

Harlan D. Foraker, P.E.
Certified Engineering Design, P. A.
810 West Douglas, Suite C
Wichita, KS 67203-6105

Dear Mr. Foraker,

I was asked to comment on the wastewater treatment expansion plans for the City of Haven. I noticed that the area of the proposed lagoon expansion is situated on loam and silty clay loam soils. These soils are of moderate permeability and suitable for the lagoons provided that the soil is well compacted or lined. I did a study of nitrate in the ground water in the Haven area in 1997. One of the potential sources of nitrate was from sewage overflow and septic tanks. The soils in the area are moderately permeable and can move wastewater to the Equis Beds aquifer so the issue concerning the possible need for liners should be addressed.

The project is needed and should proceed provided that the question of liners or compaction of the lagoons is addressed.

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
Geohydrology Section

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 Historic Preservation Office
☐ Kansas Water Office
☐ Kansas Department of Wildlife and Parks
☐ US Dept. of Agriculture - Natural Resources Conservation Service
☐ Kansas Department of Health and Environment
☐ US Department of the Interior - Fish and Wildlife Service

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 reviewing 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, but the applicant (in the application) should address or clarify the questions or concerns indicated above.

Margaret A. Townsend KGS 12-21-07
Reviewer's Name Division/Agency/Commission Date

Project Title: Public Water Supply Loan Fund Application

Applicant: City of Haven, Kansas
Contact Person: Harlan Foraker, P.E.
Address: 810 W. Douglas, Suite C
City, State: Wichita, Kansas Zip: 67203 Phone: (316) 262-8808

CERTIFIED ENGINEERING DESIGN, P.A.

810 West Douglas, Suite C
Wichita, KS 67203-6105
(316)262-8808 Office
(316)262-1669 Fax

November 1, 2007

Ms. Margaret A. Townsend
Kansas Geological Survey
University of Kansas
1930 Constant Avenue
Campus West
Lawrence, KS 66047

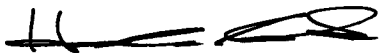
Re: Proposed Wastewater Lagoon Expansion
Haven, Reno County, KS

Dear Ms. Townsend:

This letter is to notify your agency of a proposed expansion of the wastewater treatment lagoon facility for the City of Haven, Kansas. An expansion is being proposed to add a primary cell approximately 6 acres in size which will connect to the existing north berm and extend to the north of the existing lagoons. The proposed expansion is shown as the Proposed 6 acre Primary Cell on the attached lagoon site plan drawing. The existing wastewater lagoons are permitted under NPDES permit #M-AR41-0001 and are located in the W.½ of E. ½ of the S.W. ¼ of Section 4, Township 25 South, Range 4 West, Reno County, Kansas. The receiving stream for the lagoon discharge is the Gar Creek.

The site of the proposed lagoon expansion is currently owned by the City of Haven. An aerial photograph of the site and a site plan for the proposed lagoon expansion are attached for your review. The proposed lagoon expansion is proposed to begin in the Spring of 2008 and we would appreciate receiving your comments within 30 days of this letter. If you have any questions or desire additional information please call me at (316)262-8808.

Sincerely,



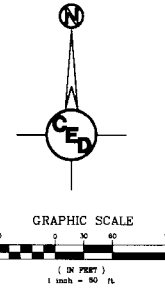
Harlan D. Foraker, P.E.
Kansas P.E. No. 10891
CERTIFIED ENGINEERING DESIGN, P.A.

attachments

cc: Allen Blake, City Administrator, City of Haven, 120 South Kansas, Haven, KS 67543
Sathishkumar Santharam, KDHE, Curtis State Bldg., 1000 S.W. Jackson St., Suite 420, Topeka, KS 66612

**APPROXIMATE 19
ACRES EXISTING
VACANT
PROPERTY**

770'



**-PROPOSED FLOW
DIRECTION**

**PROPOSED 6" PVC
FORCE MAIN**

**PROPOSED VALVE
PIT STRUCTURE**

**DISCHARGE INTO
NEW LAGOON**

600'

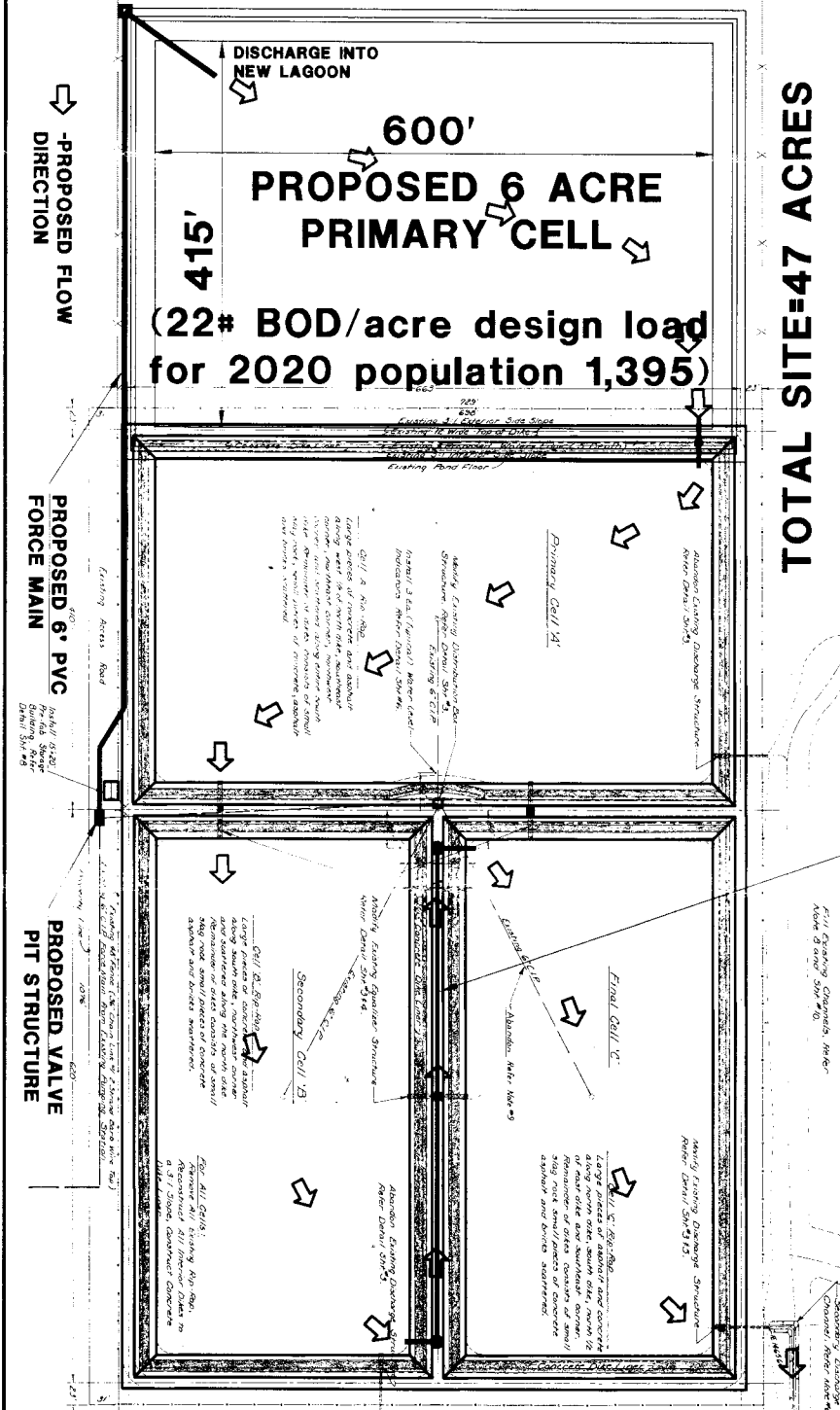
**PROPOSED 6 ACRE
PRIMARY CELL**

**(22# BOD/acre design load
for 2020 population 1,395)**

415'

TOTAL SITE=47 ACRES

**INSTALL 600 L.F. 8'
NEW TRANSFER PIPING
FROM CELL B TO CELL
C TO ELIMINATE
SHORT CIRCUITING**



PROPOSED WASTEWATER LAGOON IMPROVEMENTS CITY OF HAVEN HAVEN, REND COUNTY, KANSAS PROJ. NO.: CERTIFIED ENGINEERING DESIGN, P.A. 810 WEST DOUGLAS, SUITE C WICHITA, KANSAS 67203 PH.(316)262-8808 FAX.(316)262-1669			
DESIGNED: HOF	SCALE: 1"=50'	SHEET	
DRAWN: HOF	DATE: DATE	1	
CHECKED: ENGINEER	CED FILE: CED-100X	TOTAL: 1	

HAVEN LAGOON



Web Soil Survey 2.0
National Cooperative Soil Survey

MAP LEGEND

	Area of Interest (AOI)		Very Stony Spot
	Soils		Wet Spot
	Area of Interest (AOI)		Other
	Soil Map Units	Special Line Features	
	Special Point Features		Gully
	Blowout		Short Steep Slope
	Borrow Pit		Other
	Clay Spot	Political Features	
	Closed Depression		Public Land Survey
	Gravel Pit		Township and Range
	Gravelly Spot		Section
	Landfill	Municipalities	
	Lava Flow		Cities
	Marsh		Urban Areas
	Mine or Quarry	Water Features	
	Miscellaneous Water		Oceans
	Perennial Water		Streams and Canals
	Rock Outcrop	Transportation	
	Saline Spot		Rails
	Sandy Spot		Roads
	Severely Eroded Spot		Interstate Highways
	Sinkhole		US Routes
	Slide or Slip		State Highways
	Sodic Spot		Local Roads
	Spoil Area		Other Roads
	Stony Spot		

MAP INFORMATION

Original soil survey map sheets were prepared at publication scale. Viewing scale and printing scale, however, may vary from the original. Please rely on the bar scale on each map sheet for proper map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL: <http://websoilsurvey.nrcs.usda.gov>
Coordinate System: UTM Zone 14N

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Reno County, Kansas
Survey Area Data: Version 4, Dec 20, 2006

Date(s) aerial images were photographed: 1991; 8/17/1991

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

Reno County, Kansas (KS155)			
Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
5832	Punkin-Taver complex, 0 to 1 percent slopes	20.2	1.2%
5867	Avans loam, 0 to 1 percent slopes	7-27% clay 28-50% silt 1,329.6	77.9%
5868	Avans loam, 1 to 3 percent slopes	252% sand 224.1	13.1%
5925	Penalosa silt loam, 0 to 1 percent slopes	132.1	7.7%
Totals for Area of Interest (AOI)		1,706.0	100.0%

silty clay
47% silt
clay + sand
~ equal