INFLUENCE OF WORN OPEN CHANNEL (DRAIN)
ON MANNING'S COEFFICIENT

A PROJECT REPORT PRESENTED IN PARTIAL FULFILLMENT OF
REQUIREMENTS FOR THE ADVANCED DIPLOMA IN CIVIL ENGINEERING
OF MARA INSTITUTE OF TECHNOLOGY

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ABSTRACT

The basic aim of the research is to provide a reliable results from the laboratory experiments. U-shaped drains and plywood platform were made. The experiment was carried out by installing the platform in the flume first and then putting the precast U-shaped drains on top of the platform. The flume is situated in the Hydraulic Laboratory of Department of Civil Engineering, MARA Institute of Technology, Shah Alam, Malaysia.

The criteria of the project was based on the equation developed by Robert Manning. The data of the experiments were analyzed and comparisons were made with the available Manning's Roughness Coefficient, n for worn drain.

CHAPTER 1

INTRODUCTION

1.1 General

The Manning roughness coefficient, n is used to described the flow resistance or relative roughness of a channel structures. The results of the theoretical and experiment relating roughness to relative smoothness (a depth parameter divided by particle size) are not consistent.

Verification using field data has not always been conclusive. This project probably due to a combination of several factors include the theoretical and laboratory-derived relation are based on uniform flow (a condition rare or absent in natural channel), on particles size and shape and on distribution of particle size and there is unknown model-to-prototype error assisted with the theoretical and laboratory derived relation.

In addition, although theoretical and laboratory solution provide a sound description of the processes involved in flow resistance. The solutions have been tested only generally with flume data or are too complex in terms of data requirements for practical application.