determining rating on buildings in colleges or other buildings.

ABSTRAK

Penilaian Keadaan Bangunan (BCA) untuk menentukan maklumat kekurangan bangunan dan boleh merancang keperluan penyelenggaraan atau pembaikan masa depan yang sesuai untuk bangunan kolej di Universiti Teknologi Malaysia (UTM). Aktiviti ini juga penting dalam memantau penyelenggaraan bangunan untuk mengekalkan penampilan dan prestasi bangunan. Ia perlu dipelihara bagi memastikan nilai dan kitaran kehidupan bangunan panjang. Kajian ini berkaitan dengan masalah struktur bangunan pada bangunan kolej di Universiti Teknologi Malaysia dan keseluruhan rating yang diperolehi untuk sesuatu bangunan. Dalam kajian kes ini, ia hanya memberi tumpuan kepada bangunan kolej di UTM iaitu Kolej Datin Seri Endon (KDSE). Objektif utama kajian ini adalah untuk menentukan bangunan yang mempunyai banyak masalah pada stuktur bangunan pada pandangan penghuni blok. Hal ini dijalankan dengan mengedarkan borang soal selidik pada pelajar di ruangan bilik dan tandas. Tambahan pula, untuk objektive kedua ialah menentukan penarafan kecacatan pada struktur dan sekitarnya bangunan dan menyediakan kaedah penyelenggaraan. Oleh itu, untuk mendapatkan data, perlu melakukan aktiviti pemeriksaan visual di tapak dengan mengambil gambar, mengambil nota, melukis dan mengambil maklumat daripada orang yang tinggal di bangunan. Selepas itu, data yang disediakan akan menyimpulkan keadaan sebenar dan dapat menangani penyelenggaraan bangunan masa depan. Berdasarkan kajian ini, menunjukan bahawa blok W3 telah dipilih untuk menjalankan bca selepas diteliti daripada survey yang dijalankan. Malah rating pada bangunan selepas menjalankan bca menunjukan bangunan tersebut masih dalam keadaan sangat baik dan hanya memerlukan penyelenggaraan yang minima pada sesuatu tempat sahaja. Jesturu itu, aktiviti ini amat penting bagi menentukan sesuatu rating pada bangunan di kolej mahupun bangunan yang lain.

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BCA	-	Building Condition Assessment
JKR	-	Jabatan Kerja Raya
KDSE	-	Kolej Datin Seri Endon
UTM	-	University Technology Malaysia

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CHAPTER 1

INTRODUCTION

1.1   Introduction

Building maintenance management is one of the branches of the field of building management, especially in the management of complex buildings such as offices and commercial buildings. However, the maintenance system varies depending on the design, the condition of the building, the policies set by the building owner and so on.

Today, Malaysia one of the developing countries that struggling to become a develop country with a first-class building maintenance. Toward this vision, Malaysia start to do Building Condition Assessment on the structure building. This activity is growing and become more important in the context of the built environment. Basically, BCA is carrying out before taking up repair and upgrading work. This will determine whether a distressed building should be demolished to build back better or repair the structure in the context of overall safety.

In University Technology Malaysia, the college building serves as a residential for almost UTM students who are required to stay within the university area. Therefore, an efficient and effective maintenance management is necessary to monitor and maintain this student dormitory building to ensure the comfort and harmony of the students during their studies at the university. The new or old dormitory buildings should be maintained so that the building is always in good condition and can be used at any time. In order to achieve that goal, there are three parties that have the common responsibility in creating a conducive environment within the UTM campus area, the Building Office Maintenance Unit, the college management and the building's own dwellers which comprise students and students. (Nurul, 2011)

Building Condition Assessment (BCA) to determine the building deficiency information and can plan the suitable future maintenance or repair requirements for the college building at University Technology Malaysia (UTM). In this case study, it just focusses on medium rise of college building in UTM which is Kolej Datin Seri Endon (KDSE). The main objective of this study is to determine the rating of the defect on the structure and the surrounding of the building and provide the method of refurbished. Therefore, to obtain the data, there need to carry out the visual inspection activity on site which is a photograph the building structure, taking note, drawing and take the information from people that stay in the building. After that, the data provided will summary the actual condition and can address the future maintenance of the building.

1.2   Problem Statement

The building structure performance have their own life span. The building need to maintenance more are less about 5 years to 10 years. The inconsistent planning of building to maintain the after creation in the good condition will contribute the unsafe and healthy to all student and visitor of the building. Practically, the unsafe building give the bad effect on the occupants of the building especially to students in University Technology Malaysia (UTM). Most of the students complaints at the college office and college authority will repair the defect or damage if it is in the critical condition. Therefore, this situation make student life in uncomfortable and unsafe in their room. Not only that, this situation will lead the higher cost maintenance for the long time due to non regular maintenance and university need to change all the damage in one time. So that, scheduled maintenance for the UTM residential building is due, hence BCA process need to be done first

1.3   Research Objectives

The objectives of the research are:

(a)   To collect data the deterioration of the building by survey form.

(b)   To determine the rating system by using the Building Condition Assessment (BCA) in college building.

1.4   Scope of Study

In order to ensure the goals and objectives of the study meets the required criteria, this study was set to put more emphasis on the state of building structures in the college campus student accommodation in UTM. The scope of the study is to determine the inspection for building condition at UTM college building. This study just focuses on residential building in University Technology Malaysia like Kolej Datin Seri Endon. KDSE has 6 blocks to place all female students mostly from postgraduate and foreign students, other male students from space and foundation students. Block W1, W2 and W3 occupied by female students and male students living in block WA1, WA2, and WA3. At the year 2018, the number of students living in KDSE around 1,200 students.
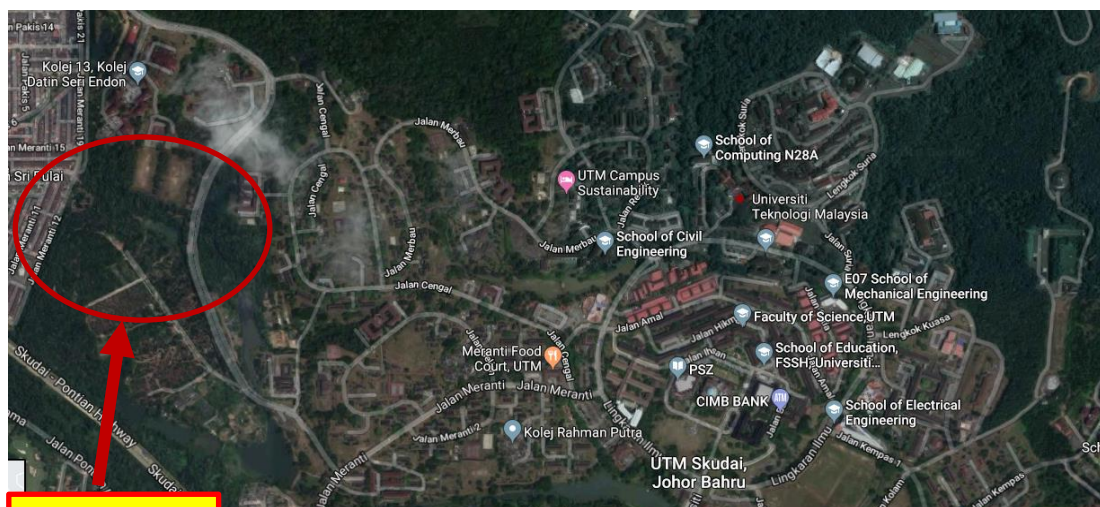

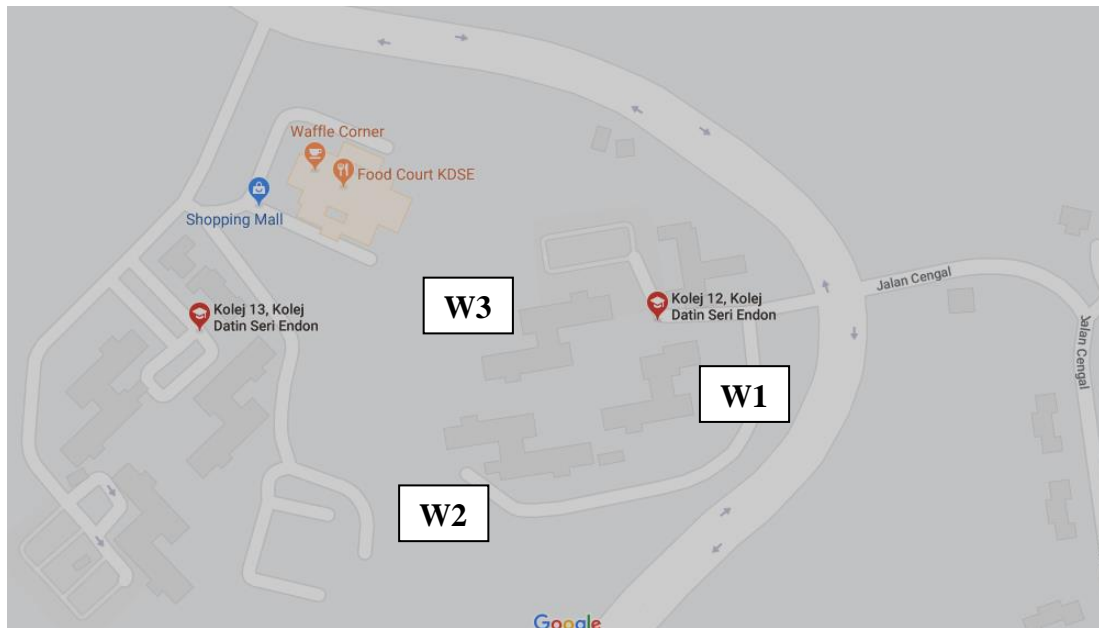**Study Area**   Figure 1-1   UTM Maps Satellite View

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Figure 1-2   Map of the KDSE

To determine most deteriorate building, first need to distribute the survey form to the student about the condition of room and toilet. Only block W1, W2 and W3 distribute the survey because female student block. The study also considers the aspects of building structures found in college such as beams, columns, walls, floors and ceilings from respondents' perspective. Therefore, respondents who are involved in the student stay in college only. The findings are only illustrated based on feedback from student in stay college. Form the result, it can conclude the most problematic structure building base on student point on view.

The building condition assessment need to conduct visual inspection at the stage. The most the building will choose based on the survey have been done to the student. Visual inspection should have checked every corner of the building including structure, piping system, and roofing. From that data, the rating will create to determine the safety of the building condition and student stay at the colleague. So that, the rating for whole building can be determine and come out the detail report of the deteriorate structure at each edge on the building.

Figure 1-3   Residential Building in KDSE

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