

**A STUDY ON VARIOUS CONFIGURATIONS OF BAFFLE BLOCKS  
TO REDUCE THE HYDRAULIC JUMP EFFECT**



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## ABSTRACT

Hydraulic jump occurs due to sudden change of flow from supercritical to subcritical flow. This phenomenon will cause severe erosion at the downstream. In order to reduce this impact, various types of energy dissipator are installed at the stilling basin and one of it is baffle blocks. The laboratory work involved applying design discharge range  $0.002 \text{ m}^3/\text{s}$  until  $0.008 \text{ m}^3/\text{s}$  for various baffle blocks configurations. The effectiveness of energy dissipator is mainly determined by changes of Froude Number from supercritical flow (as it enters the stilling basin) to subcritical flow (as it reaches the end of the stilling basin) and high energy losses generation at the end of stilling basin. The results show that by designing a right configuration of baffle blocks will maximise the dissipated energy.

**Keyword:** Hydraulic jump, stilling basin, energy dissipator, baffle blocks configuration.

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