

Analysis of Flow Characteristics in Sewerage System

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ABSTRACT

In the present study, two parameters, the per capita flow and the design criterion, were investigated. The investigation was performed on a manhole located between the library and sports complex within Universiti Malaysia Pahang, Gambang campus (UMP Gambang) where field monitoring of sewage flows was conducted. ISCO 2150 area-velocity flowmeter was used to collect the flow data and Flowlink 5.1 software was used for data retrieval as well as display. Calibration of the flowmeter was done in the Hydraulics and Hydrology Laboratory of UMP Gambang. The study duration was from November 2014 to February 2015. Each set of data consists of sewage flow readings every 5 minutes for duration of two weeks. The same data measurement interval was applied to the rainfall data, collected through an ISCO 675 rain gauge. From the results obtained, both the parameters investigated were found to be lower than their respective values stated in the Malaysia Standard MS1228:1991. After analysis of the results, it can be concluded that the flow characteristics in the sewerage system studied is sufficient to cater to the population equivalent in the study.

KEYWORDS: Design Criterion, Flow Characteristics, Peak Flow Factor, Per Capita Flow, Population Equivalent, Sewerage System

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