Implementing a Geographic Information System for a Rural Water and Sewer Company: A Case Study of the Newberry County Water and Sewer Authority

ABSTRACT

This thesis details the implementation of a Geographic Information System (GIS) in the Newberry County Water and Sewer Authority (NCWSA). NCWSA saw a need to implement GIS to help capture knowledge from a long time employee and better manage and map their system. They were previously referencing paper as-built drawings when questions arose about their water distribution system. The objective of this thesis is to implement a functional GIS for NCWSA, while addressing their budget constraints. This research emphasizes the initial planning process, database design, data acquisition, implementation phases, and a pilot implementation.

The methodology used in the implementation is derived from previous literature and case studies involving GIS implementation, however, there are some differences in order to meet the needs of NCWSA. Through the pilot implementation, NCWSA has utilized the GIS on a daily basis. The GIS has aided in planning for future capital projects, providing accurate information to maintenance crews during line breaks, and reducing the time required to search for hard copies of as-built drawings, just to name a few. In conclusion, future planning and additions are addressed along with looking at new technology that may help distribute the GIS information to field crews.