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CONSTRUCTION OF SURFACE DRAINAGE

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2019245824**

ACKNOWLEDGEMENT

Alhamdulillah, praise to Allah SWT, the Most Graceful, the Most Merciful.

I would like to express my tremendous amount of gratitude for the enlightenment, training, and advice to these amazing people. First and foremost, special thanks to Hj. Nordin Bin Kasiran for giving me the opportunity to work on my practical training in his company. In addition, I am very indebted to my appointed supervisors, Mr. Mohd Muzammil Bin Masri and Mrs. Fadzilah Abdul Sa'en. Not to forget, the very welcoming staff, Mr. Mohd Firdaus Bin Abu Bakar and Mr. Anas Firdaus Bin Zainal who guided me alongside my supervisors.

Furthermore, I could not thank my parents and fellow family enough for supporting me emotionally and financially. They encouraged me to face the obstacles and the odds of working in a new environment. I became motivated to attend the workplace as their ongoing support lifts my spirit.

Equally important, I am also gratified that I have very kind friends to help me write this report. Without their help, I could not complete this report to its utmost detail. They also shared their experiences in their workplace which widens my view about the working environment.

ABSTRACT

From cities, towns, and even rural areas, the drainage system is essential to enable wastewater and rainwater to move to a treatment plant. Hence, more building means more drains need to be built. Therefore, this report will confer about the construction of surface drainage. The main objective of this report is to ascertain the method statement of drain construction, building quantities, and the problems and solutions throughout this project. The method of study used in this report is document reviews and interviews. The company involved in this project is Juruman Engineering Sdn. Bhd. or in short, JESB. This company is CIDB registered with Grade G6 and Level 5 in Construction Manager. This report is based on a site in Pulau Indah Industrial Park, Mukim Kelang, Daerah Kelang, Selangor D.E. It will focus on how the whole process was done and the importance of drainage systems to developing countries. This report will also look at the construction management and observations during construction work. To summarize, the earliest inspection of the land conditions plays a major role in the succession of drain construction. The drain also must be proven functional to prevent future damage.

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CHAPTER 1.0

INTRODUCTION

1.1 Background of Study

Drainage is the method of removing surface or sub-surface water from a given area. Drainage systems include all of the piping within a private or public property that conveys sewage, rainwater, and other liquid waste to a point of disposal (School of PE, 2017). Our community is increasing in capacity, which also leads to the shift in water usage and scale of construction in one area. Hence, a functioning drainage system is crucial for a smooth flow of water to avoid multiple issues. To illustrate, a clogged drain would block the flow of water causing floods and water pollution. In other words, the quality of the drainage system must be preserved as early as its construction commences.

Drainage can be either natural or man-made. The internal drainage of most agricultural soils is good enough to prevent severe waterlogging. Nonetheless, many soils require an artificial drainage system to improve production or to handle water supplies. The modern drainage system uses geotextiles to retain and prevent fine grains of soil from passing into and clogging the drain (Wikipedia, 2021).

There are four types of drainage systems: surface drainage, and sub-surface drainage, downspout and gutter system, and slope drainage system. All are equally important as they share the same functionality. The dissimilarity between them is the location, material, and shape. To emphasize, surface drains are located on the ground surface, sub-surface drains are located under the ground, downspout and gutter systems are located on the roof of the building, and slope drainage systems are mainly located at hillsides.