

Study Project (UI) (state: 17.01.2022)

# Design of Different Types of Aerated Chutes



## Background

Chutes are used to transport high discharges from a higher elevated level to a lower elevated level. There, very high velocities can occur. An aeration of this chutes can lower risk of cavitation. In our hydraulic laboratory at the research institute for hydraulic and water resources engineering Obernach

(<https://www.cee.ed.tum.de/wb/labore/versuchsanstalt-obernach>), a scaled example is built in our teaching lab. To improve the visibility of the hydraulic performance of this structure, we want you to design different types of aerated chutes.

## Goals

You should consider recent state of the arts in your calculations. Result of this study should provide a correct, functional plan and report that allows our workmen to manufacture the modified chute.

Types of aerated chutes, that you should consider:

- Self-aerated spillway
- Stepped spillway
- Spillway containing aerators

## Mile Stones

- Literature review about state of the art concerning the design of those chutes
- Priorization of the approaches
- Interims presentation
- Application of the best suitable approach
- Final presentation

## Prerequisites

Lecture “Hydraulics in Water Engineering” or lectures with equivalent content

## Timeline

Start since today

If you have interest, please contact

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We are happy to give you more information about this project!