Co-UDlabs

Hackathon. November 25, 2021

TORONTO EXFILTRATION SYSTEM (FOUR SEASON) FOR HIGHLY URBANIZED AREAS (TES4)

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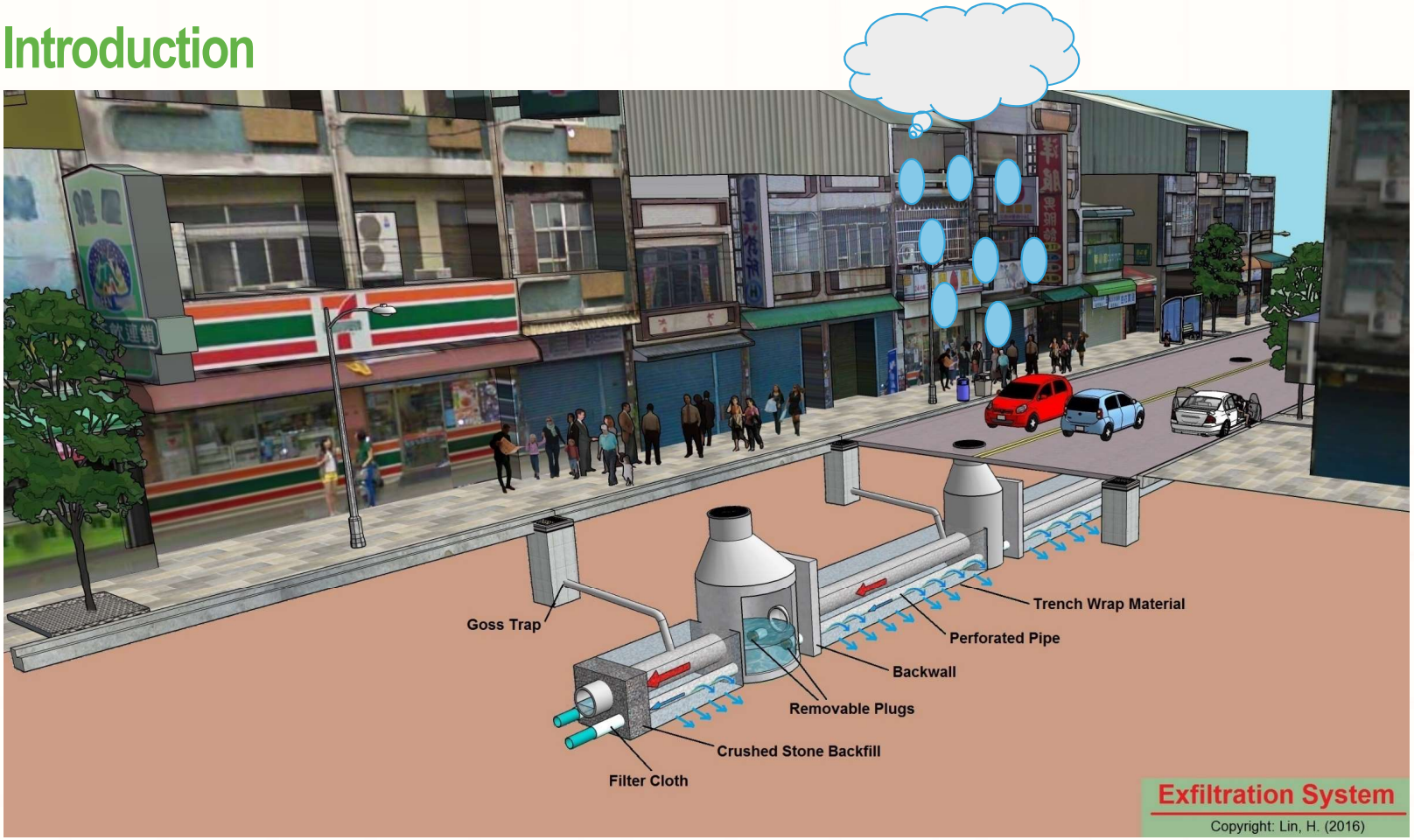
Introduction



No space for SUDS
Work over 4 seasons
Retrofit for old towns
Maintainable

Expected results

- **Main expected achievements of the proposed experiments**
  - In order to promote this new SUDS technology, we need to quantify flow rate distribution to various components of the TES4: inlet maintenance hole, two perforated pipes, granular sewer trench, the surrounding soil, and the overflow sewer (if any); and the Hydraulic grade line along the perforated pipes, the granular sewer trench because the design of TES4 depends on the understanding of system dynamics during a storm event.
  - Two new improvements of the system performance: (1) a smooth inlet (reduce entrance loss); and (2) an alternative outlet (for poor surrounding soil) of the exfiltration pipe will be quantified.
  - Various modeling methods of the flow distribution of TES4 during a storm event have been developed using the US EPA SWMM; the laboratory data will allow a comprehensive calibration and verification; and a recommended modeling method for design applications.