Stormwater Pipeline Infrastructure Management

ABSTRACT:

Asset management of stormwater systems requires an accurate structural condition coding and assessment of pipes that is essential to overall management and capital improvement planning. The fundamental step to prediction of asset condition starts with data collection, initial condition coding, and failure analysis based on established parameters and methods. While data collection methods are well established for stormwater pipes, methods of initial coding and parameters to determine failure have not been well established. The purpose of this research is to assist water utilities by reporting on what other public agencies use for condition rating for their storm sewer pipes, complete with primary condition defect coding approaches. This report presents the review of literature and review of current practice in storm water pipe management and related pipe defect coding, rating, and prioritization schemes. In the review of practice, seven U.S. utilities were contacted and provided current practice methods and future intentions and three Australian stormwater asset management plans were reviewed. For each plan, a review of the condition rating model, objective, and scoring scale were analyzed. As a result, it was identified that current practice lacks overall structure and utilities with a plan initiated, most methodologies have been adopted from sanitary sewer methods, such as the use of NASSCO's PACP.

Figure 1: Framework for Uniform Rating of Stormwater Pipeline Performance

CONTACT:

Dr. Sunil Sinha; Email: ssinha@vt.edu; Phone: 540-231-9420