Abstract

Every year sedimentation into the reservoir of 3,178,510 m³. This condition will reduce the impact of technical life of the reservoir is planned to reach 100 years and cause silting Reservoir Multipurpose Winton. With the shallow reservoir with a dam spillway is feared that there are no longer able to accommodate the water will cause flooding downstream, especially for the Bengawan Solo river, especially in the rainy season the water flow will likely increase. Safe limit of the reservoir water level is 136 m, while in the rainy season when the water elevation exceeds the safe limit ranging from 135.68 m to 136.11 m. In addition to the old spillway capacity of 1,600 m³/dtk are not allowed to be passed by 2713.291 m³/dtk inflow discharge would require building a new spillway.

The spillway design flood discharge based on an analysis of plans using synthetic unit hydrograph Nakayasu. Ogee type used to spillway type. After the construction of spillway design is obtained, then the stability control when the normal water level and flood water level.
Obtained from the analysis of flood discharge plans return period of 50 years by 2504.37 m³/sec, volume of 560 million m³ reservoir located at an elevation of +131.00 m elevation lighthouse is used as a spillway, flood water level at +136.00 m altitude, spillway width 1.41 m. Konstruksi summit stable against the forces that occur in critical condition.

Keywords: Spillway