

STATE OF MISSOURI
DEPARTMENT OF NATURAL RESOURCES

MISSOURI CLEAN WATER COMMISSION



MISSOURI STATE OPERATING PERMIT

In compliance with the Missouri Clean Water Law, (Chapter 644 R.S. Mo. as amended, hereinafter, the Law), and the Federal Water Pollution Control Act (Public Law 92-500, 92nd Congress) as amended,

Permit No.: MO-0115118
Owner: Village of Kelso
Owner's Address: P.O. Box 279, Kelso, MO 63758
Continuing Authority: Same as above
Continuing Authority's Address: Same as above
Facility Name: Village of Kelso Wastewater Treatment Facility
Facility Address: P.O. Box 279, Kelso, MO 63758
Legal Description: NE ¼, NE ¼, Sec. 18, T29N, R14E, Scott County
UTM Coordinates: X= 806708, Y= 4120741
Receiving Stream: Unnamed Tributary to Ramsey Creek (U)
First Classified Stream and ID: Ramsey Creek (P) (02346)
USGS Basin & Sub-watershed No.: (07140107-0603)
is authorized to discharge from the facility described herein, in accordance with the effluent limitations and monitoring requirements as set forth herein:

FACILITY DESCRIPTION

Outfall #001 – POTW –SIC #4952

The use or operation of this facility shall be by or under the supervision of a **Certified “D” Operator**

Two Cell Aerated Lagoon/Sludge is retained in lagoon.

Design population equivalent is 756.

Design flow is 75,600 gallons per day.

Actual flow is 50,676 gallons per day.

Design sludge production is 15 dry tons/year.

This permit authorizes only wastewater discharges under the Missouri Clean Water Law and the National Pollutant Discharge Elimination System; it does not apply to other regulated areas. This permit may be appealed in accordance with Section 644.051.6 of the Law.

June 1, 2013

Effective Date

Sara Parker Pauley, Director, Department of Natural Resources

May 31, 2018

Expiration Date

John Madras, Director, Water Protection Program

A. INTERIM EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS					PAGE NUMBER 2 of 8	
					PERMIT NUMBER MO-0115118	
The permittee is authorized to discharge from outfall(s) with serial number(s) as specified in the application for this permit. The interim effluent limitations shall become effective upon issuance and remain in effect until May 31, 2017 . Such discharges shall be controlled, limited and monitored by the permittee as specified below:						
OUTFALL NUMBER AND EFFLUENT PARAMETER(S)	UNITS	INTERIM EFFLUENT LIMITATIONS			MONITORING REQUIREMENTS	
		DAILY MAXIMUM	WEEKLY AVERAGE	MONTHLY AVERAGE	MEASUREMENT FREQUENCY	SAMPLE TYPE
Outfall #001						
Flow	MGD	*		*	once/month	24 hr. estimate
Biochemical Oxygen Demand ₅ ***	mg/L		65	45	once/month	grab
Total Suspended Solids ***	mg/L		110	70	once/month	grab
pH – Units	SU	**		**	once/month	grab
Ammonia as N	mg/L	*		*	once/month	grab
<i>E. coli</i> (Note 1)	#/100 ml		1030	206	once/month	grab
Oil & Grease	mg/L	15		10	once/month	grab
MONITORING REPORTS SHALL BE SUBMITTED <u>MONTHLY</u> ; THE FIRST REPORT IS DUE <u>JULY 28, 2013</u> . THERE SHALL BE NO DISCHARGE OF FLOATING SOLIDS OR VISIBLE FOAM IN OTHER THAN TRACE AMOUNTS.						
Whole Effluent Toxicity (WET) test	% Survival	See Special Condition #20			once/5 years	24 hr. composite
MONITORING REPORTS SHALL BE SUBMITTED <u>ONCE/5 YEARS</u> ; THE FIRST REPORT IS DUE <u>JANUARY 28, 2016</u> .						
B. STANDARD CONDITIONS						
IN ADDITION TO SPECIFIED CONDITIONS STATED HEREIN, THIS PERMIT IS SUBJECT TO THE ATTACHED <u>Parts I, II, & III</u> STANDARD CONDITIONS DATED <u>October 1, 1980 and August 15, 1994</u> , AND HEREBY INCORPORATED AS THOUGH FULLY SET FORTH HEREIN.						

A. INTERIM EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS (continued)

- * Monitoring requirement only.
- ** pH is measured in pH units and is not to be averaged. The pH is to be maintained at or above 6.0 pH units.
- *** This facility is required to meet a removal efficiency of 65% or more. Influent and effluent samples used to determine percent removal shall be taken the same day.

Note 1 - Final limitations and monitoring requirements for *E. coli* are applicable only during the recreational season from April 1 through October 31. The Monthly Average Limit for *E. coli* is expressed as a geometric mean. The Weekly Average for *E. coli* will be expressed as a geometric mean if more than one (1) sample is collected during a calendar week (Sunday through Saturday).

A. FINAL EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS					PAGE NUMBER 3 of 8	
					PERMIT NUMBER MO-0115118	
The permittee is authorized to discharge from outfall(s) with serial number(s) as specified in the application for this permit. The final effluent limitations shall become effective June 1, 2017 , and remain in effect until expiration. Such discharges shall be controlled, limited and monitored by the permittee as specified below:						
OUTFALL NUMBER AND EFFLUENT PARAMETER(S)	UNITS	FINAL EFFLUENT LIMITATIONS			MONITORING REQUIREMENTS	
		DAILY MAXIMUM	WEEKLY AVERAGE	MONTHLY AVERAGE	MEASUREMENT FREQUENCY	SAMPLE TYPE
Outfall #001						
Flow	MGD	*		*	once/month	24 hr. estimate
Biochemical Oxygen Demand ₅ ***	mg/L		65	45	once/month	grab
Total Suspended Solids ***	mg/L		110	70	once/month	grab
pH – Units	SU	**		**	once/month	grab
Ammonia as N (April 1-September 30) (October 1-March 31)	mg/L	3.7 7.9		1.4 2.9	once/month	grab
<i>E. coli</i> (Note 1)	#/100 ml		1030	206	once/month	grab
Oil & Grease	mg/L	15		10	once/month	grab
MONITORING REPORTS SHALL BE SUBMITTED <u>MONTHLY</u> ; THE FIRST REPORT IS DUE <u>JULY 28, 2017</u> . THERE SHALL BE NO DISCHARGE OF FLOATING SOLIDS OR VISIBLE FOAM IN OTHER THAN TRACE AMOUNTS.						
Whole Effluent Toxicity (WET) test	% Survival	See Special Condition #20		once/5 years	24 hr. composite	
MONITORING REPORTS SHALL BE SUBMITTED <u>ONCE/5 YEARS</u> ; THE FIRST REPORT IS DUE by <u>JANUARY 28, 2016</u> .						
B. STANDARD CONDITIONS						
IN ADDITION TO SPECIFIED CONDITIONS STATED HEREIN, THIS PERMIT IS SUBJECT TO THE ATTACHED <u>Parts I, II, & III</u> STANDARD CONDITIONS DATED <u>October 1, 1980 and August 15, 1994</u> , AND HEREBY INCORPORATED AS THOUGH FULLY SET FORTH HEREIN.						

A. FINAL EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS (continued)

- * Monitoring requirement only.
- ** pH is measured in pH units and is not to be averaged. The pH is limited to the range of 6.5-9.0 pH units.
- *** This facility is required to meet a removal efficiency of 65% or more. Influent and effluent samples used to determine percent removal shall be taken the same day.

Note 1 - Final limitations and monitoring requirements for *E. coli* are applicable only during the recreational season from April 1 through October 31. The Monthly Average Limit for *E. coli* is expressed as a geometric mean. The Weekly Average for *E. coli* will be expressed as a geometric mean if more than one (1) sample is collected during a calendar week (Sunday through Saturday).

C. INFLUENT MONITORING REQUIREMENTS		PAGE NUMBER 4 of 8	
		PERMIT NUMBER MO-0115118	
The facility is required to meet a removal efficiency of 65% or more. The monitoring requirements shall become effective upon issuance and remain in effect until expiration of the permit. To determine removal efficiencies, the influent wastewater shall be monitored by the permittee as specified below:			
SAMPLING LOCATION AND PARAMETER(S)	UNITS	MONITORING REQUIREMENTS	
		MEASUREMENT FREQUENCY	SAMPLE TYPE
<u>Influent</u>			
Biochemical Oxygen Demand ₅	mg/L	once/month***	grab
Total Suspended Solids	mg/L	once/month***	grab
MONITORING REPORTS SHALL BE SUBMITTED <u>MONTHLY</u> ; THE FIRST REPORT IS DUE <u>JULY 28, 2013</u> .			

C. INFLUENT MONITORING REQUIREMENTS (continued)

*** This facility is required to meet a removal efficiency of 65% or more. Influent and effluent samples used to determine percent removal shall be taken the same day.

D. SPECIAL CONDITIONS

1. This permit may be reopened and modified, or alternatively revoked and reissued, to:
 - (a) Comply with any applicable effluent standard or limitation issued or approved under Sections 301(b)(2)(C) and (D), 304(b)(2), and 307(a) (2) of the Clean Water Act, if the effluent standard or limitation so issued or approved:
 - (1) contains different conditions or is otherwise more stringent than any effluent limitation in the permit; or
 - (2) controls any pollutant not limited in the permit.
 - (b) Incorporate new or modified effluent limitations or other conditions, if the result of a waste load allocation study, toxicity test or other information indicates changes are necessary to assure compliance with Missouri's Water Quality Standards.
 - (c) Incorporate new or modified effluent limitations or other conditions if, as the result of a watershed analysis, a Total Maximum Daily Load (TMDL) limitation is developed for the receiving waters which are currently included in Missouri's list of waters of the state not fully achieving the state's water quality standards, also called the 303(d) list.

The permit as modified or reissued under this paragraph shall also contain any other requirements of the Clean Water Act then applicable.

2. All outfalls must be clearly marked in the field.
3. Permittee will cease discharge by connection to a facility with an area-wide management plan per 10 CSR 20-6.010(3)(B) within 90 days of notice of its availability.
4. Changes in Discharges of Toxic Substances

The permittee shall notify the Director as soon as it knows or has reason to believe:

- (a) That any activity has occurred or will occur which would result in the discharge of any toxic pollutant which is not limited in the permit, if that discharge will exceed the highest of the following "notification levels:"
 - (1) One hundred micrograms per liter (100 µg/L);
 - (2) Two hundred micrograms per liter (200 µg/L) for acrolein and acrylonitrile; five hundred micrograms per liter (500 µg/L) for 2,5 dinitrophenol and for 2-methyl-4, 6-dinitrophenol; and one milligram per liter (1 mg/L) for antimony;
 - (3) Five (5) times the maximum concentration value reported for the pollutant in the permit application;
 - (4) The level established in Part A of the permit by the Director.
- (b) That they have begun or expect to begin to use or manufacture as an intermediate or final product or byproduct any toxic pollutant, which was not reported in the permit application.

5. Report as no-discharge when a discharge does not occur during the report period.
6. It is a violation of the Missouri Clean Water Law to fail to pay fees associated with this permit (644.055 RSMo).

D. SPECIAL CONDITIONS (continued)

7. The permittee shall comply with any applicable requirements listed in 10 CSR 20-9, unless the facility has received written notification that the Department has approved a modification to the requirements. The monitoring frequencies contained in this permit shall not be construed by the permittee as a modification of the monitoring frequencies listed in 10 CSR 20-9. If a modification of the monitoring frequencies listed in 10 CSR 20-9 is needed, the permittee shall submit a written request to the department for review and, if deemed necessary, approval.
8. The permittee should develop and implement a program for maintenance and repair of the collection system. The recommended guidance is the US EPA's Guide For Evaluating Capacity, Management, Operation, And Maintenance (CMOM) Programs At Sanitary Sewer Collection Systems (Document number EPA 305-B-05-002).
9. Bypasses are not authorized at this facility and are subject to 40 CFR 122.41(m). If a bypass occurs, the permittee shall report in accordance to 40 CFR 122.41(m)(3)(i), and with Standard Condition Part I, Section B, subsection 2.b. Bypasses are to be reported to the Southeast Regional Office.
10. A least one gate, constructed of materials comparable to the fence, must be provided to access the lagoon and provide for maintenance and mowing. The gate shall remain locked except when opened by the permittee to perform maintenance or mowing.
11. At least one sign shall appear on the fence on each side of each facility. Minimum wording shall be "SEWAGE TREATMENT FACILITY – KEEP OUT", in letters at least 2 inches high.
12. An all-weather access road shall be provided from a public right-of-way to the treatment facility.
13. The discharge from the lagoon system shall be conveyed to the receiving stream via a closed pipe or a paved or rip-rapped open channel. Sheet or meandering drainage is not acceptable. The outfall sewer shall be protected against the effects of floodwater, ice or other hazards as to reasonably insure its structural stability and freedom from stoppage. The outfall shall be maintained so that a sample of the effluent can be obtained at a point after the final treatment process and before the discharge mixes with the receiving stream.
14. A minimum of two (2) feet freeboard must be maintained in the lagoon cell.
15. The facility shall ensure that adequate provisions are provided to prevent surface water intrusion in to the lagoon and to divert stormwater runoff around the lagoon and protect embankments from erosion.
16. An Operation and Maintenance (O & M) manual shall be maintained by the permittee and made available to the operator. The O & M manual shall include key operating procedures and a brief summary of the operation of the facility.
17. The inner and outer berm slopes shall not be steeper than three to one (3:1). Inner berm slopes shall not be flatter than four to one (4:1). Consideration may be given to steeper inner slopes provided special attention is given to stabilizing the slope with rip-rap, concrete, or other rigid materials.
18. The berms of storage basins shall be mowed and kept free of any trees, muskrat dens, or other potential sources of damage to the berms.
19. Water Quality Standards
 - (a) Discharges to waters of the state shall not cause a violation of water quality standards rule under 10 CSR 20-7.031, including both specific and general criteria.
 - (b) General Criteria. The following general water quality criteria shall be applicable to all waters of the state at all times including mixing zones. No water contaminant, by itself or in combination with other substances, shall prevent the waters of the state from meeting the following conditions:
 - (1) Waters shall be free from substances in sufficient amounts to cause the formation of putrescent, unsightly or harmful bottom deposits or prevent full maintenance of beneficial uses;
 - (2) Waters shall be free from oil, scum and floating debris in sufficient amounts to be unsightly or prevent full maintenance of beneficial uses;
 - (3) Waters shall be free from substances in sufficient amounts to cause unsightly color or turbidity, offensive odor or prevent full maintenance of beneficial uses;
 - (4) Waters shall be free from substances or conditions in sufficient amounts to result in toxicity to human, animal or aquatic life;

D. SPECIAL CONDITIONS (continued)

- (5) There shall be no significant human health hazard from incidental contact with the water;
- (6) There shall be no acute toxicity to livestock or wildlife watering;
- (7) Waters shall be free from physical, chemical or hydrologic changes that would impair the natural biological community;
- (8) Waters shall be free from used tires, car bodies, appliances, demolition debris, used vehicles or equipment and solid waste as defined in Missouri's Solid Waste Law, section 260.200, RSMo, except as the use of such materials is specifically permitted pursuant to section 260.200-260.247.

20. Whole Effluent Toxicity (WET) Test shall be conducted as follows:

SUMMARY OF WET TESTING FOR THIS PERMIT						
OUTFALL	A.E.C. %	LC 50%	FREQUENCY		SAMPLE TYPE	MONTH
001	100	100	Once / 5 years		24 hr. composite	Any Month in 2015 (Report by January 28, 2016)
Dilution Series						
100%	50%	25%	12.5%	6.25%	(Control) 100% upstream, if available	(Control) 100% Lab Water, also called synthetic water

(a) Test Schedule and Follow-Up Requirements

- (1) Perform a MULTIPLE-dilution acute WET test in the months and at the frequency specified above. For tests which are successfully passed, submit test results using the Department's WET test report form #MO-780-1899 along with complete copies of the test reports as received from the laboratory, including copies of chain-of-custody forms within 30 calendar days of availability to the WATER PROTECTION PROGRAM, P.O. Box 176, Jefferson City, MO 65102. If the effluent passes the test, do not repeat the test until the next test period.
 - (a) Chemical and physical analysis of the upstream control and effluent sample shall occur immediately upon being received by the laboratory, prior to any manipulation of the effluent sample beyond preservation methods consistent with federal guidelines for WET testing that are required to stabilize the sample during shipping.
 - (b) Any and all chemical or physical analysis of the effluent sample performed in conjunction with the WET test shall be performed at the 100% Effluent concentration in addition to analysis performed upon any other effluent concentration.
 - (c) All chemical analyses included in the Missouri Department of Natural Resources WET test report form #MO-780-1899 shall be performed and results shall be recorded in the appropriate field of the report form.
- (2) The WET test will be considered a failure if mortality observed in effluent concentrations equal to or less than the AEC is significantly different (at the 95% confidence level; $p = 0.05$) than that observed in the upstream receiving-water control sample. Where upstream receiving water is not available, synthetic laboratory control water may be used.
- (3) All failing test results along with complete copies of the test reports as received from the laboratory, INCLUDING THOSE TESTS CONDUCTED UNDER CONDITION (3) BELOW, shall be reported to the WATER PROTECTION PROGRAM, P.O. Box 176, Jefferson City, MO 65102 within 14 calendar days of the availability of the results.
- (4) If the effluent fails the test for BOTH test species, a multiple dilution test shall be performed for BOTH test species within 30 calendar days and biweekly thereafter (for storm water, tests shall be performed on the next and subsequent storm water discharges as they occur, but not less than 7 days apart) until one of the following conditions are met: Note: Written request regarding single species multiple dilution accelerated testing will be address by THE WATER PROTECTION PROGRAM on a case by case basis.
 - (i) THREE CONSECUTIVE MULTIPLE-DILUTION TESTS PASS. No further tests need to be performed until next regularly scheduled test period.
 - (ii) A TOTAL OF THREE MULTIPLE-DILUTION TESTS FAIL.
- (5) Follow-up tests do not negate an initial failed test.

D. SPECIAL CONDITIONS (continued)

- (6) The permittee shall submit a summary of all test results for the test series along with complete copies of the test reports as received from the laboratory to the WATER PROTECTION PROGRAM, P.O. Box 176, Jefferson City, MO 65102 within 14 calendar days of the third failed test.
- (7) Additionally, the following shall apply upon failure of the third follow up MULTIPLE DILUTION test The permittee should contact THE WATER PROTECTION PROGRAM within 14 calendar days from availability of the test results to ascertain as to whether a TIE or TRE is appropriate. If the permittee does not contact THE WATER PROTECTION PROGRAM upon the third follow up test failure, a toxicity identification evaluation (TIE) or toxicity reduction evaluation (TRE) is automatically triggered. The permittee shall submit a plan for conducting a TIE or TRE to the WATER PROTECTION PROGRAM within 60 calendar days of the date of the automatic trigger or DNR's direction to perform either a TIE or TRE. This plan must be approved by DNR before the TIE or TRE is begun. A schedule for completing the TIE or TRE shall be established in the plan approval.
- (8) Upon DNR's approval, the TIE/TRE schedule may be modified if toxicity is intermittent during the TIE/TRE investigations. A revised WET test schedule may be established by DNR for this period.
- (9) If a previously completed TIE has clearly identified the cause of toxicity, additional TIEs will not be required as long as effluent characteristics remain essentially unchanged and the permittee is proceeding according to a DNR approved schedule to complete a TRE and reduce toxicity. Regularly scheduled WET testing as required in the permit, without the follow-up requirements, will be required during this period.
- (10) When WET test sampling is required to run over one DMR period, each DMR report shall contain a copy of the Department's WET test report form that was generated during the reporting period.
- (11) Submit a concise summary in tabular format of all WET test results with the annual report.

(b) Test Conditions

- (1) Test Type: Acute Static non-renewal
- (2) All tests, including repeat tests for previous failures, shall include both test species listed below unless approved by the department on a case by case basis.
- (3) Test species: Ceriodaphnia dubia and Pimephales promelas (fathead minnow). Organisms used in WET testing shall come from cultures reared for the purpose of conducting toxicity tests and cultured in a manner consistent with the most current USEPA guidelines. All test animals shall be cultured as described in the most current edition of Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms.
- (4) Test period: 48 hours at the "Allowable Effluent Concentration" (AEC) specified above.
- (5) Upstream receiving stream water shall be used as dilution water. If upstream water is unavailable or if mortality in the upstream water exceeds 10%, "reconstituted" water will be used as dilution water. Procedures for generating reconstituted water will be supplied by the MDNR upon request.
- (6) Tests will be run with 100% receiving-stream water (if available), collected upstream of the outfall at a point beyond any influence of the effluent, and reconstituted water.
- (7) If reconstituted-water control mortality for a test species exceeds 10%, the entire test will be rerun.
- (8) If upstream control mortality exceeds 10%, the entire test will be rerun using reconstituted water as the dilutant.
- (9) Whole-effluent-toxicity test shall be consistent with the most current edition of Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms

E. SCHEDULE OF COMPLIANCE

The Department of Natural Resources has implemented policy to address the discharge of ammonia and the final limits in this permit will contain an effluent limit for ammonia as well as a different limit for pH. The treatment system serving the facility may or may not be capable of consistently meeting the limits in the final effluent table. An interim effluent table that contains ammonia monitoring for four years is in the permit. The Effluent Regulation, 10 CSR 20 – 7.031 (10) allows the permittee up to four years from the issuance date of this permit to comply with the final limits of this permit.

- (1.) **Within one year from the issuance of this permit**, the permittee shall submit a preliminary engineering report prepared by a registered professional engineer in the State of Missouri. The preliminary engineering report shall address the ability of the existing facility to meet the final limits including new ammonia and pH limits. If it appears the facility will not meet those limits without upgrades, then the report shall make recommendations to upgrade the wastewater treatment facility. If upgrades are necessary then item 2 below should be addressed.
- (2.) **Within two years from the issuance of this permit**, the permittee shall submit a construction permit application if upgrades are necessary to meet new ammonia limits. The application shall include applicable fees, plans, and specifications in accordance with the approved preliminary engineering report.
- (3.) **Within three years from the issuance of this permit**, the permittee shall submit a progress report detailing progress made in attaining compliance with the final ammonia effluent limits.
- (4.) **Within four years from the issuance of this permit**, the permittee shall submit a letter of authorization or statement of work complete signed by the owner and a licensed professional engineer in the State of Missouri after construction is complete for upgrades necessary to meet new ammonia limits.
- (5.) If the permittee fails to meet any of the interim dates above, the permittee shall notify the Department in writing of the reason for non-compliance no later than 14 days following each interim date.

Missouri Department of Natural Resources
FACT SHEET
FOR THE PURPOSE OF RENEWAL
OF
MO-0115118
VILLAGE OF KELSO WASTEWATER TREATMENT FACILITY

The Federal Water Pollution Control Act ("Clean Water Act" Section 402 Public Law 92-500 as amended) established the National Pollution Discharge Elimination System (NPDES) permit program. This program regulates the discharge of pollutants from point sources into the waters of the United States, and the release of storm water from certain point sources. All such discharges are unlawful without a permit (Section 301 of the "Clean Water Act"). After a permit is obtained, a discharge not in compliance with all permit terms and conditions is unlawful. Missouri State Operating Permits (MSOPs) are issued by the Director of the Missouri Department of Natural Resources (department) under an approved program, operating in accordance with federal and state laws (Federal "Clean Water Act" and "Missouri Clean Water Law" Section 644 as amended). MSOPs are issued for a period of five (5) years unless otherwise specified.

As per [40 CFR Part 124.8(a)] and [10 CSR 20-6.020(1)2.] a Factsheet shall be prepared to give pertinent information regarding the applicable regulations, rationale for the development of effluent limitations and conditions, and the public participation process for the Missouri State Operating Permit (operating permit) listed below.

A Factsheet is not an enforceable part of an operating permit.

This Factsheet is for a Major , Minor , Industrial Facility ; Variance ;
 Master General Permit ; General Permit Covered Facility ; and/or permit with widespread public interest .

Part I – Facility Information

Facility Address: P.O. Box 279, Kelso, MO 63758
 Facility Type: POTW
 Facility SIC Code(s): 4952

Facility Description:

Outfall #001 – POTW – SIC #4952 - Class D Operator Required

Two Cell Aerated Lagoon/Sludge is retained in lagoon.
 Design population equivalent is 756.
 Design flow is 75,600 gallons per day.
 Actual flow is 50,676 gallons per day.
 Design sludge production is 15 dry tons/year.

Application Date: March 18, 2011
 Expiration Date: October 26, 2011
 Last Inspection: April 29, 2010 In Compliance ; Non-Compliance

OUTFALL(S) TABLE:

OUTFALL	DESIGN FLOW (CFS)	TREATMENT LEVEL	EFFLUENT TYPE	DISTANCE TO CLASSIFIED SEGMENT (MI)
001	.117	Eq. Secondary	Treated Domestic Sewage	0.7

Outfall #001

Legal Description: NE ¼, NE ¼, Sec. 18, T29N, R14E, Scott County
 UTM Coordinates: X= 806708, Y= 4120741

Receiving Stream: Unnamed Tributary to Ramsey Creek (U)
 First Classified Stream and ID: Ramsey Creek (P) (02346)
 USGS Basin & Sub-watershed No.: (07140107-0603)

Comments:

The Village has failed to meet the schedule of compliance for disinfection upgrades. An engineering report was submitted and approved on December 31, 2009 that selected chlorination and dechlorination as the method for disinfection. On June 29, 2012 the Department received an application for construction of an ultraviolet disinfection system. For this reason, Total Residual Chlorine limits have been removed from the permit. Ammonia limits will be established in accordance with Department's Ammonia Policy. A review of the facility's discharge monitoring reports indicate that the facility cannot consistently meet the ammonia limits based on previous ammonia monitoring. Therefore, the permit calls for an engineering evaluation and upgrades if necessary.

Temperature has also been removed from the permit. The Department does not use site-specific pH and temperature data to calculate final effluent limitations for ammonia as N. If the permittee wishes to use site-specific data, they must submit a report with site-specific pH and temperature for Department review.

Part II – Operator Certification Requirements

As per [10 CSR 20-6.010(8) Terms and Conditions of a Permit], permittees shall operate and maintain facilities to comply with the Missouri Clean Water Law and applicable permit conditions and regulations. Operators or supervisors of operations at regulated wastewater treatment facilities shall be certified in accordance with [10 CSR 20-9.020(2)] and any other applicable state law or regulation. As per [10 CSR 20-9.010(2)(A)], requirements for operation by certified personnel shall apply to all wastewater treatment systems, if applicable, as listed below:

Check boxes below that are applicable to the facility;

- Owned or operated by or for:
 - Municipalities
 - Public Sewer District:
 - County
 - Public Water Supply Districts:
 - Private sewer company regulated by the Public Service Commission:
 - State or Federal agencies:

Each of the above entities are only applicable if they have a Population Equivalent greater than two hundred (200) and/or fifty (50) or more service connections. This facility currently requires an operator with a D Certification Level. Modifications made to the wastewater treatment facility may cause the classification to be modified. Operator Certifications are located at: <http://www.dnr.mo.gov/central/env/wpp/Certificates.mdb>

Part III – Receiving Stream Information

APPLICABLE DESIGNATIONS OF WATERS OF THE STATE:

As per Missouri's Effluent Regulations [10 CSR 20-7.015], the waters of the state are divided into the below listed seven (7) categories. Each category list effluent limitations for specific parameters, which are presented in each outfall's Effluent Limitation Table and further discussed in the Derivation & Discussion of Limits section.

Please mark the correct designated waters of the state categories of the receiving stream.

- Missouri or Mississippi River [10 CSR 20-7.015(2)]: Yes ; No
- Lake or Reservoir [10 CSR 20-7.015(3)]: Yes ; No
- Losing [10 CSR 20-7.015(4)]: Yes ; No
- Metropolitan No-Discharge [10 CSR 20-7.015(5)]: Yes ; No
- Special Stream [10 CSR 20-7.015(6)]: Yes ; No
- Subsurface Water [10 CSR 20-7.015(7)]: Yes ; No
- All Other Waters [10 CSR 20-7.015(8)]: Yes ; No

10 CSR 20-7.031 Missouri Water Quality Standards, the department defines the Clean Water Commission water quality objectives in terms of "water uses to be maintained and the criteria to protect those uses." The receiving stream and/or 1st classified receiving stream's beneficial water uses to be maintained are located in the Receiving Stream Table located below in accordance with [10 CSR 20-7.031(3)].

RECEIVING STREAM(S) TABLE:

WATERBODY NAME	CLASS	WBID	DESIGNATED USES*	8-DIGIT HUC	EDU**
Unnamed Trib to Ramsey Creek	(U)	---	General Criteria	07140107	Ozark/Upper St. Francois/Castor
Ramsey Creek	P	2346	LWW, AQL, WBC(B)***		

- * - Irrigation (IRR), Livestock & Wildlife Watering (LWW), Protection of Warm Water Aquatic Life and Human Health-Fish Consumption (AQL), Cool Water Fishery (CLF), Cold Water Fishery (CDF), Whole Body Contact Recreation (WBC), Secondary Contact Recreation (SCR), Drinking Water Supply (DWS), Industrial (IND), Groundwater (GRW).
- ** - Ecological Drainage Unit
- *** - UAA was conducted on 5/28/07 and the whole body contact use was retained.

RECEIVING STREAM(S) LOW-FLOW VALUES TABLE:

RECEIVING STREAM (U, C, P)	LOW-FLOW VALUES (CFS)		
	1Q10	7Q10	30Q10
Unnamed Trib to Ramsey Creek (U)	0	0	0

MIXING CONSIDERATIONS:

Mixing Zone: Not Allowed [10 CSR 20-7.031(4)(A)4.B.(I)(a)].
 Zone of Initial Dilution: Not Allowed [10 CSR 20-7.031(4)(A)4.B.(I)(b)].

RECEIVING STREAM MONITORING REQUIREMENTS:

No receiving water monitoring requirements recommended at this time.

Part IV – Rationale and Derivation of Effluent Limitations & Permit Conditions

ALTERNATIVE EVALUATIONS FOR NEW FACILITIES:

As per [10 CSR 20-7.015(4)(A)], discharges to losing streams shall be permitted only after other alternatives including land application, discharges to a gaining stream and connection to a regional wastewater treatment facility have been evaluated and determined to be unacceptable for environmental and/or economic reasons.

Not Applicable ;

The facility does not discharge to a Losing Stream as defined by [10 CSR 20-2.010(36)] & [10 CSR 20-7.031(1)(N)], or is an existing facility.

ANTI-BACKSLIDING:

A provision in the Federal Regulations [CWA §303(d)(4); CWA §402(c); 40 CFR Part 122.44(I)] that requires a reissued permit to be as stringent as the previous permit with some exceptions.

- All limits in this operating permit are at least as protective as those previously established; therefore, backsliding does not apply.

ANTIDegradation:

In accordance with Missouri’s Water Quality Standard [10 CSR 20-7.031(2)], the Department is to document by means of Antidegradation Review that the use of a water body’s available assimilative capacity is justified. Degradation is justified by documenting the socio-economic importance of a discharging activity after determining the necessity of the discharge.

- Renewal no degradation proposed and no further review necessary.

AREA-WIDE WASTE TREATMENT MANAGEMENT & CONTINUING AUTHORITY:

As per [10 CSR 20-6.010(3)(B)], ...An applicant may utilize a lower preference continuing authority by submitting, as part of the application, a statement waiving preferential status from each existing higher preference authority, providing the waiver does not conflict with any area-wide management plan approved under section 208 of the Federal Clean Water Act or any other regional sewage service and treatment plan approved for higher preference authority by the Department.

BIOSOLIDS & SEWAGE SLUDGE:

Biosolids are solid materials resulting from domestic wastewater treatment that meet federal and state criteria for beneficial uses (i.e. fertilizer). Sewage sludge is solids, semi-solids, or liquid residue generated during the treatment of domestic sewage in a treatment works; including but not limited to, domestic septage; scum or solids removed in primary, secondary, or advanced wastewater treatment process; and a material derived from sewage sludge. Sewage sludge does not include ash generated during the firing of sewage sludge in a sewage sludge incinerator or grit and screening generated during preliminary treatment of domestic sewage in a treatment works. Additional information regarding biosolids and sludge is located at the following web address: <http://dnr.mo.gov/env/wpp/pub/index.html>, items WQ422 through WQ449.

- Permittee land applies biosolids in accordance with Standard Conditions III and a Department approved biosolids management plan.

COMPLIANCE AND ENFORCEMENT:

Enforcement is the action taken by the Water Protection Program (WPP) to bring an entity into compliance with the Missouri Clean Water Law, its implementing regulations, and/or any terms and conditions of an operating permit. The primary purpose of the enforcement activity in the WPP is to resolve violations and return the entity to compliance.

Applicable ;

The permittee/facility is currently being referred to Water Protection Program enforcement for failure to meet the previous disinfection schedule of compliance.

PRETREATMENT PROGRAM:

The reduction of the amount of pollutants, the elimination of pollutants, or the alteration of the nature of pollutant properties in wastewater prior to or in lieu of discharging or otherwise introducing such pollutants into a Publicly Owned Treatment Works [40 CFR Part 403.3(q)].

Pretreatment programs are required at any POTW (or combination of POTW operated by the same authority) and/or municipality with a total design flow greater than 5.0 MGD and receiving industrial wastes that interfere with or pass through the treatment works or are otherwise subject to the pretreatment standards. Pretreatment programs can also be required at POTWs/municipals with a design flow less than 5.0 MGD if needed to prevent interference with operations or pass through.

Several special conditions pertaining to the permittee's pretreatment program may be included in the permit, and are as follows:

- Implementation and enforcement of the program,
- Annual pretreatment report submittal,
- Submittal of list of industrial users,
- Technical evaluation of need to establish local limitations, and
- Submittal of the results of the evaluation

Not Applicable ;

The permittee, at this time, is not required to have a Pretreatment Program or does not have an approved pretreatment program.

REASONABLE POTENTIAL ANALYSIS (RPA):

Federal regulation [40 CFR Part 122.44(d)(1)(i)] requires effluent limitations for all pollutants that are or may be discharged at a level that will cause or have the reasonable potential to cause or contribute to an in-stream excursion above narrative or numeric water quality standard.

In accordance with [40 CFR Part 122.44(d)(iii)] if the permit writer determines that any give pollutant has the reasonable potential to cause, or contribute to an in-stream excursion above the WQS, the permit must contain effluent limits for that pollutant.

Applicable ;

A RPA was conducted on appropriate parameters. Please see **APPENDIX – RPA RESULTS**.

REMOVAL EFFICIENCY:

Removal efficiency is a method by which the Federal Regulations define Secondary Treatment and Equivalent to Secondary Treatment, which applies to Biochemical Oxygen Demand 5-day (BOD₅) and Total Suspended Solids (TSS) for Publicly Owned Treatment Works (POTWs)/municipals.

Applicable ;

Secondary Treatment is 65% removal [40 CFR Part 133.102(a)(3) & (b)(3)].

SANITARY SEWER OVERFLOWS (SSO) AND INFLOW AND INFILTRATION (I&I):

Sanitary Sewer Overflows (SSOs) are defined as an untreated or partially treated sewage release are considered bypassing under state regulation [10 CSR 20-2.010(11)] and should not be confused with the federal definition of bypass. SSO's have a variety of causes including blockages, line breaks, and sewer defects that allow excess storm water and ground water to (1) enter and overload the collection system, and (2) overload the treatment facility. Additionally, SSO's can be also be caused by lapses in sewer system operation and maintenance, inadequate sewer design and construction, power failures, and vandalism. SSOs also include overflows out of manholes and onto city streets, sidewalks, and other terrestrial locations.

Additionally, Missouri RSMo §644.026.1 mandates that the Department require proper maintenance and operation of treatment facilities and sewer systems and proper disposal of residual waste from all such facilities.

- Not applicable. This facility is not required to develop or implement a program for maintenance and repair of the collection system; however, it is a violation of Missouri State Environmental Laws and Regulations to allow untreated wastewater to discharge to waters of the state.

SCHEDULE OF COMPLIANCE (SOC):

A schedule of remedial measures included in a permit, including an enforceable sequence of interim requirements (actions, operations, or milestone events) leading to compliance with the Missouri Clean Water Law, its implementing regulations, and/or the terms and conditions of an operating permit.

Applicable ;

The time given for effluent limitations of this permit listed under Interim Effluent Limitation and Final Effluent Limitations were extended in accordance with the US EPA Region 7 January 25, 2013 letter to the Department. This letter conveyed EPA's decision to allow the Department to grant schedules of compliance greater than 3 years. With respect to this decision, the **APPENDIX – AFFORDABILITY ANALYSIS** has been included in determining the length of the SOC granted in this permit.

The community will incur a low financial burden, with respect to the factors analyzed in **APPENDIX – AFFORDABILITY ANALYSIS**, for improvements that may be required in order for the facility to meet the final effluent limitations for ammonia as N. Due to the socio-economic conditions specific to the Village of Kelso, the Department has determined that the 4 year schedule of compliance provides adequate time to meet final effluent limitations. Based on these factors, funding does not appear to be a limiting factor in complying with the final permit limits. All other necessary steps within a possible facility upgrade project should be completed within the schedule provided in the permit. These other steps may include evaluating operations, obtaining an engineering report and obtaining a construction permit in order to implement upgrades required to meet effluent limits.

STORM WATER POLLUTION PREVENTION PLAN (SWPPP):

In accordance with 40 CFR 122.44(k) *Best Management Practices (BMPs)* to control or abate the discharge of pollutants when: (1) Authorized under section 304(e) of the Clean Water Act (CWA) for the control of toxic pollutants and hazardous substances from ancillary industrial activities; (2) Authorized under section 402(p) of the CWA for the control of storm water discharges; (3) Numeric effluent limitations are infeasible; or (4) the practices are reasonably necessary to achieve effluent limitations and standards or to carry out the purposes and intent of the CWA.

In accordance with the EPA's *Developing Your Stormwater Pollution Prevention Plan, A Guide for Industrial Operators*, (Document number EPA 833-B-09-002) [published by the United States Environmental Protection Agency (USEPA) in February 2009], BMPs are measures or practices used to reduce the amount of pollution entering (regarding this operating permit) waters of the state. BMPs may take the form of a process, activity, or physical structure.

Additionally in accordance with the Storm Water Management, a SWPPP is a series of steps and activities to (1) identify sources of pollution or contamination, and (2) select and carry out actions which prevent or control the pollution of storm water discharges.

Not Applicable ;

At this time, the permittee is not required to develop and implement a SWPPP.

VARIANCE:

As per the Missouri Clean Water Law § 644.061.4, variances shall be granted for such period of time and under such terms and conditions as shall be specified by the commission in its order. The variance may be extended by affirmative action of the commission. In no event shall the variance be granted for a period of time greater than is reasonably necessary for complying with the Missouri Clean Water Law §§644.006 to 644.141 or any standard, rule or regulation promulgated pursuant to Missouri Clean Water Law §§644.006 to 644.141.

Not Applicable ;

This operating permit is not drafted under premises of a petition for variance.

WASTELOAD ALLOCATIONS (WLA) FOR LIMITS:

As per [10 CSR 20-2.010(78)], the amount of pollutant each discharger is allowed by the Department to release into a given stream after the Department has determined total amount of pollutant that may be discharged into that stream without endangering its water quality.

Applicable ;

Wasteload allocations were calculated where applicable using water quality criteria or water quality model results and the dilution equation below:

$$C = \frac{(C_s \times Q_s) + (C_e \times Q_e)}{(Q_e + Q_s)} \quad (\text{EPA/505/2-90-001, Section 4.5.5})$$

Where C = downstream concentration
Cs = upstream concentration
Qs = upstream flow
Ce = effluent concentration
Qe = effluent flow

Chronic wasteload allocations were determined using applicable chronic water quality criteria (CCC: criteria continuous concentration) and stream volume of flow at the edge of the mixing zone (MZ). Acute wasteload allocations were determined using applicable water quality criteria (CMC: criteria maximum concentration) and stream volume of flow at the edge of the zone of initial dilution (ZID).

Water quality based maximum daily and average monthly effluent limitations were calculated using methods and procedures outlined in USEPA's "Technical Support Document For Water Quality-based Toxics Control" (EPA/505/2-90-001).

Number of Samples "n":

Additionally, in accordance with the TSD for water quality-based permitting, effluent quality is determined by the underlying distribution of daily values, which is determined by the Long Term Average (LTA) associated with a particular Wasteload Allocation (WLA) and by the Coefficient of Variation (CV) of the effluent concentrations. Increasing or decreasing the monitoring frequency does not affect this underlying distribution or treatment performance, which should be, at a minimum, be targeted to comply with the values dictated by the WLA. Therefore, it is recommended that the actual planned frequency of monitoring normally be used to determine the value of "n" for calculating the AML. However, in situations where monitoring frequency is once per month or less, a higher value for "n" must be assumed for AML derivation purposes. Thus, the statistical procedure being employed using an assumed number of samples is "n = 4" at a minimum. For Total Ammonia as Nitrogen, "n = 30" is used.

WLA MODELING:

There are two general types of effluent limitations, technology-based effluent limits (TBELs) and water quality based effluent limits (WQBELs). If TBELs do not provide adequate protection for the receiving waters, then WQBEL must be used.

Not Applicable ;

A WLA study was either not submitted or determined not applicable by Department staff.

WATER QUALITY STANDARDS:

Per [10 CSR 20-7.031(3)], General Criteria shall be applicable to all waters of the state at all times including mixing zones. Additionally, [40 CFR 122.44(d)(1)] directs the Department to establish in each NPDES permit to include conditions to achieve water quality established under Section 303 of the Clean Water Act, including State narrative criteria for water quality.

WHOLE EFFLUENT TOXICITY (WET) TEST:

A WET test is a quantifiable method of determining if a discharge from a facility may be causing toxicity to aquatic life by itself, in combination with or through synergistic responses when mixed with receiving stream water.

Applicable ;

Under the federal Clean Water Act (CWA) §101(a)(3), requiring WET testing is reasonably appropriate for site-specific Missouri State Operating Permits for discharges to waters of the state issued under the National Pollutant Discharge Elimination System (NPDES). WET testing is also required by 40 CFR 122.44(d)(1). WET testing ensures that the provisions in the 10 CSR 20-6.010(8)(A)7. and the Water Quality Standards 10 CSR 20-7.031(3)(D),(F),(G),(I)2.A & B are being met. Under [10 CSR 20-6.010(8)(A)4], the Department may require other terms and conditions that it deems necessary to assure compliance with the Clean Water Act and related regulations of the Missouri Clean Water Commission. In addition the following MCWL apply: §§644.051.3 requires the Department to set permit conditions that comply with the MCWL and CWA; 644.051.4 specifically references toxicity as an item we must consider in writing permits (along with water quality-based effluent limits, pretreatment, etc...); and 644.051.5 is the basic authority to require testing conditions. WET test will be required by all facilities meeting the following criteria:

- Facility is a designated Major.
- Facility continuously or routinely exceeds its design flow.
- Facility (industrial) that alters its production process throughout the year.
- Facility handles large quantities of toxic substances, or substances that are toxic in large amounts.
- Facility has Water Quality-based Effluent Limitations for toxic substances (other than NH₃)
- Facility is a municipality or domestic discharger with a Design Flow ≥ 22,500 gpd.
- Other – please justify.

40 CFR 122.41(M) - BYPASSES:

The federal Clean Water Act (CWA), Section 402 prohibits wastewater dischargers from “bypassing” untreated or partially treated sewage (wastewater) beyond the headworks. A bypass, which includes blending, is defined as an intentional diversion of waste streams from any portion of a treatment facility, [40 CFR 122.41(m)(1)(i)]. Additionally, Missouri regulation 10 CSR 20-2.010(11) defines a bypass as the diversion of wastewater from any portion of wastewater treatment facility or sewer system to waters of the state. Only under exceptional and specified limitations do the federal regulations allow for a facility to bypass some or all of the flow from its treatment process. Bypasses are prohibited by the CWA unless a permittee can meet all of the criteria listed in 40 CFR 122.41(m)(4)(i)(A), (B), & (C). Any bypasses from this facility are subject to the reporting required in 40 CFR 122.41(l)(6) and per Missouri’s Standard Conditions I, Section B, part 2.b. Additionally, Anticipated Bypasses include bypasses from peak flow basins or similar devices designed for peak wet weather flows.

- Not Applicable, this facility does not bypass.

303(d) LIST & TOTAL MAXIMUM DAILY LOAD (TMDL):

Section 303(d) of the federal Clean Water Act requires that each state identify waters that are not meeting water quality standards and for which adequate water pollution controls have not been required. Water quality standards protect such beneficial uses of water as whole body contact (such as swimming), maintaining fish and other aquatic life, and providing drinking water for people, livestock and wildlife. The 303(d) list helps state and federal agencies keep track of waters that are impaired but not addressed by normal water pollution control programs.

A TMDL is a calculation of the maximum amount of a given pollutant that a body of water can absorb before its water quality is affected. If a water body is determined to be impaired as listed on the 303(d) list, then a watershed management plan will be developed that shall include the TMDL calculation

Not Applicable ;

This facility does not discharge to a 303(d) listed stream.

Part V – Effluent Limits Determination

Outfall #001 – Main Facility Outfall
EFFLUENT LIMITATIONS TABLE:

PARAMETER	UNIT	BASIS FOR LIMITS	DAILY MAXIMUM	WEEKLY AVERAGE	MONTHLY AVERAGE	MODIFIED	PREVIOUS PERMIT LIMITATIONS
FLOW	GPD	1	*		*	NO	S
BOD ₅	MG/L	1		65	45	NO	S
TSS	MG/L	1		110	70	NO	S
pH (S.U.)	SU	1	6.5-9		6.5-9	YES	6 OR ABOVE
TEMPERATURE (°C)	°C	1/9	****		****	YES	*
AMMONIA AS N	MG/L	5				YES	*
(APRIL 1-SEPTEMBER 30)			3.7		1.4		
(OCTOBER 1-MARCH 31)			7.5		2.9		
ESCHERICHIA COLI (E. COLI)	**	1		1030	206	YES	FECAL COLIFORM
TOTAL RESIDUAL CHLORINE	MG/L	1/3	****		****	YES	.019/.010
OIL & GREASE (MG/L)	MG/L	1	15		10	NO	S
WHOLE EFFLUENT TOXICITY (WET) TEST	Please see WET Test in the Derivation and Discussion Section below.						
MONITORING FREQUENCY	Please see Minimum Sampling and Reporting Frequency Requirements in the Derivation and Discussion Section below.						

* - Monitoring requirement only

** - # of colonies/100mL; the Daily and Monthly Average for E.Coli is not a geometric mean.

*** - Parameter not previously established in previous state operating permit.

**** - Parameter being removed from permit.

N/A – Not applicable

S – Same as previous operating permit

Basis for Limitations Codes:

- | | |
|--|------------------------------------|
| 1. State or Federal Regulation/Law | 7. Antidegradation Policy |
| 2. Water Quality Standard (includes RPA) | 8. Water Quality Model |
| 3. Water Quality Based Effluent Limits | 9. Best Professional Judgement |
| 4. Lagoon Policy | 10. TMDL or Permit in lieu of TMDL |
| 5. Ammonia Policy | 11. WET test Policy |
| 6. Dissolved Oxygen Policy | |

OUTFALL #001 – DERIVATION AND DISCUSSION OF LIMITS:

- **Flow.** In accordance with [40 CFR Part 122.44(i)(1)(ii)] the volume of effluent discharged from each outfall is needed to assure compliance with permitted effluent limitations. If the permittee is unable to obtain effluent flow, then it is the responsibility of the permittee to inform the department, which may require the submittal of an operating permit modification.
- **Biochemical Oxygen Demand (BOD₅).** Effluent limitations have been retained from previous state operating permit, please see the **APPLICABLE DESIGNATION OF WATERS OF THE STATE** sub-section of the **Receiving Stream Information**.
- **Total Suspended Solids (TSS).** Effluent limitations have been retained from previous state operating permit, please see the **APPLICABLE DESIGNATION OF WATERS OF THE STATE** sub-section of the **Receiving Stream Information**.
- **pH.** Final effluent limitations are based on recent water quality standard changes, please see the **APPLICABLE DESIGNATION OF WATERS OF THE STATE** sub-section of the **Receiving Stream Information** for final effluent limitations.
- **Escherichia coli (E. coli).** Monthly average of 206 per 100 ml as a geometric mean and Weekly Average of 1030 during the recreational season (April 1 – October 31), to protect Whole Body Contact Recreation (B) designated use of the receiving stream, as per 10 CSR 20-7.031(4)(C). Weekly Average effluent variability will be evaluated in development of a future effluent limit. An effluent limit for both monthly average and weekly average is required by 40 CFR 122.45(d).

- **Oil & Grease.** Conventional pollutant, effluent limitation for protection of aquatic life; 10 mg/L monthly average, 15 mg/L daily maximum.
- **Temperature.** This parameter has been removed from the permit. Site-specific pH and temperature will not be used to determine Ammonia toxicity.
- **Total Residual Chlorine (TRC).** This parameter has been removed from the permit. The permittee has submitted an application for construction of an ultraviolet disinfection system. The facility will use UV instead of chlorine; therefore chlorine limitations are not applicable.
- **Total Ammonia Nitrogen**
Early Life Stages Present Total Ammonia Nitrogen criteria apply [10 CSR 20-7.031(4)(B)7.C. & Table B3]. Background total ammonia nitrogen = 0.01 mg/L.

Season	Temp (°C)	pH (SU)	Total Ammonia Nitrogen CCC (mg/L)	Total Ammonia Nitrogen CMC (mg/L)
Summer	26	7.8	1.5	12.1
Winter	6	7.8	3.1	12.1

Summer: April 1 – September 30, Winter: Oct 1 – March 31

Summer

$$C_e = (((Q_e + Q_s) * C) - (Q_s * C_s)) / Q_e$$

Chronic WLA: $C_e = 1.5 \text{ mg/L}$
 Acute WLA: $C_e = 12.1 \text{ mg/L}$

$LTA_c = 1.5 \text{ mg/L} (0.780) = \mathbf{1.2 \text{ mg/L}}$ [CV = 0.6, 99th Percentile, 30 day avg.]
 $LTA_a = 12.1 \text{ mg/L} (0.321) = 3.88 \text{ mg/L}$ [CV = 0.6, 99th Percentile]

MDL = 1.2 mg/L (3.11) = 3.7 mg/L [CV = 0.6, 99th Percentile]
 AML = 1.2 mg/L (1.19) = 1.4 mg/L [CV = 0.6, 95th Percentile, n = 30]

Winter

Chronic WLA: $C_e = 3.1 \text{ mg/L}$
 Acute WLA: $C_e = 12.1 \text{ mg/L}$

$LTA_c = 3.1 \text{ mg/L} (0.780) = \mathbf{2.4 \text{ mg/L}}$ [CV = 0.6, 99th Percentile, 30 day avg.]
 $LTA_a = 12.1 \text{ mg/L} (0.321) = 3.9 \text{ mg/L}$ [CV = 0.6, 99th Percentile]

MDL = 2.4 mg/L (3.11) = 7.5 mg/L [CV = 0.6, 99th Percentile]
 AML = 2.4 mg/L (1.19) = 2.9 mg/L [CV = 0.6, 95th Percentile, n = 30]

Season	Maximum Daily Limit (mg/l)	Average Monthly Limit (mg/l)
Summer	3.7	1.4
Winter	7.5	2.9

- **WET Test.** WET Testing schedules and intervals are established in accordance with the department’s Permit Manual; Section 5.2 *Effluent Limits / WET Testing for Compliance Bio-monitoring*. It is recommended that WET testing be conducted during the period of lowest stream flow.

- Acute
- No less than ONCE/PERMIT CYCLE:**
 - Municipality or domestic facility with a design flow ≥ 22,500 gpd, but less than 1.0 MGD.
 - Other, please justify.

Allowable Effluent Concentration (AEC) calculations determine if the facility is to conduct single dilution or multiple dilution WET testing. Facilities that discharge to unclassified or Class C receiving streams, the AEC% is 100%. Facilities with less than 100% for an AEC% will have multiple dilution WET testing. Facilities that discharge to Lakes and have Acute WET testing, the AEC% is 100% due to [10 CSR 20-7.031(4)(A)4.B.(IV)(b)] ZID not allowed for Lakes.

$$AEC\% = ((\text{design flow}_{\text{cfs}} + ZID_{7Q10}) / \text{design flow}_{\text{cfs}})^{-1} \times 100 = \#\#\%$$

$$AEC\% = \{((.117 + 0)/.117)^{-1}\} \times 100 = 100\%$$

Summary of Wet Testing for This Permit				
Outfall	A.E.C. %	Frequency	Sample Type	Month
001	100	Once/5 years	24 hr. composite	Any Month in 2015 (Report by January 28, 2016)

INFLUENT MONITORING TABLE:

Influent monitoring is necessary to determine compliance with effluent % removal requirements. This facility is required to meet a removal efficiency of 65% or more. Influent and effluent samples used to determine percent removal shall be taken the same day.

PARAMETER	UNIT	BASIS FOR LIMITS	DAILY MAXIMUM	WEEKLY AVERAGE	MONTHLY AVERAGE	MODIFIED	PREVIOUS PERMIT LIMITATIONS
BOD ₅ ***	MG/L	1	*		*	NO	S
TSS ***	MG/L	1	*		*	No	S

* - Monitoring requirement only.

***-This facility is required to meet a removal efficiency of 65% or more.

Minimum Sampling and Reporting Frequency Requirements. Sampling and reporting frequency requirements have been retained from previous state operating permit. Once per month is the sampling frequency requirement being placed in the permit per 10 CSR 20-7.015 (8) (C). On January 12, 2011, the Missouri Clean Water Commission directed Department staff to pursue regulation amendments that would reduce the frequency of weekly e-coli testing for small wastewater treatment facilities. The frequency chosen is similar to that required for other parameters in the permit for this interim permitting process. Please keep in mind that the Department may need to change the permit testing frequency for e-coli in the future to comply with final regulation requirements that must go through the rule making process. All sampling data taken must be submitted even if sampling occurs more frequently than specified. Samples may be collected on a more frequent basis and averaged to show compliance with the monthly or weekly averages listed in the permit.

PARAMETER	SAMPLING FREQUENCY	REPORTING FREQUENCY
FLOW	ONCE/MONTH	ONCE/MONTH
BOD ₅	ONCE/MONTH	ONCE/MONTH
TSS	ONCE/MONTH	ONCE/MONTH
PH (S.U.)	ONCE/MONTH	ONCE/MONTH
TEMPERATURE (°C)	ONCE/MONTH	ONCE/MONTH
AMMONIA AS N	ONCE/MONTH	ONCE/MONTH
E. COLI	ONCE/MONTH	ONCE/MONTH
TOTAL RESIDUAL CHLORINE	ONCE/MONTH	ONCE/MONTH
OIL & GREASE (MG/L)	ONCE/MONTH	ONCE/MONTH

PART VI: Finding of Affordability

Pursuant to Section 644.145, RSMo., the Department is required to determine whether a permit or decision is affordable and makes a finding of affordability for certain permitting and enforcement decisions. This requirement applies to discharges from combined or separate sanitary sewer systems or publically-owned treatment works.

Applicable; The Department is required to determine findings of affordability because the permit applies to a **combined or separate sanitary sewer system for a publically-owned treatment works**.

Finding of affordability - The department has made a reasonable search for empirical data indicating the permit is affordable. The search consisted of a review of department records that might contain economic data on the community, a review of information provided by the applicant as part of the application, and public comments received in response to public notices of this draft permit. If the empirical cost data was used by the permit writer, this data may consist of median household income, any other ongoing projects that the Department has knowledge, and other demographic financial information that the community provided as contemplated by Section 644. 145.3. See **Appendix – Affordability Analysis**.

Part VII – Administrative Requirements

On the basis of preliminary staff review and the application of applicable standards and regulations, the Department, as administrative agent for the Missouri Clean Water Commission, proposes to issue a permit(s) subject to certain effluent limitations, schedules, and special conditions contained herein and within the operating permit. The proposed determinations are tentative pending public comment.

PERMIT SYNCHRONIZATION:

The Department of Natural Resources is currently undergoing a synchronization process for operating permits. Permits are normally issued on a five-year term, but to achieve synchronization many permits will need to be issued for less than the full five years allowed by regulation. The intent is that all permits within a watershed will move through the Watershed Based Management (WBM) cycle together will all expire in the same fiscal year. This will allow further streamlining by placing multiple permits within a smaller geographic area on public notice simultaneously, thereby reducing repeated administrative efforts. This will also allow the department to explore a watershed based permitting effort at some point in the future.

Public Notice:

As per the Missouri Clean Water Law, the Missouri Clean Water Commission, and the federal Clean Water Act, persons wishing to comment on Missouri State Operating Permits are directed to do so by a department approved Public Notice coversheet. This Public Notice coversheet is attached to a Missouri State Operating Permit during the Public Notice period.

- The Public Notice period for this operating permit began on March 22, 2013 and ended on April 22, 2013. No comments were received during the Public Notice period.

Date of Fact Sheet: January 30, 2012

Completed By:

Michael Hefner,
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Southeast Regional Office
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REVISED DATE: MARCH 18, 2013

REVISED BY:

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Appendix – Reasonable Potential Analysis (RPA)

Parameter	CMC*	RWC Acute*	CCC*	RWC Chronic*	n**	Range max/min	CV***	MF	RP Yes/No
Total Ammonia as Nitrogen mg/L	12.1	39.7	1.5	39.7	59	15.9/0.05	1.4	2.49	YES
Oil and Grease	15	11	10	11	59	7.9/0.5	0.35	1.35	YES

N/A – Not Applicable

* - Water Quality Criteria

** - If the number of samples is greater than 10, then the CV value must be used in the WQBEL for the applicable constituent.

*** - Coefficient of Variation (CV) is calculated by dividing the Standard Deviation of the sample set by the Mean of the same sample set.

RWC – Receiving Water Concentration. It is the concentration of a toxicant or the parameter toxicity in the receiving water after mixing (if applicable).

n – Is the number of samples.

MF – Multiplying Factor. 99% Confidence Level and 99% Probability Basis.

RP – Reasonable Potential. It is where an effluent is projected or calculated to cause an excursion above a water quality standard based on a number of factors including, as a minimum, the four factors listed in 40 CFR 122.44(d)(1)(ii).

Reasonable Potential Analysis is conducted as per (TSD, EPA/505/2-90-001, Section 3.3.2

APPENDIX – AFFORDABILITY ANALYSIS:

Missouri Department of Natural Resources
Water Protection Program
Affordability Determination and Finding
(In accordance with RSMo 644.145)

**Village of Kelso Wastewater Treatment Facility
Renewal - Operating Permit #MO-0115118**

Section 644.145 RSMo requires DNR to make a “finding of affordability” when “issuing permits under” or “enforcing provisions of” state or federal clean water laws “pertaining to any portion of a combined or separate sanitary sewer system for publicly-owned treatment works.”

Description:

The Village of Kelso Wastewater Treatment Facility (WWTF) is located at 426 South Messmer, Kelso, MO 63758. This facility discharges to an unnamed tributary to Ramsey Creek (U).

Residential Connections: 264

Commercial Connections: 0

Total Connections: 264¹

Proposed New Permit Requirements or Requirements Now Being Enforced:

Permit No. MO-0115118 expired on October 26, 2011. An application for renewal was received on March 18, 2011. The proposed new permit requirements may require the design, construction and operation of ammonia treatment.

Range of Anticipated Costs Associated with Complying with the New Requirements:

The department estimates the cost for adding ammonia treatment to be between \$580,727 and \$1,533,578 (CAPDEWORKS cost estimator was used). This cost, if financed through user fees, might cost each household between \$37 - \$74 per month.

(1) A community’s financial capability and ability to raise or secure necessary funding;

¹ The number of connections was obtained from Form B of the application for permit renewal.

If user rates are used to finance and operate an upgrade, the rates may need to be between \$37 and \$74 per month, which may make each household rate as high as 1.3% of the community’s MHI. Percentages above 2% could create a high burden for a community.

(2) Affordability of pollution control options for the individuals or households of the community;

Current Annual Operating Costs (Exclude Depreciation):	unknown
Current User Rate:	NA
Future User Rate:	\$37 and \$74/mo.
Estimated Capital Cost of Pollution Control Options:	\$580,727 - \$1,533,578
Annual Cost of Additional (<i>operating costs and debt service</i>):	NA
Median Household Income ²	\$68,093
Current Usage Rate as a % of Median Household Income:	NA
Future Usage Rate as a % of Median Household Income:	0.7% - 1.3% ²

Check Appropriate Box	Financial Impact	Residential Indicator (Usage Rate as a percent of Median Household Income)
X	Low	Less than 1% MHI
X	Medium	Between 1% and 2% MHI
	High	Greater than 2% MHI

If the user rates were calculated to finance the new permit requirements, the rates could be between 0.7% and 1.3% of the MHI, and result in a high financial impact.

(3) An evaluation of the overall costs and environmental benefits of the control technologies;

The new permit limits on ammonia are anticipated to cost between \$580,727 - \$1,533,578. The following is a discussion of the environmental benefits of the conditions of the permit. Ammonia (NH3) is toxic to aquatic life and can damage habitat for ammonia sensitive species. Removal of NH3 is beneficial to the environment because this can reduce damage to aquatic life in accordance with 10 CSR 20-7 and the Clean Water Act. Removal can enable the stream habitat to support a more healthy and diverse population of aquatic life. This facility has Ammonia as N final effluent limitations based on the Water Quality Standards (WQS) found in the above citation.

With the Department’s determination that the facility has a reasonable potential to exceed water quality standards, it appears that there is environmental benefit for removing ammonia. The facility would be contributing to the reduction of damage to aquatic life by removing the toxic ammonia from the wastewater. The Department speculates that based on the information above, and the DMR’s which show a varying performance for Ammonia as N values in the past five years, that with proper operational and maintenance adjustments, the facility may not be able to consistently meet the new final effluent limitations for Ammonia as N.

At this time, the permittee has not indicated any alternative technologies than those of the conventional technologies currently most common in the State of Missouri that could be used that would be equally environmentally beneficial. Currently, the Department is not aware of any other alternative technologies that would be equally environmentally beneficial.

More advanced conventional technologies than the current treatment type at the facility may be required in order to meet the final effluent limitations, which may be more costly than the current operating costs of the facility.

² 37/(68093/12) = 0.7 and 74/(68093/12) = 1.3

(4) An inclusion of ways to reduce economic impacts on distressed populations in the community, including but not limited to low and fixed income populations. This requirement includes but is not limited to:

- (a) Allowing adequate time in implementation schedules to mitigate potential adverse impacts on distressed populations resulting from the costs of the improvements and taking into consideration local community economic considerations; and**
- (b) Allowing for reasonable accommodations for regulated entities when inflexible standards and fines would impose a disproportionate financial hardship in light of the environmental benefits to be gained;**

Potentially Distressed Populations	
Unemployment for Kelso ³	6.5%
Median Household Income (MHI) in Kelso ⁴	\$68,093
Percent Change in MHI (1990-2010)	52.5% Increase from \$30,950 to \$68,093
Percent Population Growth/Decline (1990-2010) ⁵	11.4% Increase
Change in Median Age in Years (2000-2010)	+23.7% (from 31.3 to 41)
Percent of Households in Poverty ⁶	5.0%

Opportunity for cost savings or cost avoidance:

If available, connection to a larger centralized sewer system in the area may be more cost effective for the community.

Opportunity for changes to implementation/compliance schedule:

The compliance schedule in the renewed permit could be matched with the time needed for the community to arrange appropriate means to finance an upgrade.

(5) An assessment of other community investments relating to environmental improvements;

Unknown.

³ Unemployment data was obtained from American Fact Finder at http://factfinder2.census.gov/faces/tableservices/jsf/pages/productview.xhtml?pid=ACS_10_5YR_S1901&prodType=table

⁴ Median Household Income is provided by the American Fact Finder – INCOME IN THE PAST 12 MONTHS (IN 2010 INFLATION ADJUSTED DOLLARS) – 2006 – 2010 American Community Survey 5-Year Estimates, which can be found online at:

http://factfinder2.census.gov/faces/tableservices/jsf/pages/productview.xhtml?pid=ACS_10_5YR_S1901&prodType=table

⁵ Population trend data was obtained from online at http://mcdc1.missouri.edu/cgi-bin/profiler/profiler.py?profile_id=SF1_2010&geoids=16000US2912988

⁶ Poverty data is provided by the American Fact Finder – POVERTY STATUS IN THE PAST 12 MONTHS – 2006-2010 American Community Survey 5-Year Estimates, which can be found online at http://factfinder2.census.gov/faces/tableservices/jsf/pages/productview.xhtml?pid=ACS_10_5YR_DP03&prodType=table

- (6) *An assessment of factors set forth in the United States Environmental Protection Agency's guidance, including but not limited to the "Combined Sewer Overflow Guidance for Financial Capability Assessment and Schedule Development" that may ease the cost burdens of implementing wet weather control plans, including but not limited to small system considerations, the attainability of water quality standards, and the development of wet weather standards;*

Secondary indicators for consideration:

Socioeconomic, Debt and Financial Indicators

Indicators	Strong (3 points)	Mid-Range (2 points)	Weak (1 point)	Score
Bond Rating Indicator	Above BBB or Baa	BBB or Baa	Below BBB or Baa	NA
Overall Net Debt as a % of Full Market Property Value	Below 2%	2% - 5%	Above 5%	NA
Unemployment Rate	>1% below Missouri average	± 1% of Missouri average	>1% above Missouri average	2
Median Household Income	More than 25% above Missouri MHI	± 25% of Missouri MHI	More than 25% below Missouri average	3
Property Tax Revenues as a % of Full Market Property Value	Below 2%	2% - 4%	Above 4%	NA
Property Tax Collection Rate	Above 98%	94% - 98%	Below 94%	NA

Average Score for Financial Capability Matrix: 2.5
 Residential Indicator (from Criteria #2 above): 0.7 – 1.3

Financial Capability Matrix

Financial Capability Indicators Score from above ↓	Residential Indicator (User rate as a % of MHI)		
	Low (Below 1%)	Mid-Range (Between 1.0% and 2.0%)	High (Above 2.0%)
Weak (below 1.5)	Medium Burden	High Burden	High Burden
Mid-Range (1.5 – 2.5)	Low Burden	Medium Burden	High Burden
Strong (above 2.5)	Low Burden	Low Burden	Medium Burden

Estimated Financial Burden: Low Burden

- (7) *An assessment of any other relevant local community economic condition.*

Unknown.

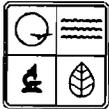
Conclusion and Finding

The Department identified the actions for which an affordability analysis is required under Section 644.145 RSMo. The Village of Kelso applied for a renewed operating permit. As a result of new regulations, the Department is proposing modifications to the current operating permit that may require the WWTF to add ammonia treatment.

The Department estimates that adding ammonia treatment will cost the Village of Kelso an estimated \$580,727 - \$1,533,578. Should this cost be financed through increased user fees, the increase might require user fees between 0.7% and 1.3% of the community's Median Household Income. Considering that several of the economic factors show a strong financial capability in this community, this analysis concludes that the evaluated permit action will result in user fees below 2% of the community's median household income.

The Department considered all seven (7) of the criteria presented in subsection 644.145.3 when evaluating the affordability of the relevant actions. Taking into consideration these criteria, this analysis examined whether the above referenced permit modifications affects the ability of an individual customer or household to pay a utility bill without undue hardship or unreasonable sacrifice in the essential lifestyle or spending patterns of the individual or household. As a result of reviewing the above criteria, the Department hereby finds that the action described above will likely result in a low burden with regard to the community's overall financial capability and a low financial impact for most individual customers/households. However, this determination is based on readily available data, and may over-estimate the financial impact on the community.

AP: 4658



MISSOURI DEPARTMENT OF NATURAL RESOURCES
WATER PROTECTION PROGRAM, WATER POLLUTION BRANCH
FORM B - APPLICATION FOR CONSTRUCTION OR OPERATING PERMIT FOR
FACILITIES WHICH RECEIVE PRIMARILY DOMESTIC WASTE (≤100,000 gallons per
day) UNDER MISSOURI CLEAN WATER LAW

FOR AGENCY USE ONLY	
CHECK NUMBER	NO Check Received
DATE RECEIVED	3-18-11
FEE SUBMITTED	0

dm

NOTE ▶ PLEASE READ THE ACCOMPANYING INSTRUCTIONS BEFORE COMPLETING THIS FORM

1. This application is for:

- An operating permit and antidegradation review public notice.
- A construction permit following an appropriate operating permit and antidegradation review public notice.
- A construction permit and a concurrent operating permit and antidegradation review public notice.
- A construction permit (submitted before Aug. 30, 2008 or antidegradation review is not required).
- An operating permit for a new or unpermitted facility. Construction Permit # _____
- An operating permit renewal: Permit #MO- mo- 0115118 Expiration Date 10/26/2011
- An operating permit modification: Permit #MO- _____ Reason: _____

1.1 Is this a Federal/State Funded Project? YES NO Funding Agency/Project #: _____

1.2 Is the appropriate fee included with the application (See instructions for appropriate fee)? YES NO

2. FACILITY (Outfall of _____)

NAME Village of Kelso		TELEPHONE WITH AREA CODE (573) 264-2334	
ADDRESS (PHYSICAL) Po. box 279 / 426 S. Messmer	CITY Kelso	STATE Mo.	ZIP CODE 63758

2.1 LEGAL DESCRIPTION: ----- ¼, NE ¼, NE ¼, Sec. 18, T 29n, R 14e Scott County

2.2 UTM Coordinates Easting (X): _____ Northing (Y): _____
For Universal Transverse Mercator (UTM), Zone 15 North referenced to North American Datum 1983 (NAD83)

2.3 Name of receiving stream: _____

3. OWNER

NAME Village of Kelso		E-MAIL ADDRESS arnzenr@kelsomo.org	TELEPHONE WITH AREA CODE (573) 264-2334	
ADDRESS Po. Box 279	CITY Kelso	STATE Mo.	ZIP CODE 63758	

3.1 Request review of draft permit prior to Public Notice? YES NO

4. CONTINUING AUTHORITY: Permanent organization which will serve as the continuing authority for the operation, maintenance and modernization of the facility.

NAME Village of Kelso		TELEPHONE WITH AREA CODE (573) 264-2334	
ADDRESS Po. Box 279	CITY Kelso	STATE Mo.	ZIP CODE 63758

5. OPERATOR

NAME Employee -- Rick Arnzen	CERTIFICATE NUMBER 8912	TELEPHONE WITH AREA CODE (573) 264-2334
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6. FACILITY CONTACT

NAME Employee Rick Arnzen	TITLE Employee	TELEPHONE WITH AREA CODE (573) 264-2334
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7.0 ADDITIONAL FACILITY INFORMATION

7.1 Description of facilities (Attach additional sheet if required). Attach a 1" = 2,000' scale U.S. Geological Survey topographic map showing location of all outfalls and downstream landowners. (See Item 9.)

7.2 Facility SIC code: _____; Discharge SIC code: _____; Facility NAICS code: _____; Discharge NAICS code: _____

7.3 Number of people presently connected or population equivalent (P.E.) 528 Design P.E. 756
 Number of units presently connected: Homes 260 Trailers _____ Apartments 4 Other _____
 Design flow for this outfall: 75600 Total design flow for the facility: 75600 Actual flow for this outfall: 51000
 Commercial Establishment: Daily number of employees working 0 Daily number of customers/guests _____

7.4 Length of pipe in the sewer collection system? ~~33280 feet~~ (Please denote which unit is appropriate.) 33,280 FEET (APPROX)

7.5 Does any bypassing occur in the collection system or at the treatment facility? Yes No (If yes, attach explanation.)

7.6 Does significant infiltration occur in the collection system? Yes No (If yes, attach explanation and proposed repair.)

7.7 Is industrial waste discharged to the facility identified in Item 2? Yes No (If yes, see instructions.)

7.8 Will the discharge be continuous through the year? Yes No
 a. Discharge will occur during the following months: _____
 b. How many days of the week will the discharge occur? _____

7.9 Is wastewater land applied? Yes No (If yes, attach Form I.)

7.10 Will chlorine be added to the effluent? Yes No
 a. If chlorine is added, what is the resulting residual? _____ µg/l (micrograms per liter)

7.11 Does this facility discharge to a losing stream or sinkhole? Yes No

7.12 Attach a flow chart showing all influents, treatment facilities and outfalls.

7.13 Has a waste load allocation study been completed for this facility? Yes No

7.14 List all permit violations, including effluent limit exceedances in the last five years. Attach a separate sheet if necessary.
 If none, write none. none

RECEIVED
MAR 18 2011

8. SLUDGE HANDLING, USE, AND DISPOSAL

8.1 Is the sludge a hazardous waste as defined by 10 CSR 25? Yes No

8.2 Sludge Production, including sludge received from others: ¹⁵ _____ Design Dry Tons/Year ¹⁰ _____ Actual Dry Tons/Year

8.3 Capacity of sludge holding structures:
 Sludge storage provided: _____ cubic feet; _____ days of storage; _____ average percent solids of sludge;
 No sludge storage is provided.

8.4 Type of Storage: Holding tank Building
 Basin Other (Please describe) _____
 Concrete Pad

8.5 Sludge Treatment:
 Anaerobic Digester Lagoon Composting
 Storage Tank Aerobic Digester Other (Attach description)
 Lime Stabilization Air or Heat Drying

8.6 Sludge Use or Disposal:
 Land Application Surface Disposal (Sludge Disposal Lagoon, Sludge held for more than two years)
 Contract Hauler Incineration
 Hauled to Another Treatment Facility Sludge Retained in Wastewater treatment lagoon
 Solid Waste Landfill Other _____ Attach explanation sheet.

8.7 **PERSON RESPONSIBLE FOR HAULING SLUDGE TO DISPOSAL FACILITY**
 By Applicant By Others (complete below)

NAME _____

ADDRESS	CITY	STATE	ZIP CODE
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CONTACT PERSON	TELEPHONE WITH AREA CODE	PERMIT NO. MO-
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8.8 **SLUDGE USE OR DISPOSAL FACILITY**
 By Applicant By Others (Please complete below.)

NAME _____

ADDRESS	CITY	STATE	ZIP CODE
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CONTACT PERSON	TELEPHONE WITH AREA CODE	PERMIT NO. MO-
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8.9 Does the sludge or biosolids disposal comply with federal sludge regulations under 40 CFR 503?
 Yes No (Please attach explanation)

9. DOWNSTREAM LANDOWNER(S). ATTACH ADDITIONAL SHEETS AS NECESSARY. SEE INSTRUCTIONS.

NAME
 Maurice Schlosser

ADDRESS	CITY	STATE	ZIP CODE
861 Cnty. Hwy 325	Scott City	Mo.	63780

10. DRINKING WATER SUPPLY INFORMATION

10.1 WHAT IS THE SOURCE OF YOUR DRINKING WATER SUPPLY:
 A. Public supply (municipal or water district water) Kelso
 If public, please give name of the public supply Village of Ke
 B. Private well _____
 C. Surface water (lake, pond or stream) _____

10.2 Does your drinking water source serve at least 25 people at least 60 days per year (not necessarily consecutive days)?
 Yes No

10.3 Does your supply serve housing which is occupied year round by the same people? This does not include housing which is occupied seasonally?
 Yes No

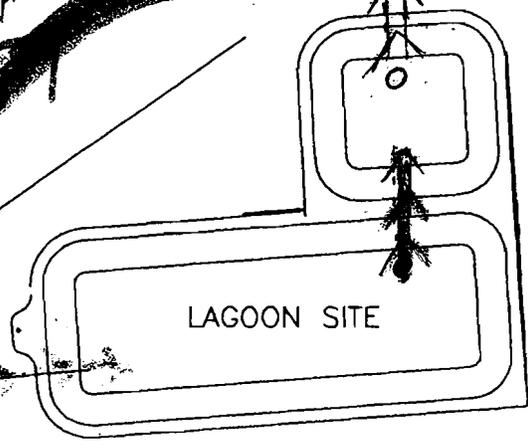
11. I certify that I am familiar with the information contained in the application, that to the best of my knowledge and belief such information is true, complete and accurate, and if granted this permit, I agree to abide by the Missouri Clean Water Law and all rules, regulations, orders and decisions, subject to any legitimate appeal available to applicant under the Missouri Clean Water Law.

NAME AND OFFICIAL TITLE (TYPE OR PRINT)	TELEPHONE WITH AREA CODE
Village of Kelso Per/ Employee Rick Arnzen	(573) 246-2334

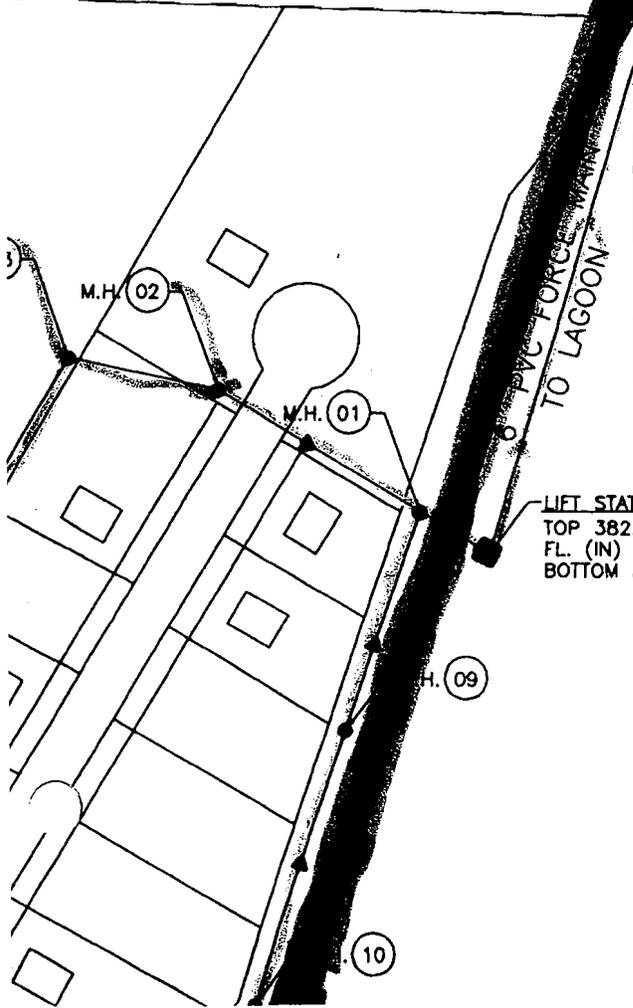
SIGNATURE	DATE SIGNED
<i>Village of Kelso Per Employee Rick Arnzen</i>	03/16/2011 3/16/2011

↑
TO RAMSEY CREEK

UNAMED TRIBUTARY TO RAMSEY CREEK



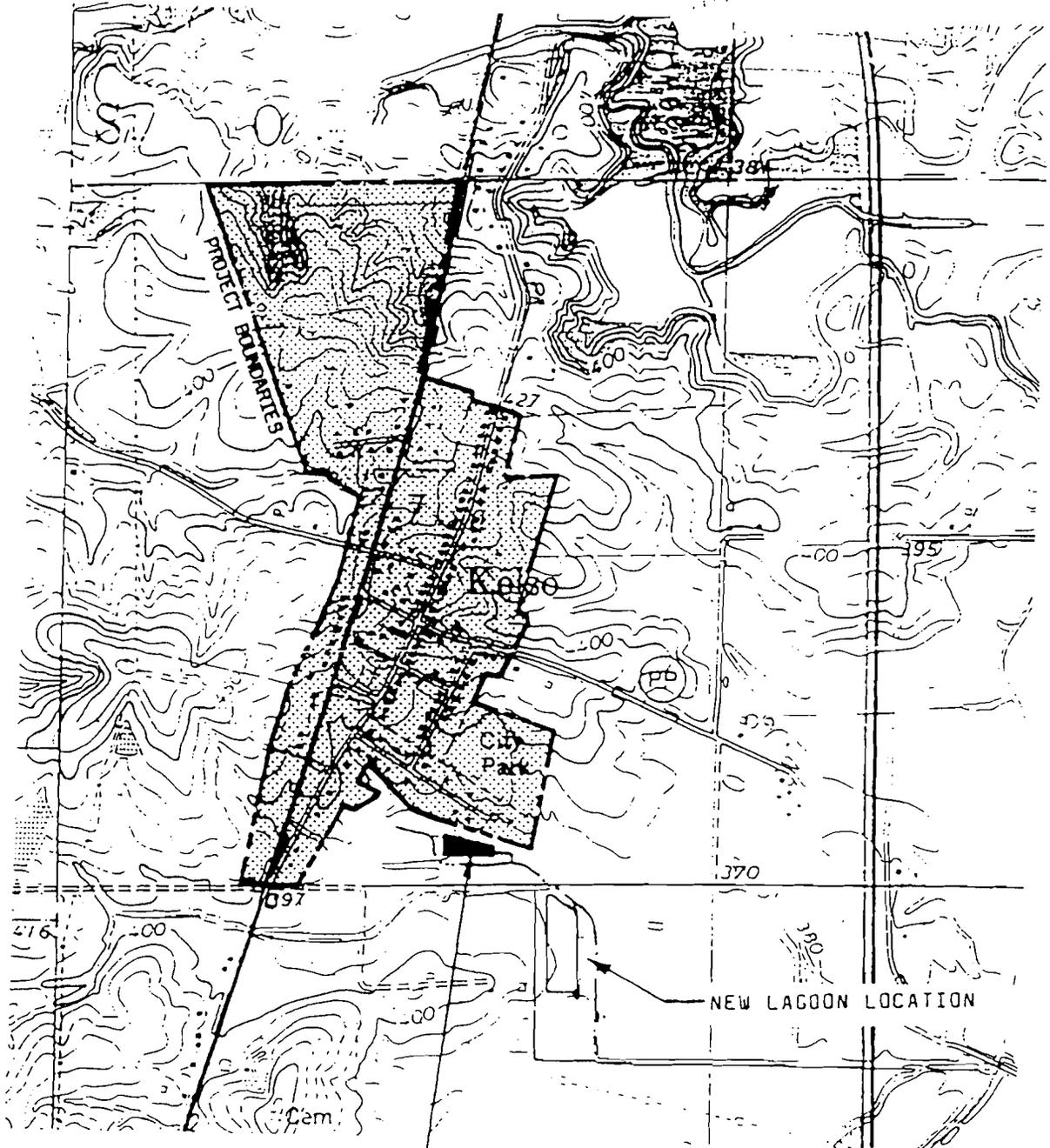
LAGOON LIMITS



8" PVC FORCE MAIN TO LAGOON

LIFT STATION #1
TOP 382.10
FL. (IN) 371.67
BOTTOM 367.70

NOTE:
ALL GRAVITY SEWER LINES
ARE 8" PVC UNLESS
LABELED OTHERWISE



SANITARY SEWER SYSTEM

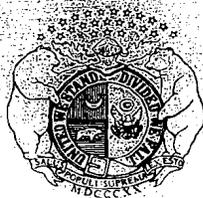
VILLAGE OF KELSO, MISSOURI

REVISED: 04/94
DATE: 05/93

 **KBR ENGINEERING, INC.**
3706 CRAVOIS ROAD
ST. LOUIS, MISSOURI 63123

STATE OF MISSOURI
DEPARTMENT OF NATURAL RESOURCES

MISSOURI CLEAN WATER COMMISSION



MISSOURI STATE OPERATING PERMIT

In compliance with the Missouri Clean Water Law. (Chapter 644 R.S. Mo. as amended, hereinafter, the Law), and the Federal Water Pollution Control Act (Public Law 92-500, 92nd Congress) as amended,

Permit No.: MO-0115118

Owner: Village of Kelso
Owner's Address: PO Box 279, Kelso, MO 63758

Continuing Authority: Same as above
Continuing Authority's Address: Same as above

Facility Name: Village of Kelso Wastewater Treatment Facility
Facility Address: Kelso, MO 63758

Legal Description: NE ¼, NE ¼, Sec. 18, T29N, R14E Scott County
Latitude/Longitude: +3710580/-08932427

Receiving Stream: Unnamed Tributary to Ramsey Creek (U)
First Classified Stream and ID: Ramsey Creek (P) (02346)
USGS Basin & Sub-watershed No.: (07140107-060003)

is authorized to discharge from the facility described herein, in accordance with the effluent limitations and monitoring requirements as set forth herein:

FACILITY DESCRIPTION

Outfall #001 - 92-500/POTW - SIC #4952
Two cell aerated lagoon/Sludge is retained in lagoon.
Design population equivalent is 756.
Design flow is 75,600 gallons per day.
Actual flow is 51,000 gallons per day.
Design sludge production is 15 dry tons/year.

This permit authorizes only wastewater discharges under the Missouri Clean Water Law and the National Pollutant Discharge Elimination System; it does not apply to other regulated areas. This permit may be appealed in accordance with Section 644.051.6 of the Law.

October 27, 2006

Effective Date

Doyle Childers, Director, Department of Natural Resources
Executive Secretary, Clean Water Commission

October 26, 2011

Expiration Date
MO 780-0041 (10-95)

Gary L. Gathes, P.E., Director, Southeast Regional Office