

ABSTRACT

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ANALYSIS OF DRAINAGE SYSTEM FOR FLOOD MANAGEMENT IN TAMAN MANGU HOUSING

This study is going to analyze and evaluate the drainage channel at the Taman Mangu Housing and determine the suitability between the discharge and the volume of the existing drainage channel in the Taman Mangu. This study using a model based on the EPA SWMM 5.2 application. The study was conducted from March to June 2022. After the drainage model was simulated using EPA SWMM 5.2, the average peak runoff in each subcatchment was 0.82 m³/second. The average total runoff in each subcatchment is 171.3 m³. In some channels, there is an increase in the channel because it cannot accommodate rainfall in the Taman Mangu Complex area so that water overflows into the road and disturbs the comfort of the community. In an effort to optimize the channel, the channel dimensions are changed by widening the channel by 0.2 m in several channels and decreasing the channel elevation so that water can flow properly.

Key Words: rainfall, runoff, EPA SWMM model, drainage channel