Identification of the information needs for sewer asset management by assessing failure mechanisms

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ABSTRACT

Asset management is a prerequisite for maintaining the required level of serviceability of urban drainage systems. The required asset management effort to achieve a certain level of service is unclear due to sewer systems process and structure complexity. One of the main questions of asset management is what kind of information is needed, and how this information can be obtained. Sewer failure mechanisms explain the structural/operational failures of sewer elements. This study focuses on determining the information required to be able to detect and identify sewer failure mechanisms. In order to be able to identify the failure mechanisms involved, a HAZOP approach was applied. The main processes and defects responsible for the structural/operational failures of sewer elements were identified, as well as possibility of obtaining the information about them. This information will help in estimating the probability of failure occurrence and generally it will help defining the information needed for proper serviceability.

KEYWORDS

Asset management, failure mechanisms, HAZOP, sewer system