

ABSTRACT

ANALYSIS OF FLOOD MANAGEMENT USING FLOOD PUMPS AND FLOODGATES IN PURI GADING HOUSING, BEKASI CITY

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Flooding that occurs in Puri Gading Housing, Bekasi City needs to be overcome, one of which is by making flood pumps and floodgates. The purpose of this research is to determine how much rain intensity occurs, then the amount of discharge that passes through the main drainage, and determine the capacity of the flood pump and the size of the floodgate to be used at Puri Gading Housing, Bekasi City. The research variables are rain intensity, flood discharge, planned flood pump capacity and sluice gate size. There are two types of data collected, namely primary and secondary data. Primary data is obtained directly from observations at Puri Gading Housing, Bekasi City and secondary data is data obtained from existing sources, such as rainfall data, topographic maps and literature studies. Processing rainfall data using the Mononobe method and simulating the network model using SWMM 5.2. The results of rain intensity obtained from this study at the research location amounted to 134.55 mm / hour with a 10-year return period. For the results of the banjir discharge that passes through the drainage at the research site is 2.80 m³/s. The pump used to drain water from Puri Gading housing, Bekasi City to the cakung river has a capacity of 5.5 m³/min or 0.095 m³/sec. The size of the sluice gate is 1 m wide and 1 high which will open when the water discharge in the river is below 1 m, the rain intensity affects the opening or closing of the sluice gate.

Keywords: Flood, Drainage System, Flood Management, Pump, Sluice, EPA SWMM 5.2