

KANSAS GEOLOGICAL SURVEY

1930 Constant Ave., Campus West
The University of Kansas
Lawrence, Kansas 66047-3726
Phone: 785-864-3965
Fax: 785-864-5317

Mr. David Vagts
EBH & Associates
1105 Williams
Great Bend, KS 67530

December 4, 2006

Dear Mr. Vagts,

I received a notice to review your project for construction of a new wastewater treatment facility for the city of Wakeeny. The soil information from the NRCS for Trego County is limited in descriptions. The descriptions available suggest that the soils are predominantly silt-loams with fine root channels, tubular pore spaces, and root casts observable in the upper 10 ft. These descriptions plus work that I have done in areas of northwest and southwest Kansas suggests that the soil may have preferential flow channels present. If this is the case then care should be taken to prevent leakage from the new lagoon cells by use of a liner.

Although the water table is 65 to 80 feet deep in this area (based on the water well records available) the presence of loess at the surface with the potential of preferential flow channels can permit rapid movement of contaminants if the lagoon should leak.

In addition, I noticed that a number of monitoring wells are present in the section where the treatment plant is to be placed. It might be useful to determine the cause that resulted in this large number of wells in the area. I do not have access to water quality data from this area but it might be helpful to contact the groups that have the monitoring wells to determine what the water quality is in the area prior to beginning your project.

Overall, I do not have objections to the project. The comments above are observations from other studies done in western Kansas in areas with similar geology. I think the geology and depth to water are suitable for this project as long as some precautions can be taken.

The above discussion represents the information that the Kansas Geological Survey has on this proposed site. Other geologic conditions, not discussed here, might affect the stability or safe operation of the proposed. The information provided in this letter is from regional (countywide and statewide) studies and should not be used as a substitute for detailed site investigations by a licensed geologist or engineer. It is the responsibility of the applicant to produce the detailed site evaluation.

Sincerely,

Margaret A. Townsend
Hydrogeologist

EBH & Associates

Evans - Bierly - Hutchison & Associates, P.A.

1105 Williams

Great Bend, Kansas 67530-4487

(620) 793-8411

FAX (620) 793-8413

ENGINEERS - SURVEYORS

October 31, 2006

Margaret Townsend
Dr. William Harrison, Director
Kansas Geological Survey
KU-1930 Constant Ave-Campus West
Lawrence, Kansas 66047

RE: Intergovernmental Review for Environmental Clearance/Comment
Kansas Water Pollution Control Revolving Fund (KWPCRLF) Program
Wastewater Treatment Facilities (WWTF) Improvements
City of WaKeeney, Kansas

Mr. Harrison:

The City of WaKeeney, Trego County, Kansas is applying for a loan through the KWPCRLF program administered by the Kansas Department of Health & Environment (KDHE) for the financing of major WWTF Improvements project and potentially with a grant from the Community Development Block Grant program. As a part of the process, KDHE must prepare an environmental clearance document to the project based on clearances/comments received from an intergovernmental review.

The purpose of this letter is to request such a review from your agency. Enclosed are data and information regarding the project, hopefully sufficient for your needs. However, if further information or assistance is needed, please contact me at (620) 793-8411.

David A Vagts
EBH & Associates
1105 Williams
Great Bend, Kansas 67530

Please return clearances/comments to me at the address above by December 31, 2006 for forwarding to KDHE as a part of the City's loan application. Thanks for your help and cooperation with these matters.

Sincerely,
EBH & Associates

David A. Vagts
David A Vagts

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Project Description Form

Project Location: The existing WaKeeney Wastewater Treatment Plant, Kansas Permit No.: M-SH38-0001 is located south of the City of WaKeeney, Trego County, Kansas. It's legal description is SE 1/4, SW 1/4, SE 1/4, Section 9, Township 12S, Range 23W. The proposed location for the wastewater treatment lagoons is S1/2, NE1/4 of Section 16, Township 12S, Range 23W. The project area also includes portions of Sections 9 and 16. The project delineation and locations are shown on Figure 1.

Project Type: Construction of new screening facility
Construction of new pumping station and forcemain
Construction of new discharging 3-cell lagoon system
Construct new outfall structure
Abandonment of existing Wastewater Treatment Plant (WWTP)
Rehabilitation of existing pumping station and new forcemain
Construction of new pumping station and forcemain
Abandonment of existing pumping station

*discharge
line
portion*

Project Need:

The project is necessary for the City of Wakeeney to upgrade their wastewater treatment capabilities to meet new discharge permit limitations imposed by the U.S. Environmental Protection Agency, via the Kansas Department of Health and Environment and improve the reliability of the sanitary sewer collection system.

Attached Figure 1 shows the location of the new wastewater lagoon facility, screening facility, primary pumping station as well as the route for the associated forcemain that will be constructed as part of the project. Figure 1 also indicates the location of the pumping stations 1 and 2 that will be rehabilitated or replaced and their associated piping. The existing wastewater treatment plant will be demolished and the site restored to grass. Work will be performed at any or all of these locations. The entire area as delineated on Figure 1 is included in this request.

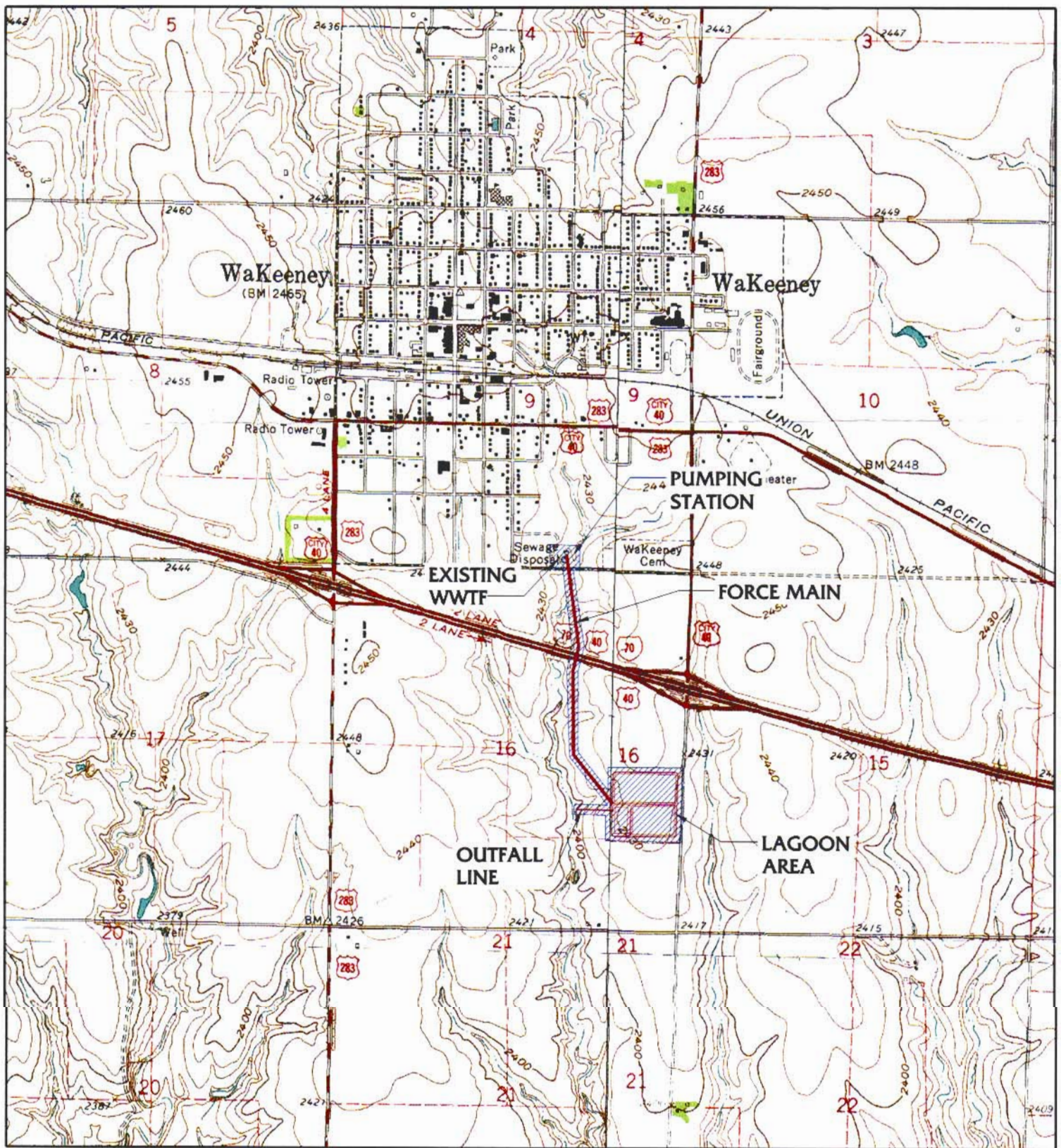
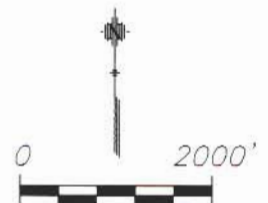


FIGURE 1
SITE LOCATION MAP
WWTF WaKEENEY, KANSAS

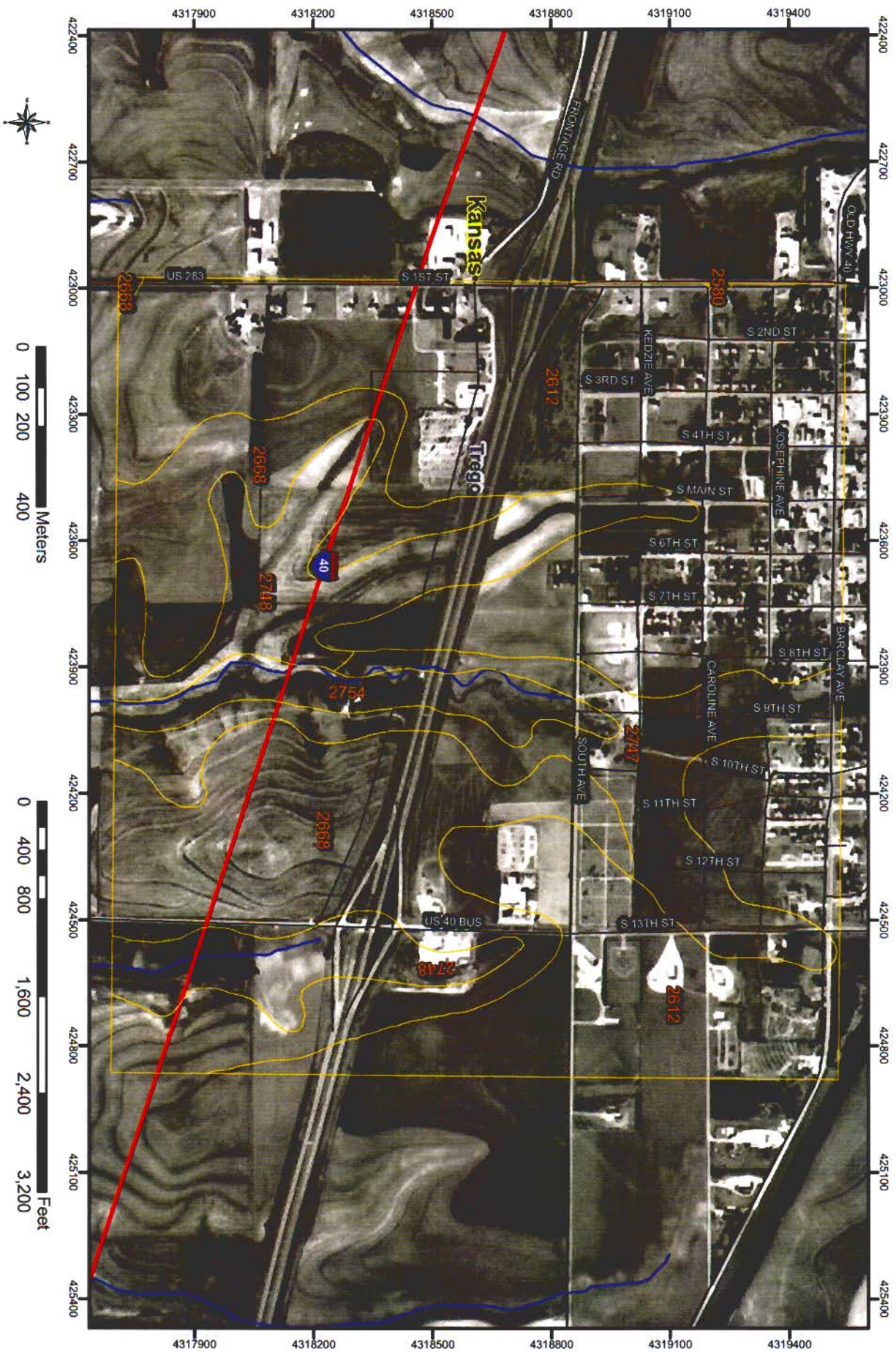


EBH & Associates
 ENGINEERS, PLANNERS & SURVEYORS

Evans-Bierly-Hutchison & Associates, P.A.

Offices in Kansas
 Great Bend, Cimarron, Goodland,
 Neodesha, & Pratt

SOIL SURVEY OF TREGO COUNTY, KANSAS



SOIL SURVEY OF TREGO COUNTY, KANSAS

MAP LEGEND

	Soil Map Units
	Cities
	Detailed Counties
	Detailed States
	Interstate Highways
	Roads
	Rails
	Water
	Hydrography
	Oceans
	Escarpment, bedrock
	Escarpment, non-bedrock
	Gully
	Levee
	Slope
	Blowout
	Borrow Pit
	Clay Spot
	Depression, closed
	Eroded Spot
	Gravel Pit
	Gravelly Spot
	Gully
	Lava Flow
	Landfill
	Marsh or Swamp
	Miscellaneous Water
	Rock Outcrop
	Saline Spot
	Sandy Spot
	Slide or Slip
	Sinkhole
	Sodic Spot
	Spoil Area
	Stony Spot
	Very Stony Spot
	Perennial Water
	Wet Spot

MAP INFORMATION

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL: <http://websoilsurvey.nrcs.usda.gov>
Coordinate System: UTM Zone 14
Soil Survey Area: Trego County, Kansas
Spatial Version of Data: 1
Soil Map Compilation Scale: 1:24000

Map comprised of aerial images photographed on these dates:
9/16/1991; 9/25/1991

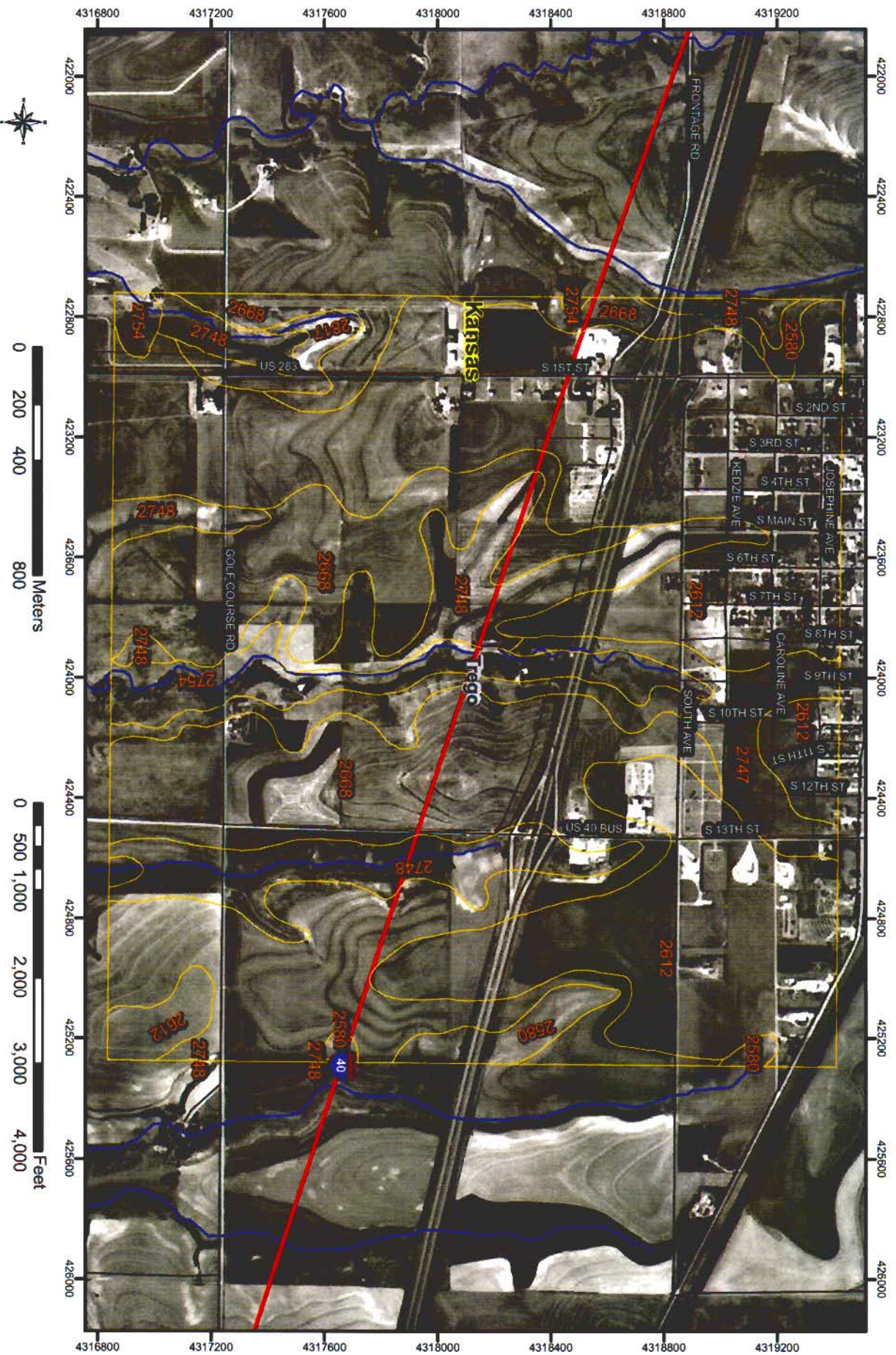
The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend Summary

Trego County, Kansas

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
2580	Coly silt loam, 3 to 6 percent slopes	0.2	0.0
2612	Harney silt loam, 0 to 1 percent slopes	455.1	50.5
2668	Holdrege silt loam, 1 to 3 percent slopes	215.9	23.9
2747	Penden clay loam, 3 to 7 percent slopes	90.2	10.0
2748	Penden clay loam, 3 to 7 percent slopes, eroded	109.6	12.2
2754	Penden loam, 7 to 15 percent slopes	31.0	3.4

SOIL SURVEY OF TREGO COUNTY, KANSAS



SOIL SURVEY OF TREGO COUNTY, KANSAS

MAP LEGEND

- Soil Map Units
- Cities
- Detailed Counties
- Detailed States
- Interstate Highways
- Roads
- Rails
- Water
- Hydrography
- Oceans
- Escarpment, bedrock
- Escarpment, non-bedrock
- Gulley
- Levee
- Slope
- Blowout
- Borrow Pit
- Clay Spot
- Depression, closed
- Eroded Spot
- Gravel Pit
- Gravelly Spot
- Gully
- Lava Flow
- Landfill
- Marsh or Swamp
- Miscellaneous Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
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- Sinkhole
- Sodic Spot
- Spoil Area
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Map comprised of aerial images photographed on these dates:
9/16/1991; 9/25/1991; 9/22/1992

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Map Unit Legend Summary

Trego County, Kansas

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
2580	Coly silt loam, 3 to 6 percent slopes	34.9	2.0
2612	Harney silt loam, 0 to 1 percent slopes	694.2	40.6
2668	Holdrege silt loam, 1 to 3 percent slopes	580.3	33.9
2747	Penden clay loam, 3 to 7 percent slopes	98.9	5.8
2748	Penden clay loam, 3 to 7 percent slopes, eroded	206.3	12.1
2754	Penden loam, 7 to 15 percent slopes	77.5	4.5
2817	Uly silt loam, 3 to 6 percent slopes	19.5	1.1