

**CENTRE OF STUDIES FOR BUILDING SURVEYING
FACULTY OF ARCHITECTURE, PLANNING AND SURVEYING
UNIVERSITI TEKNOLOGI MARA**

**A STUDY ON SOUND BARRIER FOR NOISE CONTROL IN
MALAYSIA**

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for the degree of
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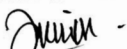
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**“I hereby declare that this academic project is the result of my own
research
except for the quotation and summary which have been acknowledged”**

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ABSTRACT

In this dissertation, it will be discussed regarding to sound barrier in Malaysia. The concern is about the noise pollution occurred especially at inhabitant area such as residential, schools, mosque and factories. It becomes priority to get to know about the sound level at those areas because noise can cause disturbance to community's privacy, comfort and performances. Therefore, the focus of this study more likes to know the effective of the sound barrier at those areas. Thus, there are two methods to achieve this study, theoretical and experimental methods. Hence, it started from general introduction to this topic and it will be discussed on literature review. In literature review, it will emphasize respect to consideration elements on implementation of sound barrier. For experimental method, two case studies have been chosen to conduct the sound level test. The testing conducted at Section 19, Shah Alam and Taman Permata, Kuala Lumpur. By analyze the collection data and compared it with the theoretical information, the results has been proved that sound barrier at Section 19 was less effective than Taman Permata, this is because Section 19 do not used enough vegetation as natural noise absorber.

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Finally, my deeply wishes that May the Almighty God will bless all of you.

1.0 CHAPTER ONE: INTRODUCTION

Sound is a physical phenomenon that is caused by air pressure waves, emanated from a vibrating source, and alerts the hearing sense of human beings (Turgut, Zübeyde & Metehan 2012). Meanwhile according to Goines and Hagler (2007), noise is defined as unwanted sound. Environmental noise consists of all the unwanted sounds in our communities. Therefore, Mohan (as cited in Arvind, 2011) said that due to increase in number of vehicles and rapid urbanization of cities, noise level exceeds the permissible value. For many years noise barriers have been erected along major arterials to screen residential areas from high levels of traffic noise. Apart from that, Nasim & Kafeel , 2012) said noise barriers are exterior structures provided to protect sensitive land uses from noise pollution. In fact, noise barriers are the most effective tools of mitigating roadway, railway, and industrial noise sources.

If the level of noise is not controlled, it can be affected to our health. According to Goines and Hagler (2007) the WHO has informed there are seven categories that noise can affect to humans health.

First is hearing damage. Hearing damage occurred when the increasing in threshold of hearing. The noise may come from the busy highways, sound from heavy machine or industrial and other variety of other causes. Human hearing that expose to less than 70 dB still does not produce hearing damage. However, humans can feel the pain of hearing and it can be harmful when sound levels above 85dB. This is because 85 dB is same to the noise of heavy truck traffic on a busy road. In previous study, around 12.5% of American children have experienced of hearing loss in one or both ears. There are mostly from 6 to 19 years old (Goines and Hagler, 2007).

Second is a cardiovascular disturbance. It also can affect to human health. It can be temporary and permanent effects on human's health, especially on the endocrine and autonomic nervous systems. These effects only can be seen with long-term where human have exposure to noise levels from 65 dB or above 80 to 85 dB. Therefore, it is leading to temporary increases in blood pressure, heart rate, and vasoconstriction (Goines and Hagler, 2007).