



## **Modelling sediment bed aggradation in storm water/combined sewers**

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### **ABSTRACT**

In this paper a numerical investigation to model bed aggradation due to the entrance of large amounts of sediments in sewers is presented. A semi-coupled modelling approach for uniform sediments based on 1D-shallow water De Saint Venant-Exner equations was adopted to describe the temporal evolution of the bed in the deposition and transport phenomena associated to aggradation process. Three well-established bed-load transport formulas were used to evaluate the sediment discharge over the aggrading bed. Simulations enabled the comparison of results obtained with the selected formulas against experimental measurements from literature. Results have shown the adopted model to be able to successfully predict the evolution of sediment bed profiles during the aggradation experiments depending on the used sediment transport formula.

### **KEYWORDS**

Sewer system modelling, Sediment aggradation, Bed-load transport