

UNIVERSITI TEKNOLOGI MARA

**DIAGNOSIS OF DAMPNESS IN
BUILDING CONSERVATION
WORKS. CASE STUDY:
HISTORICAL FORT CORNWALLIS,
GEORGE TOWN, PENANG**

AL-HAFZAN ABDULLAH HALIM

MSc

July 2014

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Thesis submitted in fulfilment
of the requirements for the degree of
Masters of Science

Faculty of Architecture, Planning & Surveying

July 2014

AUTHOR'S DECLARATION

I declare that the work in this thesis was carried out in accordance with the regulations of Universiti Teknologi MARA. It is original and is the result of my own work, unless otherwise indicated or acknowledged as referenced work. This thesis has not been submitted to any other academic institution or non-academic institution for any other degree of master or qualification.

I, hereby, acknowledge that I have been supplied with the Academic Rules and Regulations for Post Graduate, Universiti Teknologi MARA, regulating the conduct of my study and research.

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Title : Diagnosis of Dampness in Building Conservation Works.
Case Study: Historical Fort Cornwallis, George Town
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ABSTRACT

Historic buildings have high value, particularly in architecture, history and past construction's technology. Historic buildings usually experience physical defects like cracks, peeling paints, decays and others. The main factor that contributes to these defects is building dampness. Most decisions that have been made to overcome dampness are ad hoc decisions. By looking at the current situation there is no comprehensive scientific research in explaining the exact factor of dampness. Most of the scientific research done cannot be comprehended by contractors because the procedure used is ambiguous. As a result, faulty in the repair works will occur and lead to severe effects in which the same or even worse defects or damages can happen in the future. The goals of this study are to investigate the dampness problems on the historical buildings and to lay down a proper technique of analysis in dampness diagnosis. The method used in this study is a detailed observation, based on experimental qualitative research design. This research shows how the diagnosis of the dampness problems been carried out by using four stages approach to dampness investigation. It provides a detailed description of the four stages approach and applied it in the historical building. This research has gained an insight into a better understanding of dampness diagnosis and the result interpretation has been laid down in this research to confirm the causes of the dampness problem found from a case study. An understanding of the result is a vital part for the assessment because it will lead to the true diagnosis and investigation of the dampness problem in the historical building.

ACKNOWLEDGEMENT

Whilst this thesis is entirely my own work, many others have contributed to it and shaped the end result in their own unique way and I would like to take this opportunity to recognise them. First, thanks must go to ALLAH s.w.t for giving the strength and courage to go through this challenging time and supervisors for her and his enthusiasm, patience and commitment, especially Associate Professor Dr Siti Norlizaiha Harun and Sr. Dr Md Yusof Hamid, whose confidence in me and in the value of my study never wavered even when I doubted it myself.

Second, I would like to acknowledge the respondents and the maintenance organisations that they represented. For their time, honesty and encouragement I am extremely grateful. Special thanks must go to Puan Hasweeta bt Hashnan, Operation Manager from Sebagus Travel & Tours Sdn. Bhd. and also the Department of Maintenance of Historical Fort Cornwallis from State Government of Penang and all staff involved for their assistance during my study. Last and most importantly, I would like to thank my parents, my brother and my friends for their love, support and unshakeable belief in me and in all that I do. Without them, there would be no thesis.