

Abstract

Planning for Road Drainage Channels at the Civil Roundabout to Embung D in the ITERA Area

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Along with the times, ITERA has increased the number of enthusiasts and the number of new student admissions. This makes the ITERA campus experience developments in terms of facilities and infrastructure. The problem arises when there is rain with high enough rainfall and the rainwater does not enter the ground (infiltration) and there is no proper disposal system, so that it will become runoff on the ground surface, causing inundation in a larger capacity called flooding. . Of course, to overcome this requires proper drainage planning. The calculation of regional rainfall using the arithmetic method with the results of the frequency analysis using the log person III method. The channel discharge calculation uses the Rational Method. The channel cross section that is planned is a rectangular channel with dimensions of 60 cm width and 80 cm height, and in this drainage plan 9 units of box culvert are planned with dimensions of 60 cm x 60 cm x 100 cm. Rainfall data analysis, field data and channel cross-section calculation results are included in the planning in the HEC-RAS (Hydrologic Engineering Center - River Analysis System) application. The analysis results show that the channel discharge is $0.3083 \text{ m}^3 / \text{s}$. Budget analysis in making this drainage is IDR 1,660,000,000.00

Keywords: Itera, Drainage, Rational, Hec-ras, Draft Budget