

**THE EFFECTIVENESS OF COMMUNITY DETENTION POND IN
MINIMIZING THE PEAK FLOW**

By

NOREHA BINTI HARUN

Report is submitted as
the requirement for the degree of
Bachelor Engineering (Hons) (Civil)

**UNIVERSITI TEKNOLOGI MARA
MAY 2006**

ACKNOWLEDGEMENT

بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ

Firstly and foremost, I would like to express my gratitude to Almighty Allah S.W.T. for giving me the guidance and strength in completing this Final Year Project KJC 537 entitled The Effectiveness of Community Detention Pond in Minimizing the Peak Flow.

I also would like to extent my greatest thank you to my advisor, Mr. Kuan Woei Keong for his guidance, concern, advices, suggestion and encouragement throughout the whole semester in order to complete this project.

Finally, to my beloved family and friends, I owe you all the heartiest gratitude and thank you for your encouragement, inspiration and support.

Thanks for all kindness. May the Almighty Allah S.W.T. bless us and be with us all the time. Inshaallah.

الْحَمْدُ لِلَّهِ

ABSTRACT

Stormwater Management Manual (MASMA) has been introduced in Malaysia to control the stormwater and thus to prevent flash flood from occurring at downstream. Flash flood can cause damage to cities which full with impervious surfaces. Community detention pond is one of the facilities that is used to prevent flash flood from occurring by store the stormwater in the pond and discharge it slowly at the outlet. In this study, spreadsheet is developed to rout the storm runoff using Goodrich Method. The result shows that the outflow from the detention pond is lower from the inflow, thus prove that the community detention pond is effective in minimizing the peak flow.

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CHAPTER 1

INTRODUCTION

1.1 Brief Background

Urbanization is a continuing phenomenon in Malaysia. Grasslands, farmlands, forests, swamps and many green areas are being continually changed to residential subdivisions, commercial and industrial complexes, roads and streets, parking lots, shopping centers and so on. One of the side effects of urbanization with which engineers and planners must deal with the increase of peak flows and volumes of runoff from rainstorm events.

In Malaysia, the seasonal pattern of flood occurrences causes the east coast and the southern part of peninsular Malaysia, Sabah and Sarawak to be affected by flooding during December to January. The west coast of Peninsular Malaysia is mainly affected from September to November. Wide-spread prolonged heavy rain resulting in rivers breaking and over spilling the banks. In the west coast however the thunderstorms are common and often bring short storm but very extensive rainfall that overloads the drainage systems resulting in flash flood in major city like Kuala Lumpur. The recent is the one that hit Shah Alam in February 2006. Flooding in Malaysia is generally the result of one or a combination of localized rainfall, over spilling of bank due to inadequate river channel capacity, tidal effect and back water, which causes flooding in the lower reaches and in the tributaries respectively and inland flooding due to poor or inadequate drainage.