

ABSTRACT

The Cirasea River is a tributary of the Citarum River with an area of 42,4 km². The river has a length of 17,8 km pass through Ciparay subdistrict. In the rainy season, river water will rise even to overflow at some river segments and it is dangerous to the settlement of residents around the river that can interfere with the activities of citizens and cause losses. Therefore, it is necessary to do research on the river, with the intention of knowing how much water discharge that flows through the bridge and knowing the height of the water is still safe against the bridge, especially the Inpress bridge Cirasea which becomes The object on this research.

The analysis used to calculate the rain of the draft is frequency analysis with logs Pearson type III and the Alternating Block Method (ABM) to create the distribution hyetograph of its rain. Calculating the design flood is a combination between the design rain and the hydrograph of Synthesis Unit (HSS).

The result of the analysis obtained flood discharge draft with return period (Q_T $Q_{2Tahun} = 90,58 \text{ m}^3/\text{s}$, $Q_{5Tahun} = 112,96 \text{ m}^3/\text{s}$, $Q_{10Tahun} = 122,45 \text{ m}^3/\text{s}$, $Q_{25Tahun} = 133,57 \text{ m}^3/\text{s}$, $Q_{50Tahun} = 140,9 \text{ m}^3/\text{s}$, $Q_{100Tahun} = 147,56 \text{ m}^3/\text{s}$). The difference between the water level and the 50 year anniversary of the bridge is 0,93 m, so that the bridge is not safe against the flood period of 50 years, then done changes and remodeling against the river.

Keywords: Hydraulics analysis, freeboard