



Brian Foster, E. I. T.
BG Consultants, Inc.
4806 Vue Du Lac Place
Manhattan, KS 66503

Geohydrology Section
Kansas Geological Survey
1930 Constant Avenue
Lawrence, KS 66047
September 5, 2008

Dear Mr. Foster:

I am replying to your letter concerning the City of Ogden's improvements to their wastewater treatment system. Looking over the materials available to me it appears that the ground-water table in the area ranges from 10 to 20 feet in depth. The soils in the area are a fine sandy loam and are permeable.

The main question I have concerns whether the lagoon will be lined or not. If a leak should occur in the lagoon then contamination of the ground water in the area is a possibility. I presume that KDHE requires a liner but if not I would strongly suggest it. In addition, the location of the lagoon is near a stream. I presume that the engineering design includes some sort of berm or levee in case of flooding in the area.

I think the project should occur if the above suggestion is given consideration. 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,

A handwritten signature in cursive script that reads 'Margaret A. Townsend'.

Margaret A. Townsend
Hydrogeologist

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.

<u> </u>	Army Corps of Engineers
<u> </u>	Kansas Biological Survey
<u> </u>	State Conservation Commission
<u> </u>	Kansas Corporation Commission
<u> </u>	Division of Water Resources/Kansas Department of Agriculture
<u> ✓ </u>	Kansas Geological Survey
<u> </u>	Kansas State Historical Society, State Historic Preservation Office
<u> </u>	Kansas Water Office
<u> </u>	Kansas Department of Wildlife & Parks
<u> </u>	US Dept of Agriculture - Natural Resources Conservation Service
<u> </u>	Kansas Department of Health and Environment
<u> </u>	US Dept 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.)

<u> ✓ </u>	Clearance of project should be granted
<u> </u>	Clearance of project should not be granted
<u> </u>	Clearance of project should be delayed until the issues or questions have been clarified.
<u> </u>	Clearance of project should not be delayed, but the applicant (in the application) should address or clarify the questions or concerns indicated above.)

<u>Margaret A. Townsend</u>	<u>KGS</u>	<u>9-5-08</u>
Reviewer's Name	Division/Agency/Commission	Date

Project Title: Public Water Supply Loan Fund Application

Applicant: City of Ogden

Contact Person: Brian Foster

Address: 4806 Vue Du Lac Place

City, State: Manhattan, KS Zip: 66503 Phone: (785)-537-7448
ext. 1113

August 05, 2008

Kansas Geological Survey
University of Kansas
1930 Constant Ave, Campus West
Lawrence, KS 66047

RE: Environmental Review – Ogden, KS –Sanitary Sewer System Improvements

Dear Sirs:

The City is preparing an application to the Kansas Department of Health and Environment for a loan from the Kansas Public Water Supply Loan Fund and a \$400,000 Department of Commerce Block Grant. The proposed project will include improvements to the current lagoon facility by converting it from a 3-cell non-discharging facility to a 3-cell continuously discharging lagoon system. The improvements will include cell reconstruction, lagoon piping, forcemain, and structures. The proposed improvements to the City of Ogden's wastewater treatment facility will cost approximately \$1,654,000.

The improvements will be located in Sections 7, Township 11S, Range 7E, and Section 12, Township 11S, Range 6E Riley County, Kansas.

I am attaching the explanation of alternatives and an aerial map of the proposed improvements.

Please submit your response to BG Consultants, Inc., 4806 Vue Du Lac Place, Manhattan KS 66503.

Please contact me at (785) 537-7448 Ext. 1113 or via email at brian.foster@bgcons.com with any questions you might have.

Sincerely,



Brian J. Foster, E.I.T.

Enc.



Also

Lawrence, KS. • Hutchinson, KS • Emporia, KS

SECTION 1

INTRODUCTION

1.1 REPORT OBJECTIVE

This evaluation has been prepared for the purpose of planning improvements to the wastewater treatment facility currently serving the City of Ogden, Kansas. This evaluation provides an analysis of the existing 3 cell lagoon system along with recommended improvements. Typically reports of this nature consider a 20 year design period for recommendation. The City of Ogden is experiencing substantial development. This report is intended to address the immediate issues pertaining to the wastewater treatment facility, and will discuss long term planning.

1.2 EXECUTIVE SUMMARY

OVERVIEW: The evaluation was conducted at the request of the City. The City's current water pollution control permit mandated a study of the lagoon system be performed. The main initial concern for this study was the condition and permeability of the existing clay liner within all the cells. The permeability of cell C was found to be deficient and does not meet the current KDHE permit requirements. The facility was also found to be exceeding the rated capacity for a facility of this type. Immediate improvements are required to maintain KDHE compliance.

ALTERNATIVES: Several possible alternatives were examined and were discussed with the City. A summary of the alternatives are listed below

- NO ACTION – This is determined to be not an option due to the unreasonable response regarding public health and KDHE compliance.
- 3 CELL NON-DISCHARGING LAGOON – This is the type of system the City currently operates. Repairs to the lagoon's liners would lower the maximum capacity of the system. Due to the current population this is not considered a viable option.
- 3 CELL DISCHARGING LAGOON – This would be the most economical way to provide increased treatment capacity. However, the future population of Ogden may exceed the capacity of this facility. At that time the new improvement would supplement a new mechanical plant.
- 4 CELL DISCHARGING LAGOON – This option is very similar to the 3 cell option with an additional cell constructed. This option would increase the design capacity even more, but would be larger than typical lagoon facilities.
- MECHANICAL PLANT – This is the long term solution required when the design population exceeds 4,000 to 5,000 capita. If the City's population were to increase past the normal design capacities of lagoon systems, this option would be required in order to provide the City with reliable wastewater treatment for the next 20 years. However, due to the compliance schedule, population

projections, and financial feasibility this option should be considered as the second phase to be constructed if and when the service demands increase.

1.3 RECOMMENDATIONS:

It is recommended that the existing wastewater treatment facility be converted from a 3-cell non-discharging facility to a 3-cell continuously discharging lagoon system. This option is a cost effective solution that will provide the City with the capability of serving a population equivalency (P.E.) of approximately 4,200. The recommended Phase I improvements to the City of Ogden wastewater treatment facility will cost approximately \$1,654,000.

1.4 FUNDING:

There are several different funding options available to the City of Ogden. The following is a brief description with the deadlines associated with each funding option.

- Community Block Development Grant (CDBG) – This grant program is a competitive program with a maximum possible grant of \$400,000 with a ceiling of \$2,000 per beneficiary. The City must attend a KIAC meeting before submitting for the grant. All grant applications must be submitted by the end of September and funds are typically awarded in January.
- State Revolving Loan Fund (KDHE-SRF) – This SRF loan is a 20 year loan with an interest rate and service fee of approximately 3%. Projects are selected for funding in May of each year and are competitive with other Cities.
- Rural Development (RD) – The Rural Development loan is a 40 year loan with an interest rate that may vary from 4%-5% and is competitive with other Cities, Counties, etc. The grants are based on a percentage of the project and will not exceed 75%. The Rural Development funding is from a federal pool of money that is awarded in October of each year.

1.5 USER RATES:

Currently, the sewer rate is based solely upon the customers potable water used and a typical 5,000 gallon per month water user would have a monthly sewer bill of \$13.40.

The proposed funding options are as follows with the proposed monthly bill for a 5,000 gallon per month user listed below. A detailed explanation of each option can be found in Section 7.

- SRF Loan – A 20 year loan for the entire project amount would require a monthly sewer bill for a 5,000 gallon per month user to be **\$25.60**.
- CDBG & SRF Loan – With a \$400,000 CDBG grant and a 20 year loan for the remainder of the project amount would require a monthly sewer bill for a 5,000 gallon per month user to be **\$23.15**.

- USDA Rural Development – With a 45% grant and a 40 year loan for for the remainder of the project amount would require a monthly sewer bill for a 5,000 gallon per month user to be **\$20.15**.

END OF SECTION

Additional Documentation
Not Scanned.

Available in Open-file.