

KAJIAN RENCANA PENGENDALIAN BANJIR KALI BERINGIN KOTA SEMARANG

Irawan Insan Widodo
16704/PS/MPBA/05

Telah dipertahankan di depan Dewan Penguji
Pada tanggal 29 Maret 2007

Pembimbing Utama
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ABSTRACT

Beringin River is inducing flood periodically on Mangkang Regions, Sub District of Tugu in Semarang City. Design works of Beringin River had finished in year of 2003. In the design, there were recommendations for normalization, dike structure and jetty structure works.

Hydraulic study for each condition is conducted by using hydraulic modelling of Hydrologic Engineering Centre -River Analysis System (HEC-RAS) of 3.1 version. Stream is assumed as a single reach using the upstream boundary at HM 72+88 to HM 0 (estuary). Flow hydrograph is used for upstream boundary condition and stage hydrograph is used for downstream boundary condition.

In existing condition, overtopping is occurred at 22 River Stations at left bank and 27 River Stations on right bank, whereas the maximum flow at River Stations 37 is 3,63 m/s. By the channel normalization, overtopping is occurred at 22 River Stations on left bank and 27 River Stations on right bank, whereas the maximum flow at River Stations 57 is 4,74 m/s. By constructing the dike, overtopping is occurred at 12 River Stations on left bank and 13 River Stations on right bank, whereas the maximum flow at River Stations 37 is 3,91 m/s. By constructing the jetty, overtopping is occurred at 22 River Stations on left bank and 30 River Stations on right bank, whereas the maximum flow at River Stations 40 is 3,69 m/s. After combining the works, by constructing dike and normalization the overtopping is only occurred at 7 River Stations. Priority to perform the work series will be more effective hydraulically if it is started by dike construction, continued by normalization and jetty construction.

Key word : *Previous study, hydraulic simulation, work series priority.*