UNIVERSITI TEKNOLOGI MARA

RAINFALL RUNOFF MODELING FOR UiTM
PULAU PINANG

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DECLARATION BY THE CANDIDATE

I (Norhasmie Nawang, 2003479818) confirm that the work is my own and that appropriate credit has been given where reference has been made to the works of others.

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ABSTRACT

Rapid development and urbanization in major towns in Malaysia in the last decade has been accompanied by dramatic hydrologic changes. As a result, incidences of flash floods and water logging have become major problems affecting the urban area and river system downstream.Flooding is one of the natural hazards that affect the communities and have caused damages worth of million every year. For more than thirty years, computer models have been used as an essential tool for flood analysis. This report depicts a hydrologic engineering study carried out at UiTM Pulau Pinang, for rainfall runoff modelling using HEC-HMS. The Hydrologic Modeling System is designed to simulate the rainfall-runoff processes of dendritic watershed systems. HEC-HMS model was used to predict design flow for minor system (ARI 5, ARI 10 and ARI 50). Observed discharge data on 19 March 2007 was used to calibrate with the predicted flood hydrograph (HEC-HMS model). The calibrated model was validated with observed discharge data on 28 March 2007. Hydrographs produced by this study can be used to predict future condition of UiTM Pulau Pinang catchments.

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