

Short Review: Zheng Hu

First of all, the authors thank the reviewer to take valuable time to review and for the critical assessment of the paper.

Comment1: I have reviewed the paper, and have the following comments: 1. page 3 line 20, "...shear stress would induced...", should it be "...shear stress would induce..."? 2. In Section 3.1, authors mentioned that the hydraulic model calibration was conducted by adjusting both pipe diameter and roughness height, which may very likely compensate each other to minimize the difference between the simulated and observed values. Authors should elaborate on how the compensation error be avoided to achieve the relatively accurate estimate of pipe diameter and roughness height.

C1 Ans:

We will correct "induced".

The diameter and roughness calibration followed the finding of Boxall et al. (2004)* that a 1mm increase in roughness reduces the diameter by 2mm and provides a unique solution to both head loss and velocity/travel time. Travel time was also confirmed here with reference to the measured and simulated turbidity (manuscript figure 4).

* J. B. Boxall, A. J. Saul, and P. J. Skipworth, 'Modeling for Hydraulic Capacity', *Journal - American Water Works Association*, vol. 96, no. 4, pp. 161–169, Apr. 2004.