

CERTIFICATION OF APPROVAL

STUDY OF HYDRAULIC CHARACTERISTICS OF A VEGETATED OPEN CHANNEL FLOW

by

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CERTIFICATION OF ORIGINALITY

This is to certify that I am responsible for the work submitted in this project, that the original work is my own except as specified in the references and acknowledgements, and that the original work contained herein have not been undertaken or done by unspecified sources or persons.

Muhammad Zuhdi bin Sidik

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ABSTRACT

In understanding hydraulic characteristics of open channel flow infested by vegetation, it is necessary to study the characteristics of vegetation that occupies the channel. Hypothetically, different vegetation will result in different characteristics. In this experiment, Japanese grass, Cow grass and Pearl grass were used to understand the relation of their presence towards open channel hydraulic characteristics.

Experiments were conducted inside a laboratory flume, with 5-m stretch of each grass laid across the 10-m flume. Upon experiment, cross-sectional discharges, flow depths, retardance coefficients and velocities were assessed to establish relationship between vegetation and hydraulic characteristics.

By comparison of graphs of depth flow characteristic, velocity characteristic, and discharge characteristic over the computed Manning's n values, it can be concluded that characteristic of Japanese grass, Cow grass and Pearl grass are found to behave in similar pattern. The finding emphasis that, if there are an increase in channel discharge, there will be an increase in the flow depth. Besides, as flow depth increases, velocity will also increases. Eventually, when the velocity increases, manning's retardance coefficient will decreases and play minimal effect on impeding the channel flow.

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