

Geohydrology Section
1930 Constant Avenue
Lawrence, KS 66047-3724
March 10, 2009

Mr. Reg Jones, Director of Public Works
City of Hutchinson
P. O. Box 1567
Hutchinson, KS 67504-1567

Dear Mr. Jones :

I have reviewed the plans for the City of Hutchinson wastewater treatment facility biosolids handling improvements. The information supplied to me is limited but based on the received materials I think the project looks reasonable. I do have a few concerns about the new biosolids covered storage area and the process and area where land application of the biosolids will occur.

The soils in the area are generally sandy loams and are very permeable. The water table in the area is very shallow (less than 10 feet as indicated by our water well records). The aquifer that is used for water supply and irrigation is very near the surface and susceptible to potential contamination.

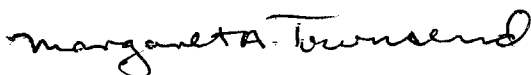
I presume that the biosolids storage area will have a floor or liner separating the biosolids from the underlying soils. If not, I would strongly suggest it. Even though the waste will be dewatered there is still a possibility of spills and contact of the waste with soil. Biological and/or chemical degradation of nutrients in the waste could result in the formation of nitrate which is highly mobile once it enters the soil zone.

Land disposal of the waste is a reasonable idea as long as the quantity of nutrients in the waste is not above the quantity needed for plant use. Excess nutrients, and possibly other contaminants in the waste, may be subject to leaching when exposed to rainfall or irrigation. There are several irrigation wells in the area, as shown by our water well records. If the biosolid waste is used at these sites some tests should be done to determine the maximum amount that can be disposed of without causing potential nitrate leaching issues.

If the above concerns are addressed then I have no problem with the project moving forward.

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

The following form may be used by the Review Agency/Commission for comments in response to the request for clearance from the proposed Water Pollution Control Revolving 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
☐ Kansas Water Office
☐ Kansas Department of Wildlife and Parks
☐ US Department of Agriculture – Natural Resource Conservation Service
☐ Kansas Department of Health and Environment
☐ US Department of Interior – Fish and Wildlife Service
☐ South Central Kansas Economic Development District

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

Comments: See attached letter

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 questions or concerns indicated above.

Margaret A. Townsend
Reviewer's Name

KWS
Division/Agency/Commission

3-10-09
Date

Project Title: Kansas Water Pollution Control Revolving Loan Fund Project
Hutchinson WWTF Biosolids Handling Improvements Project

Applicant: City of Hutchinson, Kansas
Contact Person: Reg Jones, Director of Public Works
Address: City of Hutchinson, P.O. Box 1567
City, State: Hutchinson, Kansas Zip: 67504-1567
Phone: (620) 694-1900 Fax: (620) 694-1980
Email: regj@hutchgov.com



P.O. Box 1567 / Hutchinson, KS 67504-1567

Telephone: 620 694-1900
FAX 620 694-1980

Office Of: Reg Jones
Director of Public Works
Email: regj@hutchgov.com

March 2, 2009

Dr. William Harrison
Kansas Geological Survey
KU – 1930 Constant Avenue
Campus West
Lawrence, Kansas 66047

RE: Environmental Clearance Review Request: Kansas Water Pollution Control Revolving Loan Fund (K.S.A. 1988 supp. 65-3321 et seq) Project No. C20-1780-01
Hutchinson Wastewater Treatment Facility (WWTF) Biosolids Handling Improvements Project

To Whom it May Concern:

The attached pages and drawings reflect a project description for the City of Hutchinson, Kansas on the commencement of Wastewater Treatment Facility Biosolids Handling Improvements. Completion of the project will allow the City of Hutchinson to comply with Federal Regulatory Permits.

The City of Hutchinson, Kansas is making application for Kansas Water Pollution Control Revolving Loan Funds through the Kansas Department of Health and Environment (KDHE) in an amount of \$4,625,000. The requested loan is for the total amount of the estimated project cost.

Please perform your review process and address your comments within thirty (30) days to:

Reg Jones, Director of Public Works
City of Hutchinson
P.O. Box 1567
Hutchinson, Kansas 67504-1567

Thank you for your consideration and attention to this project.

Sincerely,
City of Hutchinson

Reg Jones, Director of Public Works

F:\HutchWWTFbiosolidsKWPCRLFenvrevlet.doc (My Document/KDHE)



recycled and recyclable

City Hall Fax 316-694-2673
Central Purchasing Fax 316-694-1971
Fire Fax 316-694-2875

Flood / Refuse Fax 316-694-2650
Inspection Fax 316-694-2691
Municipal Court Fax 316-694-2858

Police Fax 316-694-2859
Public Works Fax 316-694-1980
Waste Water Plant Fax 316-694-2604

Kansas Department of Health and Environment

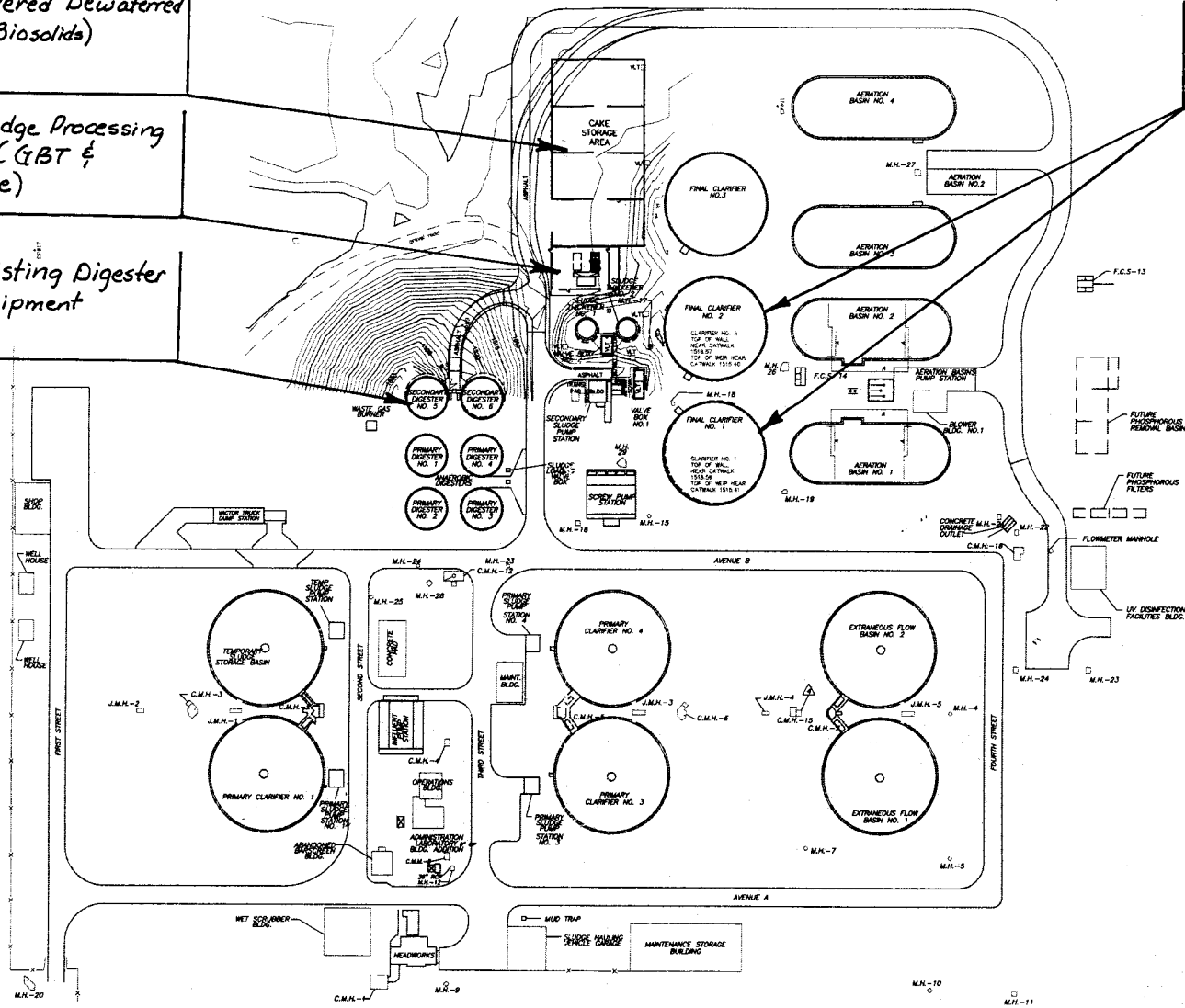
APPLICATION FOR SRF LOAN ASSISTANCE		New	Amendment
Project Number	C 20-1780 - 01	Application Type	☒ X
1. Legal Applicant / Recipient		2. Type of Applicant / Recipient	
Applicant Name	City of Hutchinson, Kansas	A. City B. County C. Other (Specify) Enter Appropriate Letter A	
Organization Unit	City (Municipal Government)		
Street / PO Box	125 E. Ave. B / P.O. Box 1567		
City	Hutchinson		
County	Reno		
State / Zip code	Kansas / 67504-1567		
Contact Person Name	Reginald D. Jones, Director of Public Works		
Telephone Number	(620) 694-1900		
3. Title of applicants project		Hutchinson Wastewater Treatment Facility Biosolids Handling Improvements Project	
4. Type of Project		Wastewater / Biosolids Treatment	
5. Employer Identification Number		48-6015517	
6. Area of project impact (Names of cities, counties, etc)		Hutchinson	
7a. Congressional District / Applicant		First	
7b. Congressional District / Project		First	
8. Type of change		Increase dollars	\$ -
		Decrease dollars	\$ -
9. Proposed Funding			
SRF Loan 9a.	\$ 4,625,000	Construction	
Applicant 9b.	\$ -	10. Project Start Date 10/01/09	
CDBG 9c.	\$ -	(Estimated)	
EPA 9d.	\$ -	11. Project Duration 12	
EDA 9e.	\$ -	(Months)	
Other 9f.	\$ -	12. Date Submitted 04/15/09	
Total	\$ 4,625,000	(To KDHE)	
13. Requested Loan Repayment Period (Must not be over 20 years)		20	
14. The applicant certifies that: To the best of my knowledge and belief, data in this pre-application / application is true and correct, the document has been duly authorized by the governing body of the applicant and the applicant will comply with the attached assurances if the assistance is approved		This notice of intent / preapplication / application was made available to the state executive order 12372 process for review on: Date	
15. Certifying Representative		Signature	
Name	Reginald D. Jones		
Title	Director of Public works		
Mail completed application to: Kansas Department of Health and Environment Bureau of Water / Attn: Rod Geisler Municipal Programs Section, Suite 420 1000 SW Jackson Street Topeka, KS 66612-1367		If you need assistance please contact: Brenda Diegel Administrative / Finance Section, Suite 420 1000 SW Jackson Street Topeka, KS 66612-1367 785-296-4262	

NEW: Covered Dewatered
Sludge (Biosolids)
Storage

NEW: Sludge Processing
Building (GBT &
Centrifuge)

NEW: Existing Digester
and Equipment
Repairs

NEW: Existing Final
Clarifiers #1 & #2
Equipment Retrofit



S:\0482\66802\CHW\ CSTRLOC2 11/21/08 17:46 gsdwnc1 JBEESS CDM 2234 XSTRLOC2 XSTRLOC1 X-TOPD

REV.	DATE	DRWN	CHKD	REMARKS

DESIGNED BY: A. BOSCH
DRAWN BY: E. DOK
SHEET CHECKED BY:
CROSS CHECKED BY:
APPROVED BY:
DATE: NOVEMBER 2008

CDM
Camp Dresser & McKee Inc.
1620 Wood Parkway
Kansas City, MO 64114
Tel: (816) 444-6270
consulting • engineering • construction • operations

HUTCHINSON, KANSAS
**WASTEWATER TREATMENT FACILITY
BIOSOLIDS HANDLING IMPROVEMENTS**

OVERALL SITE PLAN

PROJECT NO. 8082-86802
FILE NAME: CSTRLOC2
SHEET NO.
C-2

30% SUBMITTAL - NOT FOR CONSTRUCTION

RECEIVED
00101003

PUBLIC WORKS DEPT.
CITY OF HUTCHINSON

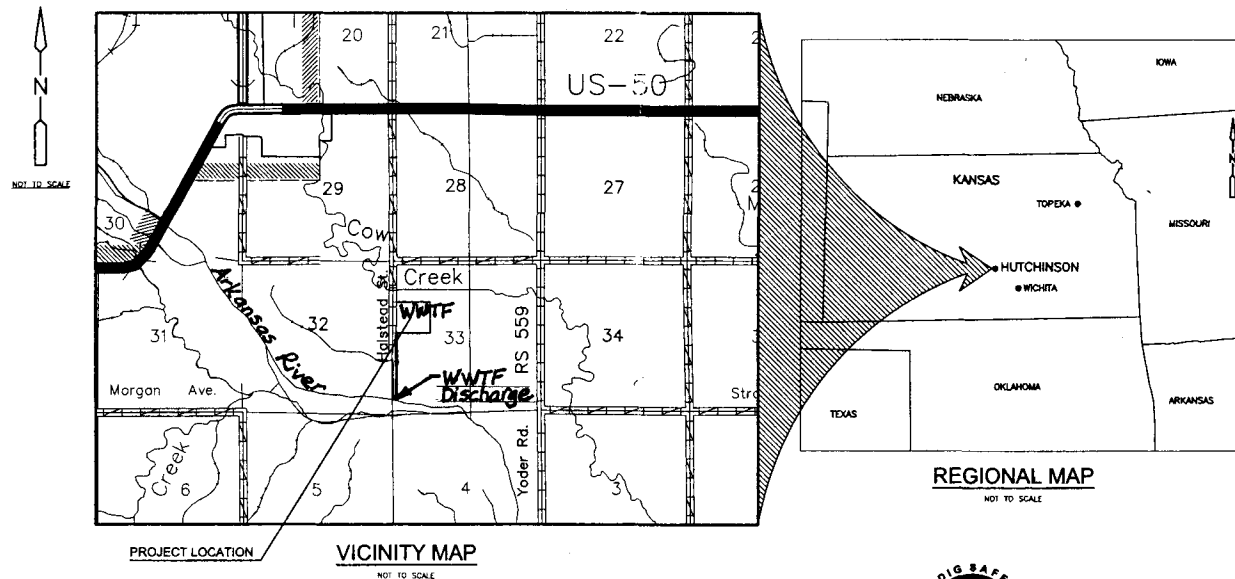
*City of
Hutchinson*

CITY OF HUTCHINSON, KANSAS PUBLIC WORKS DEPARTMENT

WASTEWATER TREATMENT FACILITY BIOSOLIDS HANDLING IMPROVEMENTS

W.I.P. #XX-XX

NOVEMBER 2008



PROJECT LOCATION

VICINITY MAP

NOT TO SCALE

PREPARED BY:

CDM

Camp Dresser & McKee Inc.

consulting
engineering
construction
operation

345 RIVERVIEW, SUITE 520
WICHITA, KANSAS 67203
CDM PROJECT NO. 8062-66802
PHONE NO. 316-660-6700



SET NO. _____

30% SUBMITTAL

HUTCHINSON, KANSAS

WASTEWATER TREATMENT FACILITY (WWTF)

BIOSOLIDS HANDLING IMPROVEMENTS PROJECT

Financing:

The City of Hutchinson intends to finance the project through the Kansas water Pollution Control Revolving Loan Fund (KWPCRLF), as administered by the Kansas Department of Health and Environment (KDHE), with a rate of approximately 3.20%.

Background:

The Hutchinson Wastewater Treatment Facility (WWTF) is operated by the City of Hutchinson and is located southeast of the City at 3906 S. Halstead. The WWTF has been providing secondary treatment of domestic wastewater for about 50 years. Improvements were made in the mid 1980's and again in the early 1990's to increase treatment efficiency of the facility. Improvements were again made in the early to mid 2000's to further increase treatment capacity and treatment efficiencies. May of these improvements were prompted by regulatory changes and primarily focused on the liquid treatment stream of the WWTF and not on the biosolids (sludge - wastewater treatment byproduct) treatment stream. The WWTF discharges to the Arkansas River under a National Pollutant Discharge Elimination System (NPDES) Permit. The City disposes of the wastewater treatment biosolids in compliance with Federal and State regulations, and currently applies biosolids in liquid form to agricultural farmground for beneficial reuse.

In 2006 the City hired Camp Dresser & McKee, Inc. to prepare a Wastewater Treatment Facility (WWTF) Solids Handling Study and Digester Cleaning and Evaluation. Staff recommended the study based on the steadily increasing amounts of municipal sewage sludge/biosolids produced as a by-product of the enhanced treatment processes put in place during the 2004 WWTF upgrade and the need for more precise control of biosolids removal from the processes. In 2008 the findings and recommendations of the study were discussed with the City Council and the Council authorized the design and construction of the project to proceed.

Existing Facility:

The WWTF utilizes the activated sludge process for organic waste and biological nutrient removal. The existing treatment facility consists of the following structures:

- Headworks Facility
- Influent Pump Station
- Primary Clarifiers
- Screw Pump Station
- Aeration Basins
- Final Clarifiers
- UV Disinfection
- Sludge Pump Stations
- Sludge Thickeners
- Sludge Storage Basin
- Anaerobic Sludge Digesters
- Extraneous Flow Basins

The facility location is: NW1/4, Section 33, T 23S, R 5W, Reno County, Kansas.

Project Description

It was determined that land application of dewatered sludge is the most economically favorable end use for the digested biosolids produced at the Hutchinson WWTF. This project will decrease the volume of biosolids disposed of thus decreasing disposal costs while providing added protection to our water resources and ensuring compliance with Federal Regulations. The following are the components of the project:

1. Replace the existing gravity waste activated sludge thickeners with a gravity belt thickener (GBT);
2. Install digested sludge dewatering equipment consisting of a centrifuge;
3. Construct a covered storage facility for the dewatered sludge;
4. Retrofit the existing final clarifiers 1 and 2 with a spiral rake sludge removal system;
5. Make miscellaneous digester repairs and possibly replace the existing gas compressors.

A partial plan layout of the WWTF facility with the improvements is attached for reference.

Project Cost

The estimated project costs are summarized below:

Gravity Belt Thickener (Sludge Thickening)	\$1,105,000
Centrifuge (Sludge Dewatering)	\$1,915,000
Dewatered Sludge Storage	\$ 691,000
Final Clarifier 1 & 2 Retrofit	\$ 749,000
Digester and Equipment Repairs	<u>\$ 165,000</u>
Total	\$4,625,000

Of the \$4,625,000 project cost, \$658,250 is for design and construction engineering costs and \$3,966,750 is for construction costs.

Project Schedule

Notice of Public Hearing for Loan Application	March 3, 2009
Date of Pubic Hearing	April 7, 2009
Complete Design	July, 2009
Bid Project	August, 2009
Begin Construction	October 2009
Complete Construction	October 2010

Impact on City Sewer Users

Revenue to pay off the loans for this project will come from Sewer Utility rate revenues. A sewer rate study was completed in February of 2004, which evaluated the impact of the project on future sewer rates. The rates as determined in the rate study were adopted by the City Council for 2005 - 2009. An average residential sewer user using 8 hcf¹ of water per month will pay a monthly sewer user charge of \$20.06 per month in 2009. With the projected completion of the project in 2010, rate increases for years after 2009 will need to be evaluated and adopted by the City Council. Based on current budget allocations and estimated project costs, it is anticipated that the project will have minimal impact on the City sewer users. It is estimated that the average residential sewer user will pay a monthly sewer user charge of around \$22.50 per month in 2011.

¹ water rate billing unit – 1 hcf = one-hundred cubic feet = 748 gallons