

KANSAS GEOLOGICAL SURVEY

1930 Constant Ave., Campus West
The University of Kansas
Lawrence, Kansas 66047-3726
phone 785-864-3965
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September 11, 2006

Donna J. Crawford
Governmental Assistance Services
905 Joseph Drive,
Lawrence, Kansas 66049

Dear Ms. Crawford,

I have reviewed the proposed project by the city of El Dorado to upgrade their sanitary sewer system. The project will include manhole rehabilitation, a lift station upgrade, and an expansion of the sewer line network to serve homes not currently connected to a sanitary sewer. To obtain more information on the project, I contacted Mark Bachamp of B.G. Consultants, the firm working with the city on this project.

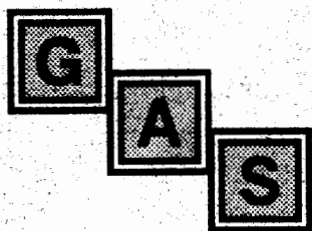
Based on the attached documents to your request and the information provided by B.G. Consultants, it does not appear that there are any potential geologic hazards worth noting that might impact this project, with the possible exception of flooding. Flooding potential could not be evaluated because the Kansas Geological Survey lacks current flood maps for the Walnut River valley and its tributaries in the El Dorado vicinity. Flood maps can be obtained from the District Office of the US Geological Survey office at 4821 Quail Crest Place, Lawrence, or the local Federal Emergency Management Office that serves the El Dorado area.

The above discussion represents our best assessment based on the information that the Kansas Geological Survey has about this locality and/or proposed project at the time of this writing. Other geologic conditions, not discussed herein, or for which the Kansas Geological Survey has no knowledge, may affect the viability or safe operation of this facility or property. The information provided in this letter is from regional or countywide studies and should not be used as a substitute for detailed site characterization by a licensed geologist or engineer. It is the responsibility of the applicant to provide any required site characterizations.

If you have please do not hesitate to contact me at my office (785 - 864-2068).

Sincerely yours,

P. Allen Macfarlane



Governmental Assistance Services

905 Joseph Drive

Lawrence, Kansas 66049

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August 14, 2006

Dr. William Harrison
Kansas Geological Survey
University of Kansas
1930 Constant Ave. – Campus West
Lawrence, KS 66047

RE: Environmental Review – El Dorado, KS – Sanitary Sewer System Improvements

Dear Dr. Harrison:

The City of El Dorado, Kansas will be submitting a grant request of \$400,000 to the Kansas Department of Commerce to complete the attached scope of work to upgrade their sanitary sewer system. The total project will cost \$1,350,000.

The city is requesting comments in reference to all environmental concerns, especially on floodplain concerns.

Please submit all comments to Governmental Assistance Services, 905 Joseph Dr., Lawrence, KS 66049.

If you have questions regarding the project please contact Mark Bachamp, B. G. Consultants, Inc. at 785-537-7448 extension 113.

Sincerely,

Donna J. Crawford
Project Coordinator

Enc/ Architect's Write-up
Project Map
Topo Map

*NE part of town
lift station does
have flooding*

CIP Request Form

General Project Information

Project Title: Sewer Improvements - City-wide New Request?: No
 Department: Public Utilities Proposed CIP Year: 2007
 Date: March 27, 2006 Previous CIP Year: 2006

Project Title and Description:

1. 8th Street lift station - pumping capacity will be increased by installing new pumps and an additional 10"-12" force main.
2. Manhole rehabilitation of the next 200-300 sewer manholes in most need of repair as determined by an inspection and evaluation conducted by the Utilities Department.
3. Gravity sewer main to 8th Street Lift Station (from the north) will need to be enlarged to eliminate bottlenecks flows from the north.
4. Sewer improvements on Douglas Road and 10th Avenue
5. Insituform or "cured in place" pipe repair projects city-wide, based on need.

Project Justification:

Lift Station: Most of the growth in El Dorado over the last 20 years has been in the NE area of town. All of which flows through the 8th street lift station. This lift station's three pumps are at capacity during heavy rainfall events and the wetwell has been observed rising with all three pumps on. All lift stations must be designed to stay ahead of influent flows with one of the pumps being down. Given current conditions, if one pump were to go down during a heavy rain, the other two pumps could not keep up and massive sewer backups would occur. This lift station is 23 years old, but can be effectively rebuilt.

Manhole Rehabilitation: There are approximately 1600 manholes in El Dorado's sewer system. Most of which were built with brick and mortar construction. Over time the mortar deteriorates from sewer gases and aging, causing manholes to leak groundwater into the sewer system. Tree roots also cause significant damage seeping water in the manholes. We rehabilitated 300 of the manholes in the most need of repair, in 1999, but need to continue this program to eliminate I & I and preserve our sewer system.

Force Main: Pump engineers have determined that our current 10" force main is at capacity and increasing pump size and horsepower would not significantly add to this lift station's pumping capacity. A parallel 10" or 12" force main will be needed to take care of future growth in northeast El Dorado. The new force main would need to extend further south to dump into a larger interceptor so that the increased flows do not create problems where they enter the gravity main system.

Gravity Main: Existing gravity mains from the north are experiencing sewer surge charges and bottleneck problems from the area of Random/North Main south. Sewer modeling studies done in 2004 have determined the appropriate line size, location etc. to alleviate this problem.

Sewer improvements on Douglas Road and 10th Avenue: These are needed to serve citizens not currently connected to sanitary sewer. Residents would pay for the connections, but grant money may be applied to cover miscellaneous costs of removing septic tanks etc.

Financing Recommendations

Project Cost Breakdown	\$ Amount	Source	\$ Amount
Rebuild Lift Station and install		General Fund	
4500 feet of 12" Force Main	\$ 450,000	Sales Tax	
Gravity line to Rice Park	\$ 500,000	Excess Sales Tax	
Manhole Rehabilitation, Insituform,		Special Revenue Fund	
Sewer Improvements to Douglas Rd.		Refuse	
and 10th Ave.	\$ 400,000	Federal Funds - Grant	\$ 400,000
		Sewer Revenue Bonds	\$ 950,000
Total Cost	\$ 1,350,000		

SANITARY SEWER MAP
CITY OF EL DORADO

