ABSTRACT

**SIMULATED PROFILES OF WATER AT TUKUMAN WEIR
USING STEP DIRECT METHOD**

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Dengkeng river located at Plosowangi village, Cawas District, Klaten regency there is a Tukuman weir waterworks was built in 1960. This weir serves for irrigation needs in the Plosowangi village. Calculations of the profiles of water level aimed at studying the water by applying it to real projects and flood control on the high embankment safety Tukuman weir.

Objects used in the simulation of water level profiles are taken from the data Tukuman weir in Plosowangi Village, Cawas District, Klaten Regency. Profile calculation is performed to find the water depth, normal depth and critical depth at channel each. Calculation results compared to determine the type of flow and to know type water flow in the profile Tukuman weir. The data for calculation taken from working drawings and field data. Analytical calculation profile of water at Tukuman weir with direct step method is used. Calculations from channel of criticism that is in close weir on dot $P_{.25}$ move until upstream on $P_{.250}$.

The results of calculation of the plan to calculate the flood discharge profile Tukuman weir water level is the Hasper method of 143.852 m3. With the flood discharge of 143.852 m3 of water level profile calculations obtained Tukuman weir flow depth look of each $P_{.0}$ to $P_{.250}$ is $P_{.0}$ = (+) 103.129 m, $P_{.25}$ = (+) 103.834 m, $P_{.50}$ = (+) 103.832 m, $P_{.75}$ = (+) 103.830 m, $P_{.100}$ = (+) 103.826 m, $P_{.125}$ = (+) 103.827 m, $P_{.150}$ = (+) 103.826 m, $P_{.175}$ = (+) 103.826 m, $P_{.200}$ = (+) 103.820 m, $P_{.225}$ = (+) 103.809 m, $P_{.250}$ = (+) 105.850 m. The length of the flood levee safety calculations obtained through 777.606 m.

Keyword: Tukuman weir, water level profile, step direct method