

Surveying Regional Sewer Systems

KS Associates Provides Surveying Services for Multiple NEORSD Projects

NEORSD's mission is to serve the public by providing cost-effective wastewater collection and treatment services that protect the public's health and the environment. KS Associates is helping NEORSD fulfill its mission by providing surveying services to support multiple sewer improvement projects throughout the region.

A KS surveyor collects data 30 feet below ground for the NEORSD Westerly low-level interceptor sewer project. This emergency survey was required as a result of a slope failure, which was compromising an old brick sewer.

One of our most recent projects is the NEORSD Southerly District CSO Early Action Project. KS Associates was selected for this project by Wade Trim, lead design engineer. The goal of the project is to implement a series of improvements to the sewer system, which will ultimately reduce combined sewer overflows (CSOs) to Big Creek in the City of Cleveland by more than 200 million gallons annually. The project is to be phased over a four-year period.

KS Associates performed topographic surveys of eight specific site locations. The surveys were used in the design of new sewers and improvements to existing conditions. KS Associates surveyors also provided construction support by staking new shaft sites and tunnels, and checking locations during tunneling operations.

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Due to our size, KS Associates can deploy multiple survey crews to expedite projects.



KS Associates provides surveying services to support shaft site construction.

Surveying Regional Sewers (continued from front)

KS Associates often responded with same-day service when the contractor needed an immediate response to verify existing sewer elevations during construction.

Emergency Services

When time is a factor, KS Associates has deployed survey crews for emergency surveying services. Recently, a slope failure along Riverbed Street in Cleveland's Flats district was compromising an old brick sewer line 30 feet beneath the roadway. When geotech borings revealed that three horizontal bends between two manholes, 1,200 feet apart, were offset five to six feet from locations on an existing plan, NEORS D needed an accurate location. The location could only be obtained by surveying the sewer alignment from inside the pipe.

After special safety and confined space entry training, KS Associates' surveyors were lowered into the narrow manhole and obtained the necessary data to complete the project.

NEORS D Projects:

- Easterly District — Reline and Repair
- Heights 7B Interceptor
- Bryden-Farnsleigh Relief Sewer
- Fairmount Boulevard Relief Sewer
- Lee-Superior ICRS
- Van Aken Relief Sewer
- Eulid Creek Storage Tunnel
- Easterly CSO Advanced Facilities Plan
- E. 90th Street Relief Sewer
- Lee Road ICRS
- Westerly Low Level Interceptor Emergency Evaluation
- Southerly District CSO Control Program Early Action



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