PENGENDALIAN BANJIR
BATANG KANDIS KOTA PADANG

Eka Dhamayanti
16709/PS/MPBA/05

Telah dipertahankan di depan Dewan Penguji
Pada tanggal 26 Juni 2007

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ABSTRACT

Batang Kandis River which passing through northern part of Padang City, have experienced floods almost every year. Besides due to natural factor, flood also presumed caused by landuse change in Batang Kandis watershed which covered 87,740 km 2 . The flood controls just focused on river channel and not yet comprise a comprehensive and integrated watershed management. Flood control which have been planned is to build 3.18 km dike in Batang Kandis River and another 4.15 km dike in Batang Kasang River, and build a new estuary through 550 m floodway.

The evaluation of land use change in Batang Kandis watershed was done by comparing landuse condition in 1985, 2004 and General Planning of Padang City Spatial Arrangment (RTRW) 2013. Evaluation of water surface along Batang Kandis River was using HEC-RAS software. The peak flow discharge calculated with the rational method was used for input data of HEC-RAS Software as upstream boundary condition and the downstream boundary was using tidal hidrograph. Simulation conducted at existing river condition and with control design.

Result of the research shows that there was an increasing peak discharge of 11,28% due to the change of landuse in 1985 to the condition in 2004 and about 36,92% if landuse condition be realized according to General Planning of Padang City Spatial Arrangment 2013. Evaluation result for water surface level shows that the change of landuse in 2004 condition become condition of landuse in 2013 causing the rise of water surface level up to 10%-22,30%. With flood control structure, it is decrease water surface level up to 25%-39%.

Keyword : *Landuse, peak discharge, level of water surface*