

Alan Luttrell, P. E.
EBH & Associates
306 South Main
Pratt, Kansas 67214

Geohydrology Section
Kansas Geological Survey
1930 Constant Avenue
Lawrence, KS 66047
May 28, 2008

Dear Mr. Luttrell:

I have reviewed the information provided to me concerning the City of Anthony improvements to the sanitary sewer system. Based on the information provided to me the project looks sound and should be approved.

The above comments are based on regional geologic conditions and limited information available to the KGS at the time of writing and cannot be used in substitute for a detailed site characterization. Other geologic conditions, not discussed here, or for which the KGS has no knowledge, may affect the viability or safe operation of this facility or property. Geotechnical engineering and design are outside the purview of the KGS. It is the responsibility of the applicant to produce any detailed site characterizations, geotechnical or environmental testing, or design by a licensed professional geologist or engineer to complete the project.

Sincerely,

Margaret A. Townsend
Hydrogeologist

Wastewater Treatment Facilities Improvements Anthony, Kansas

The following form may be used by the Review Agency/Commission for comments in response to the request for clearance from the proposed Public Water Supply Loan Fund Project.

_____	Army Corps of Engineers
_____	Kansas Biological Survey
_____	State Conservation Commission
_____	Kansas Corporation Commission
_____	Division of Water Resources/Kansas Department of Agriculture
☒	Kansas Geological Survey
_____	Kansas State Historical Society, State Historical Preservation Office
_____	Kansas Water Office
_____	Kansas Department of Wildlife & Parks
_____	US Dept. of Agriculture- Natural Resources Conservation Service
_____	Kansas Department of Health and Environment
_____	US Dept. of the Interior – Fish and Wildlife Service
_____	Regional Planning Office

Agency Review Comments: (to be completed by reviewing agency and returned to applicant contact person at name and address shown below.)

Comments: _____

Recommended Action: (to be completed by the review agency and returned to applicant contact person at name and address shown below.)

☒	Clearance of project should be granted.
_____	Clearance of project should not be granted.
_____	Clearance of project should be delayed until the issues or questions have been clarified.
_____	Clearance of project should not be delayed, by the applicant (in the application) address or clarify the questions or concerns indicated above.

<u>Margaret A. Townsend</u>	<u>KCS</u>	<u>5-28-08</u>
Reviewer's Name	Division /Agency/Commission	Date

Project Title: Public Water Supply Loan Fund Application for Wastewater Treatment Facilities Improvements.

Applicant: City of Anthony, Kansas

Contact Person: Alan Luttrell, P.E., City Engineer

Address: 306 S. Main St.

City, State: Pratt, Ks Zip: 67124 Phone: 620-672-1112



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PRELIMINARY ENGINEERING REPORT SANITARY SEWER IMPROVEMENTS ANTHONY, KANSAS APRIL 9, 2008

CITY CONTACT PERSON:

The contact person for the project with the City of Anthony is:

Grant Sechler
Public Works Director
City Hall – PO Box 504
Anthony, Kansas 67003
(V) 620-842-5960
(F) 620-842-5753

EXISTING CONDITIONS:

Garfield Lift Station: The Garfield lift station is located in the alley approximately ½ block north of Garfield Street between North Jennings St. and North Anthony Street. The lift station is over 20 years old, is worn out and in need of replacement. The lift station is a combination wet well/dry well type with the pumps located in an underground vault. The dry well vault creates a potentially hazardous situation and is classified as a confined space. In addition, the 4" force main, which is located in an existing alley, is in need of replacement.

Sewer Camera: The City of Anthony has an annual sewer maintenance program which at times requires the hiring of an outside contractor to camera the inside of sewer lines to determine their condition and to detect problems with existing sewer lines. Purchasing the camera equipment to do the work in house gives the City the flexibility to do the work on their schedule at a lower cost and allows the City to have the equipment on hand when emergency conditions occur. The City is proposing the purchase a sewer camera and appurtenant equipment for doing sewer maintenance and emergency work.

Mechanical Bar Screen: The wastewater entering the sewage treatment plant goes through an existing hand clean bar screen. In order for the screenings to be disposed of at the landfill, the city is required to test the screenings and dispose of them in a designated location. By using a mechanical bar screen with compactor, the screenings will not be required to be tested and can be disposed of as ordinary trash with no additional charge. The installation of the mechanical bar screen will also reduce the handling of the screenings thereby reducing employee contact with contaminated waste. The existing hand clean bar screen will be removed, the concrete structure

remodeled and the new mechanical bar screen installed in the remodeled structure. The compactor will be installed next to the new bar screen. The existing bypass line will be upgraded and connected to the piping for emergency operation.

North Massachusetts Street Lift Station: A church and house located on North Massachusetts Street are on septic tanks. The City would like to provide a lift station, force main and sanitary sewer line to serve these places.

RECOMMENDATION:

Our recommendations are for the City to do the following:

1. Replace the Garfield Lift Station with a wet well mounted type and replace the force main.
2. Purchase the sewer camera equipment.
3. Install a mechanical bar screen with compactor at the sewage treatment facility.
4. Install a lift station with sewer line and force main on North Massachusetts Street.

OPINION OF PROBABLE COST:

Attached is our Opinion of Probable Cost to upgrade the Garfield lift station, purchase sewer camera equipment, install a mechanical bar screen with compactor at the sewage treatment facility and install a lift station on North Massachusetts Street as described above.

LAND ACQUISITION AND EASEMENTS:

Garfield Lift Station and Mechanical Bar Screen: Replacing the Garfield Lift Station and construction of the Mechanical Bar Screen will be done within existing right-of-way, easements or land already owned by the City. No additional right-of-way, easements or land will be required for the work on this part of the project.

North Massachusetts Street Lift Station: The new lift station which will be located within the North Massachusetts Street right-of-way. The force main will require an easement for connecting to the existing sanitary sewer. The gravity sewer will require an easement across private property to serve existing buildings. All the easements will be across personal property located within the city limits and no farmland will be affected.



EVANS, BIERY, HUTCHISON & ASSOCIATES, P.A.
Alan Luttrell, P.E.

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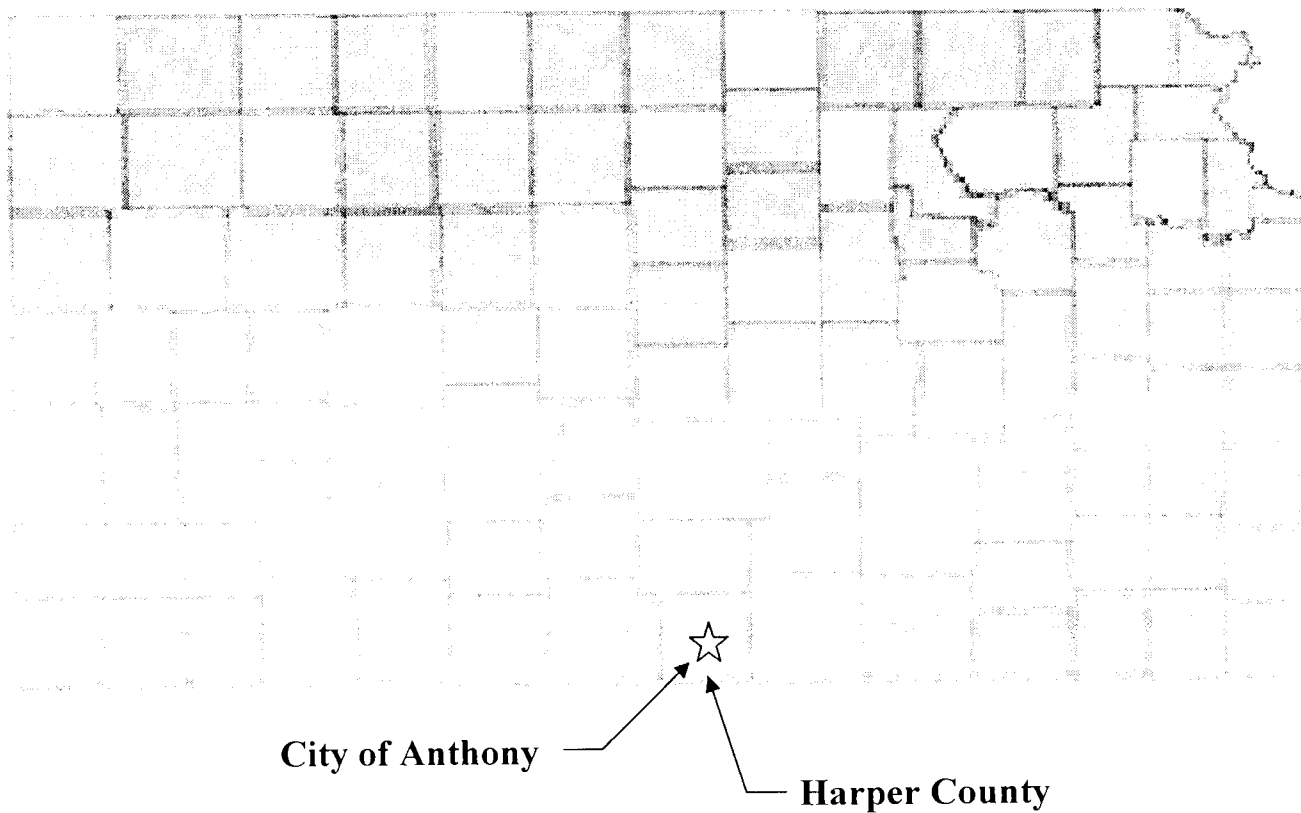
OPINION OF PROBABLE COST SANITARY SEWER IMPROVEMENTS ANTHONY, KANSAS April 9, 2008

The following is our Opinion of Probable Cost to replace the Garfield lift station and force main, purchase sewer camera and appurtenances, install a mechanical bar screen at the sewage treatment facility and install a lift station with force main and gravity sanitary sewer on North Massachusetts Street just south of Garfield Street in the City of Anthony, Kansas.

ITEM	DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	EXTENSION
Garfield Lift Station					
1	Garfield Lift Station	L.S.	1	\$ 40,000.00	\$ 40,000.00
2	Lift Station Installation	L.S.	1	\$ 8,000.00	\$ 8,000.00
3	Replace 4" Force Main at Garfield LS	L.S.	1	\$ 4,000.00	\$ 4,000.00
4	Gravel Surfacing - By City.				
Sewer Camera					
5	Sewer Camera & Appurtenances	L.S.	1	\$ 40,000.00	\$ 40,000.00
Bar Screen at STF					
6	Mechanical Bar Screen	L.S.	1	\$ 135,000.00	\$ 135,000.00
7	Mechanical Bar Screen - Installation	L.S.	1	\$ 8,000.00	\$ 8,000.00
8	Modify Bar Screen Chamber - By City.				
9	Modify Manual Screen Bypass - By City.				
N. Massachusetts Street LS					
10	Lift Station	L.S.	1	\$ 45,000.00	\$ 45,000.00
11	2" Force Main	L.F.	1100	\$ 14.00	\$ 15,400.00
12	8" Sanitary Sewer	L.F.	400	\$ 18.00	\$ 7,200.00
13	Trench and Backfill	L.F.	400	\$ 10.00	\$ 4,000.00
14	Manhole	EA.	1	\$ 3,000.00	\$ 3,000.00
15	Manhole Connection	L.S.	1	\$ 1,000.00	\$ 1,000.00
16	Sewer Connection	L.S.	1	\$ 500.00	\$ 500.00
17	Road Bore	L.F.	50	\$ 150.00	\$ 7,500.00
18	Seeding	L.S.	1	\$ 1,200.00	\$ 1,200.00
TOTAL ANTICIPATED CONSTRUCTION COST					\$ 319,800.00
Engineering					\$ 39,600.00
Construction Observation					\$ 43,100.00
Kansas Water Pollution Revolving Loan Fund Admin.					\$ 13,500.00
Legal					\$ 3,000.00
Contingencies					\$ 21,000.00
TOTAL ANTICIPATED PROJECT COST					\$ 440,000.00

EVANS, BIERLY, HUTCHISON & ASSOCIATES, P.A.

Wastewater Treatment Facilities Improvements Anthony, Kansas



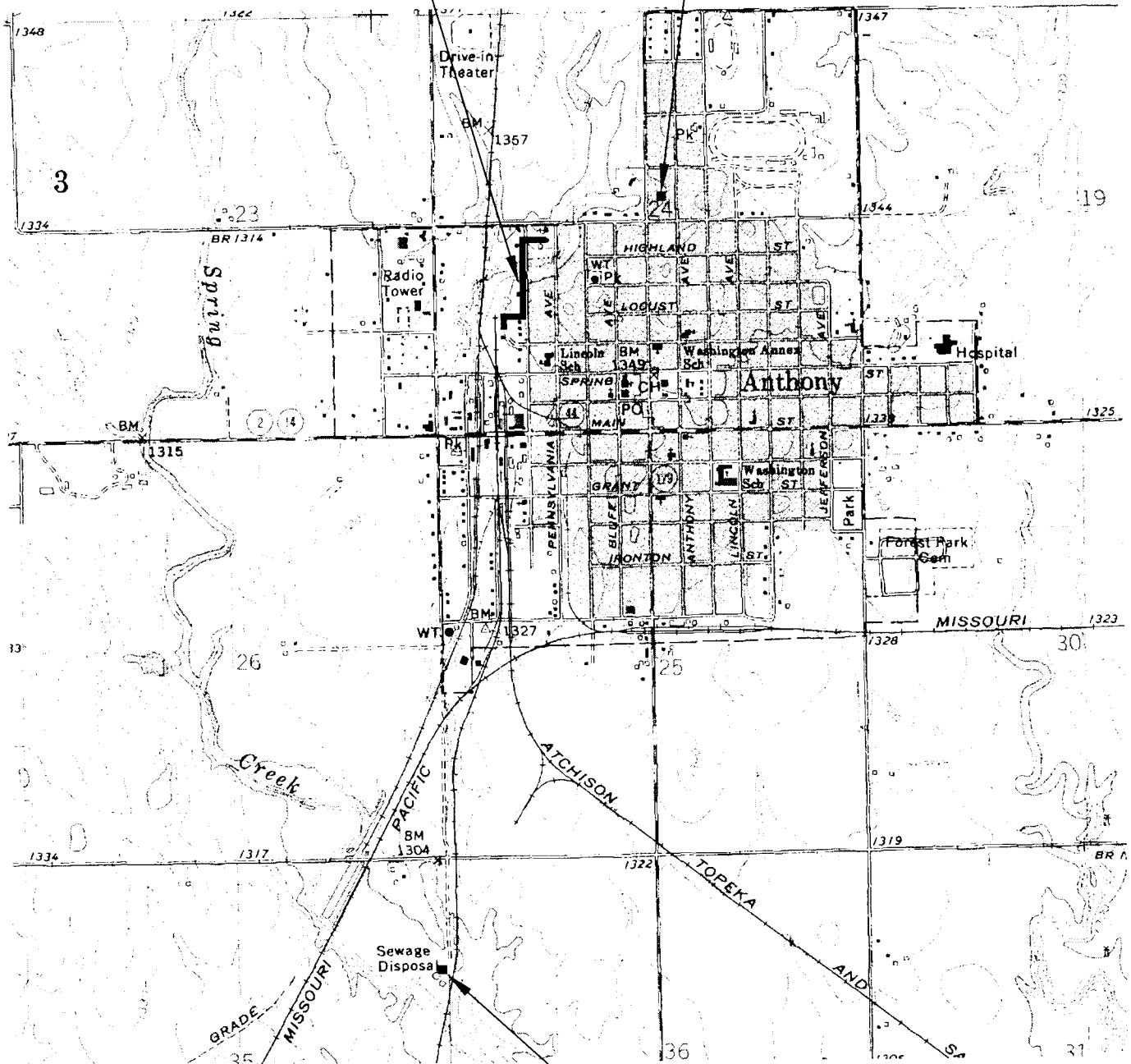
General Location Map

N. MASSACHUSETTES ST. LIFT STATION
 INSTALL LIFT STATION
 FORCE MAIN AND
 SANITARY SEWER LINE

LOCATION: E $\frac{1}{2}$, NW $\frac{1}{4}$, SW $\frac{1}{4}$ SEC. 24, T33S, R7W
 37° 09' 32.04"N 98° 02' 07.28"W

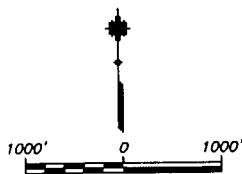
GARFIELD ST. LIFT STATION
 REPLACE EXISTING LIFT
 STATION AND FORCE MAIN

LOCATION: SW $\frac{1}{4}$, SW $\frac{1}{4}$, NE $\frac{1}{4}$ SEC. 24, T33S, R7W
 37° 09' 38.10"N 98° 01' 46.18"W



MECHANICAL BAR SCREEN
 EXISTING SEWAGE TREATMENT
 PLANT BAR SCREEN INSTALLATION

LOCATION: SE $\frac{1}{4}$, NE $\frac{1}{4}$, NE $\frac{1}{4}$ SEC. 35, T33S, R7W
 37° 07' 59.50"N 98° 02' 20.86"W



LOCATION MAP ANTHONY, KANSAS