

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, 92<sup>nd</sup> Congress) as amended,

Permit No. MO-0088510

Owner: Nehai Property Owners Association, Inc.  
Address: 1000 Lake Drive, Keytesville, MO 65261

Continuing Authority: Same as above  
Address: Same as above

Facility Name: Lake Nehai Tonkayea WWTF  
Facility Address: 1000 Lake Drive, Keytesville, MO 65261

Legal Description: NW ¼, SW ¼, NE ¼, Sec. 11, T55N, R18W, Chariton County  
UTM Coordinates: X=509369, Y=4382008

Receiving Stream: Unnamed tributary to Mussel Fork Creek (U)  
First Classified Stream and ID: Mussel Fork Creek (P) (00670)  
USGS Basin & Sub-watershed No.: (10280202-0307)

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 – Subdivision – SIC #8641 – **No Certified Operator Required**

Extended aeration / disinfection: chlorination-dechlorination / sludge is removed by contract hauler and land applied  
Design population equivalent is 90.  
Design flow is 9,000 gallons per day.  
Actual flow is 2,460 gallons per day.  
Design sludge production is 1.89 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.

March 9 2012  
Effective Date

September 1, 2012  
Revised Date

Sara Parker Pauley, Director, Department of Natural Resources

March 8, 2017  
Expiration Date

John Madras, Director, Water Protection Program

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 March 8, 2015 from the date of issuance of this permit. 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
<u>Outfall #001</u>						
Flow	MGD	*		*	once/week***	24 hr. estimate
Biochemical Oxygen Demand <sub>5</sub>	mg/L		45	30	once/month	composite**
Total Suspended Solids	mg/L		45	30	once/month	composite**
pH – Units	SU	****		****	once/month	grab
Ammonia as N	mg/L	*		*	once/month	grab
Oil & Grease	mg/L	15		10	once/month	grab
<i>E. coli</i> (Note 1)	#/100mL	1,030		206	once/month	grab
Total Residual Chlorine (Note 2)	mg/L	0.017 (0.13ML)		0.008 (0.13ML)	once/month	grab

MONITORING REPORTS SHALL BE SUBMITTED MONTHLY; THE FIRST REPORT IS DUE October 28, 2012. THERE SHALL BE NO DISCHARGE OF FLOATING SOLIDS OR VISIBLE FOAM IN OTHER THAN TRACE AMOUNTS.

**B. STANDARD CONDITIONS**

IN ADDITION TO SPECIFIED CONDITIONS STATED HEREIN, THIS PERMIT IS SUBJECT TO THE ATTACHED Parts I & III STANDARD CONDITIONS DATED October 1, 1980, and August 15, 1994, AND HEREBY INCORPORATED AS THOUGH FULLY SET FORTH HEREIN.

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS (continued)

- \* Monitoring requirement only.
- \*\* A composite sample made up from a minimum of four grab samples collected within a 24-hour period with a minimum of two hours between each grab sample.
- \*\*\* Once each week means one flow estimate is required each calendar week, from Sunday through Saturday.
- \*\*\*\* 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.

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.

Note 2 - This permit contains a Total Residual Chlorine (TRC) limit.

- (a) This effluent limit is below the minimum quantification level (ML) of the most common and practical EPA approved CLTRC methods. The department has determined the current acceptable ML for total residual chlorine to be 0.13 mg/L when using the DPD Colorimetric Method #4500 – CL G. from Standard Methods for the Examination of Waters and Wastewater. The permittee will conduct analyses in accordance with this method, or equivalent, and report actual analytical values. Measured values greater than or equal to the minimum quantification level of 0.13 mg/L will be considered violations of the permit and values less than the minimum quantification level of 0.13 mg/L will be considered to be in compliance with the permit limitation. The minimum quantification level does not authorize the discharge of chlorine in excess of the effluent limits stated in the permit.

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS *(continued)*

Note 2 - This permit contains a Total Residual Chlorine (TRC) limit. *(continued)*

- (b) Disinfection is required year-round unless the permit specifically states that “Final limitations and monitoring requirements for E.coli are applicable only during the recreational season from April 1 through October 31.” If your permit does not require disinfection during the non-recreational months, do not chlorinate in those months.
- (c) Do not chemically dechlorinate **if it is not needed to meet the limits in your permit**.
- (d) If no chlorine was used in a given sampling period, an actual analysis is not necessary. Simply report as “0 mg/L” TRC.

**A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS**

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PERMIT NUMBER MO-0088510

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 March 9, 2015 and remain in effect until expiration of the permit. 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
<u>Outfall #001</u>						
Flow	MGD	*		*	once/week***	24 hr. estimate
Biochemical Oxygen Demand <sub>5</sub>	mg/L		45	30	once/month	composite**
Total Suspended Solids	mg/L		45	30	once/month	composite**
pH – Units	SU	****		****	once/month	grab
Ammonia as N (May 1 – Oct 31) (Nov 1 – April 30)	mg/L	5.3 12.1		1.3 2.4	once/month	grab
Oil & Grease	mg/L	15		10	once/month	grab
<i>E. coli</i> (Note 1)	#/100mL	1,030		206	once/month	grab
Total Residual Chlorine (Note 2)	mg/L	0.017 (0.13ML)		0.008 (0.13ML)	once/month	grab

MONITORING REPORTS SHALL BE SUBMITTED MONTHLY; THE FIRST REPORT IS DUE April 28, 2015. THERE SHALL BE NO DISCHARGE OF FLOATING SOLIDS OR VISIBLE FOAM IN OTHER THAN TRACE AMOUNTS.

**B. STANDARD CONDITIONS**

IN ADDITION TO SPECIFIED CONDITIONS STATED HEREIN, THIS PERMIT IS SUBJECT TO THE ATTACHED Parts I & III STANDARD CONDITIONS DATED October 1, 1980, and August 15, 1994, AND HEREBY INCORPORATED AS THOUGH FULLY SET FORTH HEREIN.

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS (continued)

- \* Monitoring requirement only.
- \*\* A composite sample made up from a minimum of four grab samples collected within a 24-hour period with a minimum of two hours between each grab sample.
- \*\*\* Once each week means one flow estimate is required each calendar week, from Sunday through Saturday.
- \*\*\*\* 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.

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.

Note 2 - This permit contains a Total Residual Chlorine (TRC) limit.

- (a) This effluent limit is below the minimum quantification level (ML) of the most common and practical EPA approved CLTRC methods. The department has determined the current acceptable ML for total residual chlorine to be 0.13 mg/L when using the DPD Colorimetric Method #4500 – CL G. from Standard Methods for the Examination of Waters and Wastewater. The permittee will conduct analyses in accordance with this method, or equivalent, and report actual analytical values. Measured values greater than or equal to the minimum quantification level of 0.13 mg/L will be considered violations of the permit and values less than the minimum quantification level of 0.13 mg/L will be considered to be in compliance with the permit limitation. The minimum quantification level does not authorize the discharge of chlorine in excess of the effluent limits stated in the permit.

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS (continued)

Note 2 - This permit contains a Total Residual Chlorine (TRC) limit. (continued)

- (b) Disinfection is required year-round unless the permit specifically states that “Final limitations and monitoring requirements for E.coli are applicable only during the recreational season from April 1 through October 31.” If your permit does not require disinfection during the non-recreational months, do not chlorinate in those months.
- (c) Do not chemically dechlorinate **if it is not needed to meet the limits in your permit**.
- (d) If no chlorine was used in a given sampling period, an actual analysis is not necessary. Simply report as “0 mg/L” TRC.

C. 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)1. or 2. within 90 days of notice of its availability. The permittee shall obtain department approval for closure or alternate use of the facility.
4. 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;
    - (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.

C. SPECIAL CONDITIONS (continued)

5. 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.

6. Report as no-discharge when a discharge does not occur during the report period.

7. It is a violation of the Missouri Clean Water Law to fail to pay fees associated with this permit (644.055 RSMo).

8. Sludge and Biosolids Use For Domestic Wastewater Treatment Facilities

- (a) Permittee shall comply with the pollutant limitations, monitoring, reporting, and other requirements in accordance with the attached permit Standard Conditions.
- (b) If sludge is not removed by a contract hauler, permittee is authorized to land apply biosolids. Permit Standard Conditions, Part III shall apply to the land application of biosolids. The department may require submittal of a biosolids management plan for department review and approval as determined appropriate on a case-by-case basis.
- (c) The permittee must submit a completed Form S (documenting sludge removal) by January 28 of each year regardless of whether sludge was actually removed or not.

9. 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.

10. 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 Northeast Regional Office.

11. The permittee shall develop and implement a program for maintenance and repair of the collection system. The permittee shall submit an annual report by January 28th of each year which will address measures taken in the past calendar year to locate and minimize sources of inflow and infiltration in the collection system.

12. The permittee shall comply with the following requirements.

- (a) The facility must be fenced sufficiently to restrict entry by children, livestock and unauthorized persons as well as to protect the facility from vandalism. The fence shall be a minimum of five feet (5') in height. Fences shall be located far enough back from all treatment processes to permit easy access for operation and maintenance and for access of mowing equipment, sludge trucks and similar equipment.
- (b) A least one gate must be provided to access the facility and provide for maintenance and mowing. The gate shall remain locked except when opened by the permittee to perform operational monitoring, sampling, maintenance, mowing, or for inspections by the Department.
- (c) At least one (1) warning sign shall be placed on each side of the facility enclosure in such positions as to be clearly visible from all directions of approach. There shall also be one (1) sign placed for every five hundred feet (500') (150 m) of the perimeter fence. A sign shall also be placed on each gate. Minimum wording shall be "SEWAGE TREATMENT FACILITY—KEEP OUT." Signs shall be made of durable materials with characters at least two inches (2") high and shall be securely fastened to the fence, equipment or other suitable locations.

C. SPECIAL CONDITIONS (continued)

12. The permittee shall comply with the following requirements (continued)

- (d) An all-weather access road shall be provided from a public right-of-way to the treatment facility. Sufficient room shall be provided at the site to permit turning vehicles around. Gravel roads to be used by heavy vehicles shall have a minimum depth of six inches (6") of crushed rock material with a bottom layer of four inches (4") of two to three inch (2–3") size material and a top layer two inches (2") thick of three-fourths inch (3/4") size material. In general, the grade of the access road shall not exceed twelve percent (12%).
- (e) The effluent from the final treatment process 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 waters.
- (f) An Operation and Maintenance (O & M) manual shall be developed and 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.

D. SCHEDULE OF COMPLIANCE

Ammonia as N

1. The final daily maximum and monthly average Ammonia as N limits shall become effective three (3) years after the issue date of the permit. The Effluent Regulation, 10 CSR 20-7.031(10) allows the permittee up to three (3) years from the issuance date of this permit to comply with new or revised National Pollutant Discharge Elimination System (NPDES) or Missouri operating permit limitations based on criteria in the Clean Water Commission Regulations. It states that such compliance "shall be achieved with all deliberate speed and no later than three (3) years from the date of issuance of the permit." Therefore modification to the facilities must be made if required to meet the final effluent limits of this permit.
2. If modifications to the facility are required to meet the final effluent limits of this permit, the Nehai Property Owners Association, Inc., shall submit to the department a facility plan (or engineering report) by **December 9, 2012**, for changes to the Lake Nehai Tonkayea wastewater treatment facility so the discharge from the facility will meet the final effluent limits for Ammonia as Nitrogen.

If the permittee chooses to increase the design capacity of the wastewater treatment facility as part of the modifications, the permittee will be required to follow the *Missouri Antidegradation Rule and Implementation Procedure*. The procedure can be found at the following webpage: <http://www.dnr.mo.gov/env/wpp/permits/antideg-implementation.htm>. An antidegradation review report shall be completed prior to the submittal of a facility plan.

3. Within **six months** of department approval of the facility plan, the Nehai Property Owners Association, Inc., will then submit to the department engineering plans, technical specifications, and a construction permit application, for changes to the Lake Nehai Tonkayea wastewater treatment facility so the discharge from the facility will meet the final effluent limits for Ammonia as N.
4. If completion of construction will be more than 1 year, the Nehai Property Owners Association, Inc., shall submit interim progress reports every 12 months from **March 9, 2012**.
5. If the Nehai Property Owners Association, Inc., determines that modifications to the facility are not needed to meet the final effluent limits of this permit, the Nehai Property Owners Association, Inc., shall submit a letter to the department by **December 9, 2012**, stating that modifications are not needed for the Lake Nehai Tonkayea wastewater treatment facility to meet the final effluent limitations of this permit.
6. The Lake Nehai Tonkayea wastewater treatment facility will meet final effluent limits by **March 9, 2015**.

#### PERMIT TRANSFER

This permit may be transferred to a new owner by submitting an “Application for Transfer of Operating Permit” signed by the seller and buyer of the facility, along with the appropriate modification fee.

#### PERMIT RENEWAL REQUIREMENTS

Unless this permit is terminated, the permittee shall submit an application for the renewal of this permit no later than six (6) months prior to the permit’s expiration date. Failure to apply for renewal may result in termination of this permit and enforcement action to compel compliance with this condition and the Missouri Clean Water Law.

#### TERMINATION

In order to terminate this permit, the permittee shall notify the department by submitting Form J, included with the State Operating Permit. The permittee shall complete Form J and mail it to the department at the address noted in the cover letter of this permit. Proper closure of any storage structure is required prior to permit termination. A closure plan shall be submitted to the department and approved prior to initiating closure activities.

#### DUTY OF COMPLIANCE

The permittee shall comply with all conditions of this permit. Any noncompliance with this permit constitutes a violation of Chapter 644, Missouri Clean Water Law, and 10 CSR 20-6. Noncompliance may result in enforcement action, termination of this authorization, or denial of the permittee's request for renewal. This permit authorizes only the activities described in this permit.



Outfall #001

Legal Description: NW ¼, SW ¼, NE ¼, Sec. 11, T55N, R18W, Chariton County

This was changed from the previous permit, due to a discussion with the permittee and new coordinates.

UTM Coordinates: X=509369, Y=4382008. This is a slight change from the previous permit. The coordinates were taken by NERO staff during a compliance inspection on November 3, 2011.

Receiving Stream: Unnamed tributary to Mussel Fork Creek (U)

First Classified Stream and ID: Mussel Fork Creek (P) (00670)

USGS Basin & Sub-watershed No.: (10380202-0307)

Receiving Water Body's Water Quality & Facility Performance History:

As part of drafting this permit, the department's Water Quality Assessment System database (<http://www.dnr.mo.gov/wqa/>) was consulted. A stream survey was conducted at this facility on August 4, 2011. About 60 yards below the outfall of the Lake Nehai Tonkayea WWTF, the inspector found sludge deposits and determined that the stream was impaired for aquatic life. The analysis description was listed in the report as "Steeply wooded forest ravine, rocky substrate, very turbid water, thick sludge pockets, sparse benthos." The report said the following as the nature of the impact: "Inorganic Suspended Solids, Sludge Deposits, Reduced Benthic Diversity." The aesthetic problems were listed as "Inorganic Suspended Solids, Sludge Deposits", and the aquatic macroinvertebrates were listed as "Hydropsychid Caddisflies, Physa". The upstream description was "Heavily wooded steep ravine, rocky substrate, no flow, scattered shallow pools, no fish or inverts." The description at the outfall was "flow 0.03cfs, odor and sphaerotilis on side hill immediately below outfall."

As part of the application review, a summary report was obtained (on October 17, 2011) from the department's Clean Water Information System database (<http://www.dnr.mo.gov/cwis/>). The report covered the submitted discharge monitoring reports (DMRs) from January 2008 to April 2011 (the most recent report entered). According to the report, the average concentration of five-day Biochemical Oxygen Demand (BOD<sub>5</sub>) was 8.75 mg/L with a high of 30 mg/L in October 2008. The average concentration of Total Suspended Solids (TSS) was 9.35 mg/L with a high of 29 mg/L in October 2010. The average concentration of Ammonia Nitrogen (NH<sub>3</sub>) was 4.20 mg/L with a high of 27.4 mg/L in September 2010. The NH<sub>3</sub> was also 25.2 mg/L in July 2008, 17.9 mg/L in January 2009, and 17.8 mg/L in July 2010. The pH ranged from 5.8 to 7.6 standard units. The pH was below 6.5 standard units seven times since January 2009. These were in August 2008 (5.8), December 2008 (6.3), February 2009 (6.4), June 2009 (5.8), July 2009 (5.9), June 2010 (6.48), and November 2010 (6.08). The permit limit was 6.0 to 9.0 during this time. The discharge flow rate during this time was an average of 2,316 gallons per day (2,464 gallons per day since January 2009), with a one day high of 8,640 gallons per day in March and July 2010.

A Letter of Warning was sent to the permittee in November 2009 for a low pH reported in June 2009. A Letter of Warning was sent to the permittee in January 2009 for a low pH reported in August 2008. A Letter of Warning was sent to the permittee in April 2008 for not reporting flow and temperature of the discharge in January 2008. It was also noticed that a Notice of Violation was issued to the permittee in November 2004 for a sanitary sewer overflow due to a grease clog from the restaurant.

Comments:

On June 27, 2011, the Northeast Regional Office received an application for a construction permit to add disinfection to the existing plant. On September 28, 2011, an additional application was received to renew the operating permit. Initially, one draft operating permit was created as both the permit renewal and the construction permit draft modification. Due to comments received from the permittee and their consultant as well as the regulatory timelines, the draft renewal was separated from the pre-construction draft modification. The attached operating permit is the modification due to proposed construction.

During the file review, it was discovered that the permittee was not submitting a Form S every time sludge is removed from the facility. Mr. Aaron Moore, the association's secretary, said that the sludge is pumped about once every four to five months and hauled by Mr. John Baum of Professional Pump (out of Brookfield, MO).

Lake Nehai Tonkayea WWTF is within the Chariton River Watershed. Chariton River has a TMDL for bacteria (*Escherichia coli*) with the source identified on the 303(d) list as rural nonpoint source. This facility discharges to an unclassified stream more than 20 stream miles from where Mussel Fork Creek meets Chariton River. This facility is not considered to contribute to the impairment of Chariton River.

**Part IIA – 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.

Not Applicable ; This facility is not required to have a certified operator.

**Part IIB– Operational Monitoring**

As per [10 CSR 20-9.010(4)], the facility is not required to conduct operational monitoring.

**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 lists 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.

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

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 1<sup>st</sup> 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 tributary to Mussel Fork Creek	U	N/A	General Criteria	10280202	Central Plains / Grand / Chariton
Mussel Fork Creek	P	00670	AQL, LWW, WBC***		

\* - 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

\*\*\* - According to the department’s website ([http://dnr.mo.gov/env/wpp/wqstandards/uaa/uaa\\_chariton.htm](http://dnr.mo.gov/env/wpp/wqstandards/uaa/uaa_chariton.htm)), a UAA has not been conducted.

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, with the following exceptions: Fecal Coliform is no longer required by regulation, therefore it is being removed. As required by regulation, the new bacterial indicator is Escherichia coli (E. coli). An operating permit renewal application is being reviewed concurrently with this draft renewal.

**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.

- This permit is drafted as a renewal. No degradation is proposed.

**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, SLUDGE, & SEWAGE SLUDGE:**

Bio-solids are solid materials resulting from wastewater treatment that meet federal and state criteria for beneficial uses (i.e. fertilizer). Sludge is any solid, semi-solid, or liquid waste generated from a municipal, commercial, or industrial wastewater treatment plant, water supply treatment plant, or air pollution control facility or any other such waste having similar characteristics and effect. 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.

- Sludge/biosolids are removed by contract hauler and land applied by the hauler. According to a department inspection conducted in November 2011, the permittee has removed sludge each year but had not submitted a Form S since 2002. A special condition is therefore being added to the permit to ensure that the permittee will submit a Form S each year.

**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.

Not Applicable ; The permittee/facility is not currently under Water Protection Program enforcement action.

**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.

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 #1 – 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 (BOD<sub>5</sub>) and Total Suspended Solids (TSS) for Publicly Owned Treatment Works (POTWs)/municipals. Please see the United States Environmental Protection Agency's (EPA) website for interpretation of percent removal requirements for National Pollutant Discharge Elimination System Permit Application Requirements for Publicly Owned Treatment Works and Other Treatment Works Treating Domestic Sewage @ [www.epa.gov/fedrgstr/EPA-WATER/1999/August/Day-04/w18866.htm](http://www.epa.gov/fedrgstr/EPA-WATER/1999/August/Day-04/w18866.htm) .

Not Applicable ; Influent monitoring is not being required to determine percent removal.

**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 established in accordance with [10 CSR 20-7.031(10)]. In addition, the permittee and their consultant submitted a request for additional time to evaluate changes needed in order to meet final effluent limitations for Ammonia.

**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.

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 not submitted.

**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.

Not Applicable ; At this time, the permittee is not required to conduct WET test for this facility.

**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.

- 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 derived and established in the below Effluent Limitations Table are based on current operations of the facility. Future permit action due to facility modification may contain new operating permit terms and conditions that supersedes the terms and conditions, including effluent limitations, of this operating permit.

#### **EFFLUENT LIMITATIONS TABLE:**

PARAMETER	Unit	Basis for Limits	Daily Maximum	Weekly Average	Monthly Average	Modified	Previous Permit Limitations
Flow	MGD	1	*		*	No	S
Biochemical Oxygen Demand <sub>5</sub>	mg/L	1		45	30	No	S
Total Suspended Solids	mg/L	1		45	30	No	S
pH	SU	1/2	6.5 – 9.0		6.5 – 9.0	Yes	6.0 – 9.0
Ammonia as N (Final) (May 1 – Oct 31)	mg/L	2/3/5	5.3		1.3	Yes	*
Ammonia as N (Final) (Nov 1 – Apr 30)	mg/L	2/3/5	12.1		2.4	Yes	*
Escherichia coli (E. coli)	**	1/2	1,030		206	Yes	***
Fecal Coliform	Parameter removed					Yes	1,000 / 400
Chlorine, Total Residual	mg/L	2/3	0.017		0.008	Yes	***
Oil & Grease (mg/L)	mg/L	1/2	15		10	Yes	***
Monitoring Frequency	Please see Minimum Sampling and Reporting Frequency Requirements in the Derivation and Discussion Section below.						

\* - Monitoring requirement only.

\*\* - # of colonies/100mL; the Monthly Average for *E. coli* is a geometric mean.

\*\*\* - Parameter not previously established in previous state operating 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 Judgment      |
| 4. Lagoon Policy                         | 10. TMDL or Permit in lieu of TMDL |
| 5. Ammonia Policy                        | 11. WET Test Policy                |
| 6. Dissolved Oxygen Policy               | 12. Antidegradation Review         |

#### **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 (BOD<sub>5</sub>).** 45 mg/L as a Weekly Average and 30 mg/L as a Monthly Average. Please see the **APPLICABLE DESIGNATION OF WATERS OF THE STATE** sub-section of the **Receiving Stream Information.**
- **Total Suspended Solids (TSS).** 45 mg/L as a Weekly Average and 30 mg/L as a Monthly Average. Please see the **APPLICABLE DESIGNATION OF WATERS OF THE STATE** sub-section of the **Receiving Stream Information.**
- **pH.** Effluent limitation range from 6.5 to 9.0 Standard pH Units (SU), as per the applicable section of 10 CSR 20-7.015. pH is not to be averaged. The pH of the discharge from this facility has been below 6.5 at least seven times since January 2009. This is thought to be an operational problem and that the new pH range of 6.5 – 9.0 is attainable for this facility.

- **Total Ammonia Nitrogen.** Early Life Stages Present Total Ammonia Nitrogen criteria apply [10 CSR 20-7.031(4)(B)7.C. & Table B3] default pH 7.8 SU. No mixing considerations allowed; therefore, WLA = appropriate criterion. Design flow is 9,000 gallons per day (or 0.01395 cubic feet per second).

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: May 1 – October 31

Chronic WLA:  $C_e = ((0.01395 + 0.0)1.5 - (0.0 * 0.01)) / 0.01395$   
 $C_e = 1.5 \text{ mg/L}$

Acute WLA:  $C_e = ((0.01395 + 0.0)12.1 - (0.0 * 0.01)) / 0.01395$   
 $C_e = 12.1 \text{ mg/L}$

$LTA_c = 1.5 \text{ mg/L} (0.626) = 0.94 \text{ mg/L}$  [CV = 1.17, 99<sup>th</sup> Percentile, 30 day avg.]  
 $LTA_a = 12.1 \text{ mg/L} (0.178) = 2.15 \text{ mg/L}$  [CV = 1.17, 99<sup>th</sup> Percentile]

Use most protective number of  $LTA_c$  or  $LTA_a$ .

MDL = 0.94 mg/L (5.63) = 5.3 mg/L [CV = 1.17, 99<sup>th</sup> Percentile]  
 AML = 0.94 mg/L (1.38) = 1.3 mg/L [CV = 1.17, 95<sup>th</sup> Percentile, n =30]

Winter: November 1 – April 30

Chronic WLA:  $C_e = ((0.01395 + 0.0)3.1 - (0.0 * 0.01)) / 0.01395$   
 $C_e = 3.1 \text{ mg/L}$

Acute WLA:  $C_e = ((0.01395 + 0.0)12.1 - (0.0 * 0.01)) / 0.01395$   
 $C_e = 12.1 \text{ mg/L}$

$LTA_c = 3.1 \text{ mg/L} (0.470) = 1.46 \text{ mg/L}$  [CV = 1.99, 99<sup>th</sup> Percentile, 30 day avg.]  
 $LTA_a = 12.1 \text{ mg/L} (0.118) = 1.42 \text{ mg/L}$  [CV = 1.99, 99<sup>th</sup> Percentile]

Use most protective number of  $LTA_c$  or  $LTA_a$ .

MDL = 1.42 mg/L (8.51) = 12.1 mg/L [CV = 1.99, 99<sup>th</sup> Percentile]  
 AML = 1.42 mg/L (1.68) = 2.4 mg/L [CV = 1.99, 95<sup>th</sup> Percentile, n =30]

- ***Escherichia coli (E. coli)*.** Monthly average of 206 per 100 ml as a geometric mean and Daily Maximum of 1,030 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). Daily Maximum effluent variability will be evaluated in development of a future effluent limit. An effluent limit for both monthly average and daily maximum is required by 40 CFR 122.45(d). The monthly average result is to be reported as a geometric mean.

- **Total Residual Chlorine (TRC).** Warm-water Protection of Aquatic Life CCC = 10 µg/L, CMC = 19 µg/L [10 CSR 20-7.031, Table A]. Background TRC = 0.0 µg/L.

Chronic WLA:  $C_e = ((0.01395 + 0.0)10 - (0.0 * 0.0)) / 0.01395$   
 $C_e = 10 \text{ µg/L}$

Acute WLA:  $C_e = ((0.01395 + 0.0)19 - (0.0 * 0.0)) / 0.01395$   
 $C_e = 19 \text{ µg/L}$

$LTA_c = 10 (0.527) = 5.3 \text{ µg/L}$  [CV = 0.6, 99<sup>th</sup> Percentile]  
 $LTA_a = 19 (0.321) = 6.1 \text{ µg/L}$  [CV = 0.6, 99<sup>th</sup> Percentile]

Use most protective number of  $LTA_c$  or  $LTA_a$ .

$$MDL = 5.3 (3.11) = 16.5 \mu\text{g/L}$$

$$AML = 5.3 (1.55) = 8.2 \mu\text{g/L}$$

$$[CV = 0.6, 99^{\text{th}} \text{ Percentile}]$$

$$[CV = 0.6, 95^{\text{th}} \text{ Percentile, } n = 4]$$

Total Residual Chlorine effluent limits of 0.017 mg/L daily maximum, 0.008 mg/L monthly average are recommended if chlorine is used as a disinfectant. Standard compliance language for TRC, including the minimum level (ML), should be included in the permit.

- **Oil & Grease.** This is a conventional pollutant and is being added due to the presence of the local restaurant and a previous sanitary sewer overflow caused by a grease blockage. The effluent limitation for protection of aquatic life is 10 mg/L monthly average and 15 mg/L daily maximum. This is an extended aeration mechanical plant that should be capable of meeting these effluent limitations.
- **Minimum Sampling and Reporting Frequency Requirements.** Sampling and reporting frequency requirements have been retained from previous state operating permit.

PARAMETER	SAMPLING FREQUENCY	REPORTING FREQUENCY
Flow	once/week †	once/month
Biochemical Oxygen Demand <sub>5</sub>	once/month	once/month
Total Suspended Solids	once/month	once/month
pH	once/month	once/month
Ammonia as N	once/month	once/month
Oil & Grease	once/month	once/month
E.coli	once/month	once/month
Chlorine, Total Residual	once/month	once/month

† A flow measurement of once per week is being retained from the previous permit.

## **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.

Not Applicable;

The Department is not required to determine findings of affordability because the facility is not a **combined or separate sanitary sewer system for a publically-owned treatment works.**

## **Part VII – Administrative Requirements**

Based on 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.

### **PUBLIC NOTICE:**

The Department shall give public notice that a draft permit has been prepared and its issuance is pending. Additionally, public notice will be issued if a public hearing is to be held because of a significant degree of interest in and water quality concerns related to a draft permit. No public notice is required when a request for a permit modification or termination is denied; however, the requester and permittee must be notified of the denial in writing.

The Department must issue public notice of a pending operating permit or of a new or reissued statewide general permit. The public comment period is the length of time not less than 30 days following the date of the public notice which interested persons may submit written comments about the proposed permit.

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 was from February 3, 2012 to March 5, 2012. No responses received or responses to the Public Notice of this operating permit do not warrant the modification of effluent limits and/or the terms and conditions of this permit.

**ORIGINAL DATE OF FACT SHEET:** OCTOBER 19, 2011  
**LAST UPDATED:** JULY 12, 2012

Submitted by

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This permit was originally placed on public notice on December 16, 2011, but was withdrawn under threat of objection by the U.S. EPA. EPA had concerns about changes that had been made in the language protecting Missouri's Narrative Water Quality Standards. The change had been made in an attempt to accommodate recent changes in Missouri's Statutes. EPA found the new language deficient. On January 6, 2012, the permit was placed back on to public notice, with the previous version of the Narrative Criteria protection. Due to comments made by the permittee and their consultant, the draft permit was again modified. In addition, the permit was originally drafted as a five-year renewal as well as a draft modification due to proposed construction. Due to regulatory timelines, the renewal and draft modification were separated into two permit actions. The attached permit is the modification.

Last modified by:

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**Part VIII – Appendices**

**APPENDIX #1 – RPA RESULTS:**

PARAMETER	CMC*	RWC ACUTE*	CCC*	RWC CHRONIC*	N**	RANGE MAX/MIN	CV***	MF	RP YES/NO
TOTAL AMMONIA AS NITROGEN (SUMMER) MG/L	12.1	99.59	1.5	99.59	24	0.1 – 27.4	1.170	3.635	YES
TOTAL AMMONIA AS NITROGEN (WINTER) MG/L	12.1	92.18	3.1	92.18	28	0.1 – 17.9	1.985	5.150	YES

N/A – Not Applicable

\* - Units are (mg/L) unless otherwise noted.

\*\* - 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). A more detailed version including calculations of this RPA is available upon request.