

## Study shows seepage into city sewer

Written by Elizabeth Barrett

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### **Engineer highlights problems, solutions caused by aging system.**

Solutions to the city's aging sewer and trouble spots are now on the table.

But they come with a cost.

Estimates show the price tag at a little more than a million dollars for an intermediate fix and \$1.8 million to repair the system for a longer period of time.

At the Oct. 5 meeting of the Gothenburg City Council, city engineer Reed Miller presented highlights of a more than a year-long study of the sewer system.

The bottom line, according to Miller who is president of Miller and Associates Consulting Engineers of Kearney, is that inflow and infiltration—especially during wet weather—allows rainwater and groundwater to enter the system.

That can be blamed on a 50-year-old plus sewer system with a variety of performance and operational deficiencies, he said.

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Miller said action is needed to determine where inflow and infiltration occurs so the level at the city's wastewater treatment plant can be maintained.

The plant treats and discharges wastewater into the Platte River.

Wastewater plant records show that water, sewer and wastewater flows generally increase from May through September, the engineer said, which indicate seepage into pipes.

Still, Miller said the majority of the wastewater collection system appears to have enough capacity to handle normal flows with the exception of major rain events.

Last June, 9.5 inches of rain over four days caused flooding and sewer backup in several areas of town.

Residences with reported damage from this event were located generally in the following areas: along Avenue F from 22nd Street to Washington Street; between Avenues G and J and 12th and Ninth Street; along 16th Street between Avenues G and I; and between Avenues J and M and 18th Street south past the railroad tracks.

The study also revealed that a 15-inch sewer pipe near and south of Highway 30 fills during heavy rain.

In addition, Miller said calculations confirm that the pipe is sometimes inadequate to handle normal flows.

Miller noted that the most cost-effective wastewater management plan involves the consideration of technical, environmental and social issues as well as public input.

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Intermediate and long-term alternatives, the study suggests, include:

- the installation of check valves by property owners on sewer services to help prevent future backups during excessive rain
- using equipment to televise the main sewer in areas impacted by excessive rain last June and areas suspected of contributing to inflow/infiltration problems
- replacing the east Highway 30 crossing pipe with a new, deeper sewer and lining or replacing other faulty sewer mains

To pay for the recommendations, Miller shared four scenarios in which monthly sewer rates would be increased. They range from

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