

ABSTRACT

HIDROLOGI ANALISIS DAN BOX CULVERT DRAINAGE CHANNEL AT ANTASARI STREET IN BANDAR LAMPUNG REGENCY USING HEC-RAS

BY:

Riyo Ardi Yansyah

This research was conducted to know the Rainfall Intensity in Antasari area using Intensity Duration Frequency curve (IDF) knowing at what time of year again when the maximum discharge channel in Antasari will be exceeded and to know drainage channels capacity in Antasari based on hydrology analysis and hydraulic using HEC-RAS.

The calculations performed by using minutely rainfall data obtained from BKMGM Panjang, Bandar Lampung from 2000 until 2011. After checked based on statistical parameters, using Log Pearson III methods to find rain plan based on 2 years, 5 years and 10 years return period. The results were made in IDF curve by connecting concentration time to IDF curve obtained rainfall intensity for each return period. This intensity value will be inserted into the rational formula to obtain the discharge plan value for each return period. The discharge value will be inserted to channels modelling made on HEC-RAS program. It can be obtained for what return period the discharge will be exceeded. The hydrology analysis and hydraulic performed again by using trial and error model. It can obtain the channel capacity.

Based on these results, it can conclude that the rainfall intensity is 58 mm/hour for 2 years return period, 76 mm/hour for 5 years return period and 115 mm/hour for 10 years return period of time. The channels capacity exceeded for 10 years period of time and channels capacity is 1,09 m³/hour

Keyword : Intensity, Rational method, HEC-RAS, Capacity