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 RSMo, hereinafter, the Law), and the Federal Water Pollution Control Act (Public Law 92-500, 92nd Congress) as amended,

Permit No. MO-0136085
Owner: Eagle View Lots 3 & 4 Association, Inc.
Address: 1696 Camp Hohn Road, Gravois Mills, MO 65037

Continuing Authority: Same as above
Address: Same as above

Facility Name: Eagle View Lots 3 & 4 WWTF
Facility Address: 1696 Camp Hohn Road, Gravois Mills, MO 65037

Legal Description: Sec. 35, T40N, R18W, Camden County
UTM Coordinates: X = 509171, Y = 4225844

Receiving Stream: Lake of the Ozarks (L2) (7205)
First Classified Stream and ID: Lake of the Ozarks (L2) (7205)
USGS Basin & Sub-watershed No.: Lake of the Ozarks; (10290109-0206)

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 –Non-POTW
Septic tank / recirculating sand filter / chlorination / dechlorination / post aeration / septage disposal by contract hauler.
Design population equivalent is 7.4.
Design flow is 659 gallons per day.
Actual flow is 280 gallons per day.
Design sludge production is 0.126 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.

January 1, 2022
Effective Date

December 31, 2026
Expiration Date

Chris Wieberg, Director, Water Protection Program
The permittee is authorized to discharge from outfall number(s) as specified in the application for this permit. The final effluent limitations in Table A shall become effective on **January 1, 2022** and remain in effect until expiration of the permit. Such discharges shall be controlled, limited and monitored by the permittee as specified below:

<table>
<thead>
<tr>
<th>EFFLUENT PARAMETER(S)</th>
<th>UNITS</th>
<th>FINAL EFFLUENT LIMITATIONS</th>
<th>MONITORING REQUIREMENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>DAILY MAXIMUM</td>
<td>WEEKLY AVERAGE</td>
</tr>
<tr>
<td><strong>Limit Set: Q</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Flow</td>
<td>MGD</td>
<td>*</td>
<td>*</td>
</tr>
<tr>
<td>Biochemical Oxygen Demand₅</td>
<td>mg/L</td>
<td>15</td>
<td>10</td>
</tr>
<tr>
<td>Total Suspended Solids</td>
<td>mg/L</td>
<td>15</td>
<td>10</td>
</tr>
<tr>
<td><em>E. coli (Note 1)</em></td>
<td>#/100mL</td>
<td>630</td>
<td>126</td>
</tr>
<tr>
<td>Ammonia as N</td>
<td>mg/L</td>
<td>4.5</td>
<td>3.0</td>
</tr>
<tr>
<td>Total Residual Chlorine (Note 2)</td>
<td>µg/L</td>
<td>&lt; 130</td>
<td>&lt; 130</td>
</tr>
</tbody>
</table>

**EFFLUENT PARAMETER(S) UNITS**

**MINIMUM**

**MAXIMUM**

**MEASUREMENT FREQUENCY**

**SAMPLE TYPE**

| pH – Units**          | SU    | 6.0 | 9.0 | once/quarter*** | grab         |

**EFFLUENT PARAMETER(S) UNITS**

**DAILY MINIMUM**

**MONTHLY AVERAGE MINIMUM**

**MEASUREMENT FREQUENCY**

**SAMPLE TYPE**

| Dissolved Oxygen      | mg/L  | 5.0 | 5.0 | once/quarter*** | grab         |

MONITORING REPORTS SHALL BE SUBMITTED QUARTERLY; THE FIRST REPORT IS DUE APRIL 28, 2022. THERE SHALL BE NO DISCHARGE OF FLOATING SOLIDS OR VISIBLE FOAM IN OTHER THAN TRACE AMOUNTS.

* Monitoring requirement only.

** pH is measured in pH units and is not to be averaged.

*** See table below for quarterly sampling.

### Quarterly Minimum Sampling Requirements

<table>
<thead>
<tr>
<th>Quarter</th>
<th>Months</th>
<th>E. coli and Total Residual Chlorine (TRC)</th>
<th>All Other Parameters</th>
<th>Report is Due</th>
</tr>
</thead>
<tbody>
<tr>
<td>First</td>
<td>January, February, March</td>
<td>Not required to sample.</td>
<td>Sample at least once during any month of the quarter</td>
<td>April 28th</td>
</tr>
<tr>
<td>Second</td>
<td>April, May, June</td>
<td>Sample at least once during any month of the quarter</td>
<td>Sample at least once during any month of the quarter</td>
<td>July 28th</td>
</tr>
<tr>
<td>Third</td>
<td>July, August, September</td>
<td>Sample at least once during any month of the quarter</td>
<td>Sample at least once during any month of the quarter</td>
<td>October 28th</td>
</tr>
<tr>
<td>Fourth</td>
<td>October</td>
<td><strong>Sample once during October</strong></td>
<td>Sample at least once during any month of the quarter</td>
<td>January 28th</td>
</tr>
<tr>
<td></td>
<td>November &amp; December</td>
<td>Not required to sample.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Note 1** – Effluent 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) The Water Quality Based Effluent Limit for Total Residual Chlorine was calculated to be **19 µg/L** (daily maximum limit) and **9 µg/L** (monthly average limit). These limits are 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 **130 µg/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. The minimum quantification level does not authorize the discharge of chlorine in excess of the effluent limits stated in the permit. Measured values greater than or equal to the minimum quantification level of 130 µg/L will be considered violations of the permit and values less than the minimum quantification level of 130 µg/L will be considered to be in compliance with the permit limitation.

(b) Disinfection is required during the recreational season from April 1 through October 31. Do not chlorinate during the non-recreational months and an actual analysis for TRC and Dissolved Oxygen (DO) is not necessary.

(c) Do not chemically de-chlorinate 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 for TRC is not necessary. Simply report as “AG – Conditional Monitoring Not Required This Period” for TRC in the eDMR system.

B. STANDARD CONDITIONS

In addition to specified conditions stated herein, this permit is subject to the attached Parts I & III standard conditions dated August 1, 2014, and August 1, 2019, and hereby incorporated as though fully set forth herein.

C. SPECIAL CONDITIONS

1. Electronic Discharge Monitoring Report (eDMR) Submission System. Per 40 CFR Part 127 National Pollutant Discharge Elimination System (NPDES) Electronic Reporting Rule, reporting of effluent monitoring data and any report required by the permit (unless specifically directed otherwise by the permit) shall be submitted by the permittee via an electronic system to ensure timely, complete, accurate, and nationally consistent set of data about the NPDES program.

(a) eDMR Registration Requirements. The permittee must register with the Department’s eDMR system through the Missouri Gateway for Environmental Management (MoGEM) before the first report is due. Registration and other information regarding MoGEM can be found at https://dnr.mo.gov/mogem. Information about the eDMR system can be found at https://dnr.mo.gov/env/wpp/edmr.htm. The first user shall register as an Organization Official and the association to the facility must be approved by the Department. Regarding Standard Conditions Part I, Section B, #7, the eDMR system is currently the only Department approved reporting method for this permit unless a waiver is granted by the Department. See paragraph (c) below.

(b) Electronic Submissions. To access the eDMR system, use the following link in your web browser: https://apps5.mo.gov/mogems/welcome.action. If you experience difficulties with using the eDMR system you may contact edm@dnr.mo.gov or call 855-789-3889 or 573-526-2082 for assistance.

(c) Waivers from Electronic Reporting. The permittee must electronically submit compliance monitoring data and reports unless a waiver is granted by the Department in compliance with 40 CFR Part 127. Only permittees with an approved waiver request may submit monitoring data and reports on paper to the Department for the period that the approved electronic reporting waiver is effective. The permittee may obtain an electronic reporting waiver by first submitting an eDMR Waiver Request Form: http://dnr.mo.gov/forms/780-2692-f.pdf. The Department will either approve or deny this electronic reporting waiver request within 120 calendar days.

2. The full implementation of this operating permit, which includes implementation of any applicable schedules of compliance, shall constitute compliance with all applicable federal and state statutes and regulations in accordance with §644.051.16, RSMo, and the Clean Water Act (CWA) section 402(k); however, this permit may be reopened and modified, or alternatively revoked and reissued:

(a) To 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 CWA, 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.

3. All outfalls must be clearly marked in the field.

4. Report as no-discharge when a discharge does not occur during the report period.
C. SPECIAL CONDITIONS (continued)

5. Reporting of Non-Detects:
   (a) An analysis conducted by the permittee or their contracted laboratory shall be conducted in such a way that the precision and accuracy of the analyzed result can be enumerated.
   (b) The permittee shall not report a sample result as “Non-Detect” without also reporting the detection limit of the test. Reporting as “Non Detect” without also including the detection limit will be considered failure to report, which is a violation of this permit.
   (c) The permittee shall provide the “Non-Detect” sample result using the less than sign and the minimum detection limit (e.g. <10).
   (d) Where the permit contains a Minimum Level (ML) and the permittee is granted authority in the permit to report zero in lieu of the < ML for a specified parameter (conventional, priority pollutants, metals, etc.), then zero (0) is to be reported for that parameter.
   (e) See Standard Conditions Part I, Section A, #4 regarding proper detection limits used for sample analysis.
   (f) When a parameter is not detected above ML, the permittee must report the data qualifier signifying less than ML for that parameter (e.g., < 50 µg/L, if the ML for the parameter is 50 µg/L). For reporting an average based on a mix of values detected and not detected, assign a value of “0” for all non-detects for that reporting period and report the average of all the results.

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

7. Bypasses are not authorized at this facility unless they meet the criteria in 40 CFR 122.41(m). If a bypass occurs, the permittee shall report in accordance to 40 CFR 122.41(m)(3), and with Standard Condition Part I, Section B, subsection 2. Bypasses are to be reported to the Central Field Office during normal business hours or by using the online Sanitary Sewer Overflow/Facility Bypass Application located at: https://dnr.mo.gov/mogem/ or the Environmental Emergency Response spill-line at 573-634-2436 outside of normal business hours. Once an electronic reporting system compliant with 40 CFR Part 127, the National Pollutant Discharge Elimination System (NPDES) Electronic Reporting Rule, is available all bypasses must be reported electronically via the new system. Blending, which is the practice of combining a partially-treated wastewater process stream with a fully-treated wastewater process stream prior to discharge, is not considered a form of bypass. If the permittee wishes to utilize blending, the permittee shall file an application to modify this permit to facilitate the inclusion of appropriate monitoring conditions.

8. The facility must be sufficiently secured to restrict entry by children, livestock and unauthorized persons as well as to protect the facility from vandalism.

9. 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.

10. An all-weather access road to the treatment facility shall be maintained.

11. The outfall sewer shall be protected and maintained against the effects of floodwater, ice, or other hazards as to reasonably insure its structural stability, freedom from stoppage, and 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.

12. The media in the filter beds shall be properly maintained to prevent surface pooling, vegetative growth, and accumulation of leaf litter.

D. NOTICE OF RIGHT TO APPEAL

If you were adversely affected by this decision, you may be entitled to pursue an appeal before the administrative hearing commission (AHC) pursuant to Sections 621.250 and 644.051.6 RSMo. To appeal, you must file a petition with the AHC within thirty days after the date this decision was mailed or the date it was delivered, whichever date was earlier. If any such petition is sent by registered mail or certified mail, it will be deemed filed on the date it is mailed; if it is sent by any method other than registered mail or certified mail, it will be deemed filed on the date it is received by the AHC. Any appeal should be directed to:

Administrative Hearing Commission
U.S. Post Office Building, Third Floor
131 West High Street, P.O. Box 1557
Jefferson City, MO 65102-1557
Phone: 573-751-2422
Fax: 573-751-5018
Website: https://ahc.mo.gov
MISSOURI DEPARTMENT OF NATURAL RESOURCES
FACT SHEET
FOR THE PURPOSE OF RENEWAL
OF
MO-0136085
EAGLE VIEW LOTS 3 & 4 WWTF

The Federal Water Pollution Control Act ("Clean Water Act" Section 402 Public Law 92-500 as amended) established the National Pollutant 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 stormwater 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)(A)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.

Part I – Facility Information

Application Date: 03/31/21
Expiration Date: 12/31/21

Facility Type and Description: Non – POTW
Septic tank / recirculating sand filter / chlorination / dechlorination / post aeration / sludge disposal by contract hauler.

Outfall(s) Table:

<table>
<thead>
<tr>
<th>OUTFALL</th>
<th>DESIGN FLOW (CFS)</th>
<th>TREATMENT LEVEL</th>
<th>EFFLUENT TYPE</th>
</tr>
</thead>
<tbody>
<tr>
<td>#001</td>
<td>0.000783</td>
<td>Secondary</td>
<td>Domestic</td>
</tr>
</tbody>
</table>

Comments:
Changes in this permit for Outfall #001 include the revision of pH effluent limitations, as this facility does receive lake mixing considerations. No other changes were made at this time. See Part II of the Fact Sheet for further information regarding the addition, revision, and removal of effluent parameters.
**Part II – Effluent Limitations and Monitoring Requirements**

**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 supersede the terms and conditions, including effluent limitations, of this operating permit.

**OUTFALL #001 - RECEIVING STREAM INFORMATION**

**RECEIVING STREAM(S) TABLE:**

<table>
<thead>
<tr>
<th>WATER-BODY NAME</th>
<th>CLASS</th>
<th>WBID</th>
<th>DESIGNATED USES*</th>
<th>12-DIGIT HUC</th>
<th>DISTANCE TO CLASSIFIED SEGMENT (MI)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lake of the Ozarks</td>
<td>L2</td>
<td>7205</td>
<td>AQL, WBC-A, SCR, HHP, IRR, LWW</td>
<td>10290109-0206</td>
<td>0.0</td>
</tr>
</tbody>
</table>

*As per 10 CSR 20-7.031 Missouri Water Quality Standards, the Department defines the Clean Water Commission’s water quality objectives in terms of “water uses to be maintained and the criteria to protect those uses.” The receiving stream and 1st classified receiving stream’s beneficial water uses to be maintained are in the receiving stream table in accordance with [10 CSR 20-7.031(1)(C)].

Uses found in the receiving streams table, above:
10 CSR 20-7.031(1)(C)1.:  
AQL = Protection of aquatic life (Current narrative use(s) are defined to ensure the protection and propagation of fish shellfish and wildlife, which is further subcategorized as: WWH = Warm Water Habitat; CDF = Cold-water fishery (Current narrative use is cold-water habitat); EAH = Ephemeral Aquatic Habitat; MAH = Modified Aquatic Habitat; LAH = Limited Aquatic Habitat. This permit uses AQL effluent limitations in 10 CSR 20-7.031 Table A for all habitat designations unless otherwise specified.)

10 CSR 20-7.031(1)(C)2.: Recreation in and on the water  
WBC = Whole Body Contact recreation where the entire body is capable of being submerged;  
WBC-A = Whole body contact recreation that supports swimming uses and has public access;  
WBC-B = Whole body contact recreation that supports swimming;  
SCR = Secondary Contact Recreation (like fishing, wading, and boating).

10 CSR 20-7.031(1)(C)3. to 7.:  
HHP (formerly HHF) = Human Health Protection as it relates to the consumption of fish;  
IRR = Irrigation for use on crops utilized for human or livestock consumption;  
LWW = Livestock and wildlife watering (Current narrative use is defined as LWP = Livestock and Wildlife Protection);  
DWS = Drinking Water Supply;  
IND = Industrial water supply

10 CSR 20-7.031(1)(C)8-11.: Wetlands (10 CSR 20-7.031 Table A currently does not have corresponding habitat use criteria for these defined uses)  
WSA = Storm- and flood-water storage and attenuation; WHP = Habitat for resident and migratory wildlife species;  
WRC = Recreational, cultural, educational, scientific, and natural aesthetic values and uses; WHC = Hydrologic cycle maintenance.

10 CSR 20-7.031(6): GRW = Groundwater

**MIXING CONSIDERATIONS**

*Zone of Initial Dilution: Not Allowed [10 CSR 20-7.031(5)(A)4.B.(IV)(b)].*

**Mixing Zone:**
Mixing Zone (MZ) Parameters: According to the USGS 1:24,000K Quadrangle, the mainstem lake width near the new facility outfall location is approximately 2250 feet (ft.). Using “normal” water levels of 2250 ft. wide and one-quarter of this width equals 562 ft. Therefore, because 100 feet is less than 562 ft., MZ = 100 feet [10 CSR 20-7.031(5)(A)5.B.(IV)(a)].

Mixing Zone Volume: The flow volume approximates a triangular prism because of the slope of the lake bottom, where the formula is Volume = L*W*(D*0.5). Assuming that the width will be either side of the discharge (MZ) length (100 feet) to form the plume effect, the box dimensions are length (L) = 100 ft., width (W) = 100 ft., and depth (D) = 12 ft. Depth was obtained using mixing zone length projected 100 ft. from shoreline to the intersecting contour on 7.5’ USGS topographic map (shoreline contour=204 ft. and lake depth contour at 100 ft. from shore = 192 ft.).

Volume = L*W*(D*0.5) = (100’)*(100’)*(12’*(0.5)) = 60,000 ft³.

The flow volume of 60,000 ft³ is assumed as the daily mixing zone. Therefore;
30Q10 = (60,000 ft³/day)*(1 day/86,400 sec) = 0.69 ft³/sec.

Receiving Water Body’s Water Quality

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.

- This facility does not discharge to a 303(d) listed stream or to a stream with an EPA approved TMDL.
- The Department has not conducted a stream survey for this waterbody. When a stream survey is conducted, more information may be available about the receiving stream.

**CHANGES TO EFFLUENT LIMITATIONS TABLE:**

<table>
<thead>
<tr>
<th>PARAMETER</th>
<th>Unit</th>
<th>Basis for Limits</th>
<th>Minimum</th>
<th>Maximum</th>
<th>Previous Permit Limit</th>
<th>Sampling Frequency</th>
<th>Reporting Frequency</th>
<th>Sample Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>pH</td>
<td>SU</td>
<td>1</td>
<td>6.0</td>
<td>9.0</td>
<td>6.5-9.0</td>
<td>1/quarter</td>
<td>quarterly</td>
<td>G</td>
</tr>
</tbody>
</table>

**Basis for Limitations Codes:**

1. State or Federal Regulation/Law
2. Water Quality Standard (includes RPA)
3. Water Quality Based Effluent Limits
4. Antidegradation Review
5. Antidegradation Policy
6. Water Quality Model
7. Best Professional Judgment
8. TMDL or Permit in lieu of TMDL
9. WET Test Policy
10. Multiple Discharger Variance
11. Nutrient Criteria Implementation Plan

**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).** Operating permit retains 15 mg/L as a Weekly Average and 10 mg/L as a Monthly Average. Please see the attached Antidegradation Review Sheet.

- **Total Suspended Solids (TSS).** Operating permit retains 15 mg/L as a Weekly Average and 10 mg/L as a Monthly Average. Please see the attached Antidegradation Review Sheet.

- **Escherichia coli (E. coli).** Monthly average of 126 per 100 mL as a geometric mean and Daily Maximum of 630 per 100 mL as a geometric mean during the recreational season (April 1 – October 31), for discharges within two miles upstream of segments or lakes with Whole Body Contact Recreation (A) designated use of the receiving stream, as per 10 CSR 20-7.031(9)(B). An effluent limit for both monthly average and daily maximum is required by 40 CFR 122.45(d). The Geometric Mean is calculated by multiplying all of the data points and then taking the nth root of this product, where n = # of samples collected. For example: Five E. coli samples were collected with results of 1, 4, 6, 10, and 5 (#/100mL). Geometric Mean = 5th root of (1)(4)(6)(10)(5) = 5th root of 1,200 = 4.1 #/100mL.

- **Total Ammonia Nitrogen.** Early Life Stages Present Total Ammonia Nitrogen criteria apply [10 CSR 20-7.031(5)(B)7.C. & Table B3]. Background total ammonia nitrogen = 0.01 mg/L. No Zone of Initial Dilution allowed [10 CSR 20-7.031(5)(A)4.B.(IV)(b)]. Ammonia limits have been set by the Antidegradation Review. As such, they are maintained from the previous permit.

- **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: \( C_e = (((0.001 + 0.69)10 - (0.69 * 0.0))/0.001 \)
C_e = 6910 µg/L

Acute WLA: \[ C_e = ((0.001 + 0.0)19 - (0.0 * 0.0))/0.001 \]
\[ C_e = 19 \mu g/L \]

\[ LTA_c = 6910 (0.527) = 3641.6 \mu g/L \]
\[ LTA_s = 19 (0.321) = 6.1 \mu g/L \]

[CV = 0.6, 99th Percentile]
[CV = 0.6, 99th Percentile]

Use most protective number of LTA_c or LTA_s.

- **pH**. 6.0-9.0 SU. The permit writer has made a reasonable potential determination based on the assimilative capacity of the receiving stream that the discharge will not cause or contribute to the excursion of the water quality standard for pH instream. Therefore, effluent limitations as required by 10 CSR 20-7.015 are substituted for the pH water quality criteria of 6.5-9.0 SU.

- **Dissolved Oxygen**. Operating permit retains 5.0 mg/L as a Daily Minimum and 5.0 mg/L as a Monthly Average Minimum. Please see the attached Antidegradation Review Sheet.

**Sampling Frequency Justification**: The Department has determined that previously established sampling and reporting frequency is sufficient to characterize the facility’s effluent and be protective of water quality. Sampling for *E. coli* is set at quarterly per 10 CSR 20-7.015(9)(D)7.C.

**Sampling Type Justification**: As per 10 CSR 20-7.015, BOD_5 and TSS collected for media filters may be grab samples. Grab samples must be collected for pH, *E. coli*, TRC, and Dissolved Oxygen in accordance with recommended analytical methods. For further information on sampling and testing methods please review 10 CSR 20-7.015(9)(D)2.

**OUTFALL #001 – GENERAL CRITERIA CONSIDERATIONS**: In accordance with 40 CFR 122.44(d)(1), effluent limitations shall be placed into the permit for those pollutants which have been determined to cause, have the reasonable potential to cause, or contribute to an excursion above any State water quality standard, including State narrative criteria for water quality. The rule further states that pollutants which have been determined to cause, have the reasonable potential to cause, or contribute to an excursion above a narrative criterion within an applicable State water quality standard, the permit shall contain a numeric effluent limitation to protect that narrative criterion. In order to comply with this regulation, the permit writer will complete reasonable potential determinations on whether the discharge will violate any of the general criteria listed in 10 CSR 20-7.031(4). These specific requirements are listed below followed by derivation and discussion (the lettering matches that of the rule itself, under 10 CSR 20-7.031(4)). It should also be noted that Section 644.076.1, RSMo as well as Section D – Administrative Requirements of Standard Conditions Part I of this permit states that it shall be unlawful for any person to cause or permit any discharge of water contaminants from any water contaminant or point source located in Missouri that is in violation of sections 644.006 to 644.141 of the Missouri Clean Water Law or any standard, rule or regulation promulgated by the commission.

(A) 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. The discharge from this facility is made up of treated domestic wastewater. Based upon review of the Report of Compliance Inspection for the inspection conducted on February 19, 2020, no evidence of an excursion of this criterion has been observed by the Department in the past and the facility has not disclosed any other information related to the characteristics of the discharge on their permit application which has the potential to cause or contribute to an excursion of this narrative criterion. Additionally, this facility utilizes secondary technology and is currently in compliance with the secondary treatment technology based effluent limits established in 40 CFR 133 and there has been no indication to the Department that the stream has had issues maintaining beneficial uses as a result of this discharge. Based on the information reviewed during the drafting of this permit, these final effluent limitations appear to have protected against the excursion of this criterion in the past. Therefore, the discharge does not have the reasonable potential to cause or contribute to an excursion of this criterion.

(B) Waters shall be free from oil, scum and floating debris in sufficient amounts to be unsightly or prevent full maintenance of beneficial uses. Please see (A) above as justification is the same.

(C) Waters shall be free from substances in sufficient amounts to cause unsightly color or turbidity, offensive odor or prevent full maintenance of beneficial uses. Please see (A) above as justification is the same.

(D) Waters shall be free from substances or conditions in sufficient amounts to result in toxicity to human, animal or aquatic life. This permit contains final effluent limitations which are protective of both acute and chronic toxicity for various pollutants that are either expected to be discharged by domestic wastewater facilities or that were disclosed by this facility on the application for permit coverage. Based on the information reviewed during the drafting of this permit, it has been determined if the facility meets final effluent limitations established in this permit, there is no reasonable potential for the discharge to cause an excursion of this criterion.
(E) Waters shall provide for the attainment and maintenance of water quality standards downstream including waters of another state. Please see (D) above as justification is the same.

(F) There shall be no significant human health hazard from incidental contact with the water. Please see (D) above as justification is the same.

(G) There shall be no acute toxicity to livestock or wildlife watering. Please see (D) above as justification is the same.

(H) Waters shall be free from physical, chemical or hydrologic changes that would impair the natural biological community. Please see (A) above as justification is the same.

(I) 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. The discharge from this facility is made up of treated domestic wastewater. No evidence of an excursion of this criterion has been observed by the Department in the past and the facility has not disclosed any other information related to the characteristics of the discharge on their permit application which has the potential to cause or contribute to an excursion of this narrative criterion. Additionally, any solid wastes received or produced at this facility are wholly contained in appropriate storage facilities, are not discharged, and are disposed of offsite. This discharge is subject to Standard Conditions Part III, which contains requirements for the management and disposal of sludge to prevent its discharge. Therefore, this discharge does not have reasonable potential to cause or contribute to an excursion of this criterion.

**Part III – 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.

- The facility does not discharge to a Losing Stream as defined by [10 CSR 20-2.010(40)] & [10 CSR 20-7.031(1)(O)], or is an existing facility.

**ANTI-BACKSLIDING:**

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

- Limitations in this operating permit for the reissuance of this permit conform to the anti-backsliding provisions of Section 402(o) of the Clean Water Act, and 40 CFR Part 122.44.

  - Information is available which was not available at the time of permit issuance (other than revised regulations, guidance, or test methods) and which would have justified the application of a less stringent effluent limitation at the time of permit issuance.

    - **pH.** The previous permit contained final effluent limits of 6.5-9.0 SU. While the Antidegradation Review suggests pH limits, these are based solely on federal regulation, which allow for pH to be relaxed in cases of mixing. As they were not water quality based limits derived from modeling, so long as federal regulations are applied, the pH effluent limitations may be adjusted. During the drafting of this permit, the permit writer made a reasonable potential determination based on the assimilative capacity of the receiving stream that the discharge will not cause or contribute to an excursion of the water quality standard for pH instream. As a result, final effluent limits of 6.0-9.0 SU as required by 10 CSR 20-7.015 are substituted for the pH water quality criteria of 6.5-9.0 SU. The permit remains protective of water quality and this determination will be reevaluated during the next permit renewal.

  - The Department determines that technical mistakes or mistaken interpretations of law were made in issuing the permit under section 402(a)(1)(b).

    - **General Criteria.** The previous permit contained a special condition which described a specific set of prohibitions related to general criteria found in 10 CSR 20-7.031(4). In order to comply with 40 CFR 122.44(d)(1), the permit writer has conducted reasonable potential determinations for each general criterion and established numeric effluent limitations where reasonable potential exists. While the removal of the previous permit special condition creates the appearance of backsliding, since this permit establishes numeric limitations where reasonable potential to cause or contribute to an excursion of the general criteria exists, this permit maintains sufficient effluent limitations and monitoring requirements in order to protect water quality, this permit is equally protective as compared to the previous permit. Therefore, given this new information, and the fact that the previous permit special condition was not consistent with 40 CFR 122.44(d)(1), an error occurred in the establishment of the general criteria as a special condition of the previous permit. Please see Part II – Effluent Limitations and Monitoring Requirements for more information regarding the reasonable potential.
determinations for each general criterion related to this facility.

**ANTIDEGRADATION:**
In accordance with Missouri’s Water Quality Standard [10 CSR 20-7.031(3)], for domestic wastewater discharge with new, altered, or expanding discharges, the Department is to document by means of Antidegradation Review that the use of a water body’s available assimilative capacity is justified. In accordance with Missouri’s water quality regulations for antidegradation [10 CSR 20-7.031(3)], degradation may be justified by documenting the socio-economic importance of a discharge after determining the necessity of the discharge. Facilities must submit the antidegradation review request to the Department prior to establishing, altering, or expanding discharges. See [http://dnr.mo.gov/env/wpp/permits/antideg-implementation.htm](http://dnr.mo.gov/env/wpp/permits/antideg-implementation.htm)

- No degradation proposed and no further review necessary. Facility did not apply for authorization to increase pollutant loading or to add additional pollutants to their discharge.

**AREA-WIDE WASTE TREATMENT MANAGEMENT & CONTINUING AUTHORITY:**
As per [10 CSR 20-6.010(2)(C)], an applicant may utilize a lower preference continuing authority when a higher level authority is available by submitting information as part of the application to the Department for review and approval, provided it 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.

- Permittee is not authorized to land apply biosolids. Sludge/biosolids are removed by contract hauler.

**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.

Facility Performance History:

- The facility is not currently under Water Protection Program enforcement action. This facility was last inspected on February 19 2020. The conditions of the facility at the time of inspection were found to be satisfactory.

**ELECTRONIC DISCHARGE MONITORING REPORT (eDMR) SUBMISSION SYSTEM:**
The U.S. Environmental Protection Agency (EPA) promulgated a final rule on October 22, 2015, to modernize Clean Water Act reporting for municipalities, industries, and other facilities by converting to an electronic data reporting system. This final rule requires regulated entities and state and federal regulators to use information technology to electronically report data required by the National Pollutant Discharge Elimination System (NPDES) permit program instead of filing paper reports. To comply with the federal rule, the Department is requiring all permittees to begin submitting discharge monitoring data and reports online. In an effort to aid facilities in the reporting of applicable information electronically, the Department has created several new forms including operational control monitoring forms and an I&I location and reduction form. These forms are optional and found on the Department’s website at the following locations:

Operational Monitoring Lagoon: [http://dnr.mo.gov/forms/780-2801-f.pdf](http://dnr.mo.gov/forms/780-2801-f.pdf)

Per 40 CFR 127.15 and 127.24, permitted facilities may request a temporary waiver for up to 5 years or a permanent waiver from electronic reporting from the Department. To obtain an electronic reporting waiver, a permittee must first submit an eDMR Waiver Request Form: [http://dnr.mo.gov/forms/780-2692-f.pdf](http://dnr.mo.gov/forms/780-2692-f.pdf). Each facility must make a request. If a single entity owns or operates more than one facility, then the entity must submit a separate request for each facility based on its specific circumstances. An approved waiver is non-transferable.

The Department must review and notify the facility within 120 calendar days of receipt if the waiver request has been approved or rejected [40 CFR 124.27(a)]. During the Department review period as well as after a waiver is granted, the facility must continue
submitting a hard-copy of any reports required by their permit. The Department will enter data submitted in hard-copy from those facilities allowed to do so and electronically submit the data to the EPA on behalf of the facility.

- The permittee/facility is currently using the eDMR data reporting system.

**NUMERIC LAKE NUTRIENT CRITERIA:**

- This facility discharges into a lake watershed (Lake of the Ozarks) where numeric lake nutrient criteria are applicable; however, regulations established in 10 CSR 20-7.015 as well as the Department’s lake nutrient criteria implementation plan do not require nutrient monitoring for facilities with design flows less than or equal to 0.1 MGD. Should the lake within this watershed be identified as impaired due to nutrient loading, the Department will conduct watershed modeling to determine if this facility has reasonable potential to cause or contribute to the impairment. Consequently, monitoring or effluent limitations may be established at a later date based on the modeling results. For more information, please see the Department’s Nutrient Criteria Implementation Plan at: [https://dnr.mo.gov/env/wpp/rules/documents/nutrient-implementation-plan-final-072618.pdf](https://dnr.mo.gov/env/wpp/rules/documents/nutrient-implementation-plan-final-072618.pdf)

**OPERATOR CERTIFICATION REQUIREMENTS:**

As per [10 CSR 20-6.010(8) Terms and Conditions of a Permit], the permittee shall operate and maintain facilities to comply with the Missouri Clean Water Law and applicable permit conditions and regulations. Operators 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 20-9.020(2)(A)], requirements for operation by certified personnel shall apply to all wastewater treatment systems with population equivalents greater than 200 and are owned or operated by or for municipalities, public sewer districts, counties, public water supply districts, private sewer companies regulated by the Public Service Commission and state or federal agencies.

- This facility is not required to have a certified operator as it doesn’t have a PE greater than 200 and is not owned or operated by or for a municipality, public sewer district, county, public water supply district, private sewer company regulated by the PSC, state or federal agency.

**OPERATIONAL CONTROL TESTING:**

Missouri Clean Water Commission regulation 10 CSR 20-9.010 requires certain publicly owned treatment works and privately owned facilities regulated by the Public Service Commission to conduct internal operational control monitoring to further ensure proper operation of the facility and to be a safeguard or early warning for potential plant upsets that could affect effluent quality. This requirement is only applicable if the publicly owned treatment works and privately owned facilities regulated by the Public Service Commission has a Population Equivalent greater than two hundred (200).

10 CSR 20-9.010(3) allows the Department to modify the monitoring frequency required in the rule based upon the Department’s judgement of monitoring needs for process control at the specified facility.

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

**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.

- 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)(1)(iii)] if the permit writer determines that any given 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.

- An RPA was not conducted for this facility. Effluent limitations that are derived via RPAs are less stringent than those accounted for by the Antidegradation Review. As such, the more stringent limits have been maintained.
**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.

✓ 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 untreated sewage releases and are considered bypassing under state regulation [10 CSR 20-2.010(12)] and should not be confused with the federal definition of bypass. SSOs result from a variety of causes including blockages, line breaks, and sewer defects that can either allow wastewater to backup within the collection system during dry weather conditions or allow excess stormwater and groundwater to enter and overload the collection system during wet weather conditions. SSOs can also result from lapses in sewer system operation and maintenance, inadequate sewer design and construction, power failures, and vandalism. SSOs include overflows out of manholes, cleanouts, broken pipes, and other into waters of the state and onto city streets, sidewalks, and other terrestrial locations.

Inflow and Infiltration (I&I) is defined as unwanted intrusion of stormwater or groundwater into a collection system. This can occur from points of direct connection such as sump pumps, roof drain downsputs, foundation drains, and storm drain cross-connections or through cracks, holes, joint failures, faulty line connections, damaged manholes, and other openings in the collection system itself. I&I results from a variety of causes including line breaks, improperly sealed connections, cracks caused by soil erosion/settling, penetration of vegetative roots, and other sewer defects. In addition, excess stormwater and groundwater entering the collection system from line breaks and sewer defects have the potential to negatively impact the treatment facility.

Missouri RSMo §644.026.1.(13) mandates that the Department issue permits for discharges of water contaminants into the waters of this state, and also for the operation of sewer systems. Such permit conditions shall ensure compliance with all requirements as established by sections 644.006 to 644.141. Standard Conditions Part I, referenced in the permit, contains provisions requiring proper operation and maintenance of all facilities and systems of treatment and control. Missouri RSMo §644.026.1.(15) instructs the Department to require proper maintenance and operation of treatment facilities and sewer systems and proper disposal of residual waste from all such facilities. To ensure that public health and the environment are protected, any noncompliance which may endanger public health or the environment must be reported to the Department within 24 hours of the time the permittee becomes aware of the noncompliance. Standard Conditions Part I, referenced in the permit, contains the reporting requirements for the permittee when bypasses and upsets occur.

✓ 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):**
Per 644.051.4 RSMo, a permit may be issued with a Schedule of Compliance (SOC) to provide time for a facility to come into compliance with new state or federal effluent regulations, water quality standards, or other requirements. Such a schedule is not allowed if the facility is already in compliance with the new requirement, or if prohibited by other statute or regulation. A SOC includes 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. See also Section 502(17) of the Clean Water Act, and 40 CFR §122.2. For new effluent limitations, the permit may include interim monitoring for the specific parameter to demonstrate the facility is not already in compliance with the new requirement. Per 40 CFR § 122.47(a)(1), 10 CSR 20-7.031(11), and 10 CSR 20-7.015(9), compliance must occur as soon as possible. If the permit provides a schedule for meeting new water quality based effluent limits, a SOC must include an enforceable, final effluent limitation in the permit even if the SOC extends beyond the life of the permit.

A SOC is not allowed:
- For effluent limitations based on technology-based standards established in accordance with federal requirements, if the deadline for compliance established in federal regulations has passed. 40 CFR § 125.3.
- For a newly constructed facility in most cases. Newly constructed facilities must meet applicable effluent limitations when discharge begins, because the facility has installed the appropriate control technology as specified in a permit or antidegradation review. A SOC is allowed for a new water quality based effluent limit that was not included in a previously public noticed permit or antidegradation review, which may occur if a regulation changes during construction.
- To develop a TMDL, UAA, or other study that may result in site-specific criteria or alternative effluent limits. A facility is not prohibited from conducting these activities, but a SOC may not be granted for conducting these activities.

In order to provide guidance to Permit Writers in developing SOCs, and attain a greater level of consistency, on April 9, 2015 the Department issued an updated policy on development of SOCs. This policy provides guidance to Permit Writers on the standard time...
frames for schedules for common activities, and guidance on factors that may modify the length of the schedule such as a Cost Analysis for Compliance.

- This permit does not contain an SOC.

**SEWER EXTENSION AUTHORITY SUPERVISED PROGRAM:**
In accordance with [10 CSR 20-6.010(6)(A)], the Department may grant approval of a permittee’s Sewer Extension Authority Supervised Program. These approved permittees regulate and approve construction of sanitary sewers and pump stations, which are tributary to this wastewater treatment facility. The permittee shall act as the continuing authority for the operation, maintenance, and modernization of the constructed collection system. See [http://dnr.mo.gov/env/wpp/permits/sewer-extension.htm](http://dnr.mo.gov/env/wpp/permits/sewer-extension.htm).

- The permittee does not have a Department approved Sewer Extension Authority Supervised Program.

**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.

- 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(86)], 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.

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

\[
Ce = \frac{(Qe + Qs)C - (Qs \times Cs)}{(Qe)}
\]

(EPA/505/2-90-001, Section 4.5.5)

Where
- \(C\) = downstream concentration
- \(Ce\) = effluent concentration
- \(Qe\) = effluent flow
- \(Qs\) = upstream flow
- \(Cs\) = upstream concentration

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.

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

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) and the Water Quality Standards 10 CSR 20-7.031(4)(D),(F),(G),(J)2.A & B are being met. Under [10 CSR 20-6.010(8)(B)], 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 facilities meeting the following criteria:

- Facility is a designated Major.
- Facility continuously or routinely exceeds its design flow.
- Facility that exceeds its design population equivalent (PE) for BOD₅ whether or not its design flow is being exceeded.
- Facility (whether primarily domestic or 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 with a Design Flow ≥ 22,500 gpd.
- Other – please justify.

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 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 20-7.015(9)(G) states a bypass means the intentional diversion of waste streams from any portion of a treatment facility, except in the case of blending, 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.

This facility does not anticipate bypassing.

Part IV – Cost Analysis for Compliance

Pursuant to Section 644.145, RSMo, when issuing permits under this chapter that incorporate a new requirement for discharges from publicly owned combined or separate sanitary or storm sewer systems or publicly owned treatment works, or when enforcing provisions of this chapter or the Federal Water Pollution Control Act, 33 U.S.C. 1251 et seq., pertaining to any portion of a publicly owned combined or separate sanitary or storm sewer system or [publicly owned] treatment works, the Department of Natural Resources shall make a “finding of affordability” on the costs to be incurred and the impact of any rate changes on ratepayers upon which to base such permits and decisions, to the extent allowable under this chapter and the Federal Water Pollution Control Act. This process is completed through a cost analysis for compliance. Permits that do not include new requirements may be deemed affordable.

The Department is not required to complete a cost analysis for compliance because the facility is not a combined or separate sanitary sewer system for a publicly-owned treatment works.
Part V – 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.

WATER QUALITY STANDARD REVISION:
In accordance with section 644.058, RSMo, the Department is required to utilize an evaluation of the environmental and economic impacts of modifications to water quality standards of twenty-five percent or more when making individual site-specific permit decisions.

✓ This operating permit does not contain requirements for a water quality standard that has changed twenty-five percent or more since the previous operating permit.

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. Renewal applications must continue to be submitted within 180 days of expiration, however, in instances where effluent data from the previous renewal is less than 4 years old, that data may be re-submitted to meet the requirements of the renewal application. If the permit provides a schedule of compliance for meeting new water quality based effluent limits beyond the expiration date of the permit, the time remaining in the schedule of compliance will be allotted in the renewed permit.

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. For persons wanting to submit comments regarding this proposed operating permit, then please refer to the Public Notice page located at the front of this draft operating permit. The Public Notice page gives direction on how and where to submit appropriate comments.

✓ The Public Notice period for this operating permit began September 3, 2021 and ended October 4, 2021. No comments were received.

DATE OF FACT SHEET: AUGUST 5, 2021

COMPLETED BY:

JESSICA VITALE, ENVIRONMENTAL SPECIALIST
MISSOURI DEPARTMENT OF NATURAL RESOURCES
WATER PROTECTION PROGRAM
OPERATING PERMITS SECTION - DOMESTIC WASTEWATER UNIT
(573) 522-2575
Jessica.Vitale@dnr.mo.gov
Dear Mr. Puckett:

In accordance with the Missouri Antidegradation Rule and Implementation Procedure (AIP), your proposed discharge is subject to an Antidegradation Review. The enclosed Water Quality and Antidegradation Review (WQAR) summarizes this preliminary determination based upon the Evaluation of Alternatives to Proposed Discharge for Lots 3 & 4 Eagle View Estates WWTP Report by Miller/Lindsay dated May 2009, which proposed construction of a new recirculating sand filter wastewater treatment plant. The department received a September 9, 2009 letter requesting the design flow be modified from 740 to 659 gallons per day.

The WQAR contains pertinent antidegradation review information based on the use of existing water quality, effluent limitations and monitoring requirements for the facility discharge. It was developed in accordance with 10 CSR 20-7.031, the Clean Water Commission approved Missouri Antidegradation Rule and Implementation Procedure (AIP) dated May 7, 2008, U.S. Environmental Protection Agency (US EPA) guidance, the applicant-supplied antidegradation review documentation, and the State of Missouri’s effluent regulations (10 CSR 20-7.015). Please refer to the General Assumptions of the Water Quality and Antidegradation Review section of the enclosed WQAR. The WQAR is preliminary and subject to change as new information becomes available during future permit application processing.

Based on the Missouri Department of Natural Resources (department) initial review, preliminary determination is that the applicant-supplied antidegradation review documentation satisfies the requirements of the AIP. This WQAR/preliminary determination may be appealed within 30 days of this letter in accordance with the AIP Section II.F.4.
You may proceed with submittal of an application for an operating permit and antidegradation review public notice, an engineering report, or a complete application for a construction permit to Southwest Regional Office or to the financial assistance center if you are seeking funding assistance. These submittals must reflect the design flow, facility description, and general treatment components of this WQAR or this preliminary determination may have to be revisited.

Following the department's public notice of draft Missouri State Operating Permit including the antidegradation review findings and preliminary determination, the department will review any public notice comments received. If significant comments are made, the project may require another public notice and potentially another antidegradation review. If no comments are received or comments are resolved without another public notice, these findings and determinations will be considered final. Following issuance of the construction permit and completion of the actual facility construction, the department will proceed with the issuance of the operating permit.

If you should have questions, please feel free to contact Keith Forck by telephone at (573) 526-4232, by e-mail at keith.forck@dnr.mo.gov, or by mail at P.O. Box 176, Jefferson City, Missouri 65102-0176.

Sincerely,

WATER PROTECTION PROGRAM

Rehat Meffikis, P.E. Chief
NPDES Permits and Engineering Section Chief

Enclosures

RM:kfn

c: Miller/Lindsay
Southwest Regional Office
Water Quality and Antidegradation Review

For the Protection of Water Quality
and Determination of Effluent Limits for Discharge to the
Lake of the Ozarks

November 2009

Lots 3 & 4 Eagle View Wastewater Treatment Plant
1680 Camp Hohn Drive
Gravois Mills, MO 65037
Table of Contents

1. Facility Information ................................................................. 3
2. Water Quality Information ........................................................... 3
2.1 Water Quality History ............................................................... 3
3. Outfall Characteristics ............................................................... 3
4. Receiving Waterbody Information ............................................... 3
5. General Comments .................................................................. 4
6. Antidegradation Review Information ........................................... 4
6.1 Tier Determination ................................................................ 4
Table 1. Pollutants of Concern and Tier Determination ...................... 4
6.2 Existing Water Quality ............................................................... 5
6.3 Assimilative Capacity Calculations ............................................ 5
6.4 Alternative Analysis ................................................................. 5
Table 2. Technology Based Effluent Limit and Cost Comparison .......... 5
6.5 Demonstration of Necessity and Social and Economic Importance ... 6
6.6 Preliminary Determination ......................................................... 6
7. General Assumptions of the Water Quality and Antidegradation Review 6
8. Mixing Considerations ................................................................. 6
9. Permit Limits and Information ..................................................... 6
9.1 Outfall #001 – Main Facility Outfall ........................................... 7
10. Receiving Water Monitoring Requirements ................................... 7
11. Derivation and Discussion of Limits .......................................... 7
11.1 Outfall #001 – Main Facility Outfall – Limit Derivation ............... 8
Appendix A: Map of Discharge Location ....................................... 11
Appendix B: Antidegradation Review Summary Attachments .......... 12
1. FACILITY INFORMATION

FACILITY NAME: Lots 3 & 4 Eagle View WWTP
NPDES #: NEW

FACILITY TYPE/DESCRIPTION: Proposed facility will treat domestic wastewater from two single family residences. The preferred alternative of the submitted alternatives analysis (AA) was a recirculating rock filter with chlorine disinfection. The facility will discharge into the Lake of the Ozarks (Location – See Appendix A). The proposed design flow of the facility is 659 gpd.

EDU: Ozarks/Osage
8-DIGIT HUC: 10290109
COUNTY: Camden

LEGAL DESCRIPTION: SE, SW, SW, Sec. 35, T40N, R18W
LATITUDE/LONGITUDE: +3810492/-09253415

2. WATER QUALITY INFORMATION

In accordance with Missouri’s Water Quality Standard [10 CSR 20-7.031(2)] and federal antidegradation policy at Title 40 Code of Federal Regulation (CFR) Section 131.12 (a), the Missouri Department of Natural Resources (MDNR) developed a statewide antidegradation policy and corresponding procedures to implement the policy. A proposed discharge to a water body will be required to undergo a level of Antidegradation Review which documents that the use of a water body’s available assimilative capacity is justified. Effective August 30, 2008, a facility is required to use Missouri’s Antidegradation Rule and Implementation Procedure (AIP) for new and expanded wastewater discharges.

2.1 WATER QUALITY HISTORY:

Since this is a new proposed discharging facility, there is no water quality history.

3. OUTFALL CHARACTERISTICS

<table>
<thead>
<tr>
<th>OUTFALL</th>
<th>DESIGN FLOW (CFS)</th>
<th>TREATMENT TYPE</th>
<th>RECEIVING WATERBODY</th>
<th>DISTANCE TO CLASSIFIED SEGMENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>001</td>
<td>0.001</td>
<td>Secondary</td>
<td>Lake of the Ozarks</td>
<td>0.0</td>
</tr>
</tbody>
</table>

4. RECEIVING WATERBODY INFORMATION

<table>
<thead>
<tr>
<th>WATERBODY</th>
<th>CLASS</th>
<th>WBID</th>
<th>1Q10 (CFS)</th>
<th>7Q10 (CFS)</th>
<th>30Q10 (CFS)</th>
<th>*DESIGNATED USES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lake of the Ozarks</td>
<td>L2</td>
<td>7205</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>I.WW, AQL, WBC(A), SCR</td>
</tr>
</tbody>
</table>

*Cool Water Fishery (CLF), Cold Water Fishery (CDF), Irrigation (IRR), Industrial (IND), Boating & Canoeing (BTG), Drinking Water Supply (DWS), Whole Body Contact Recreation (WBC), Protection of Warm water Aquatic Life and Human Health (AQL), Livestock & Wildlife Watering (LWW)

RECEIVING WATER BODY SEGMENT #1: Lake of the Ozarks
Upper end segment* UTM or Lat/Long coordinates: 38.10492/-92.535415 (Outfall)
Lower end segment* UTM or Lat/Long coordinates: 38.10411/-92.53522 (Main Channel)

RECEIVING WATER BODY SEGMENT #2: N/A
Upper end segment* UTM or Lat/Long coordinates: ____________________________
Lower end segment* UTM or Lat/Long coordinates: ____________________________

*Segment is the portion of the stream where discharge occurs. Segment is used to track changes in assimilative capacity and is bound at a minimum by existing sources and confluences with other significant water bodies.

EAGLE VIEW_2009_WQAR
5. GENERAL COMMENTS

Miller/Lindsay prepared, on behalf of Lots 3 & 4 Eagle View Estates WWTP, the Evaluation of Alternatives to Proposed Discharge (Eagle View Estates) Report dated May 2009. The Geohydrological Evaluation submitted with the report stated this is a gaining stream setting. A Tier Analysis was submitted by the applicant. No dissolved oxygen modeling analysis was submitted or required due to this facility discharging directly to the Lake of the Ozarks and the lack of an appropriate model. This proposed discharge is proposed to serve two single-family residences and assumed to result in significant degradation for all pollutants of concern (POCs) in the segment noted of the Lake of the Ozarks. The Lake of the Ozarks is on the EPA 2006 303(d) List. The Lake of the Ozarks is on the EPA 2006 303(d) List because of fish trauma caused by the Truman Dam. This discharge will not contribute to this impairment.

The original submission was based on a design flow of 740 gpd. This is a reflection of the maximum flow per person located in 10 CSR 8.020(11)(B)3. An addendum was submitted requesting a new design flow of 659 gpd, to reflect a more precise engineering design made by Miller/Lindsey Engineering. This addendum does not change the expected cost of the facility or the alternative facilities, and will also not change any limits that were found based on the previous design flow.

The effluent limits in this review were developed to be protective of beneficial uses and to retain the remaining assimilative capacity. MDNR has determined that the submitted report is sufficient and meets the requirement of the AIP. Information found in the submitted report and in the summary forms provided by the applicant in Appendix B was used to develop this review document. A Missouri Department of Conservation Natural Heritage Review was obtained by the applicant; and no endangered species were found to be impacted by the discharge.

6. ANTIDEGRADATION REVIEW INFORMATION

In accordance with Missouri’s Water Quality Standard [10 CSR 20-7.031(2)] and federal antidegradation policy at Title 40 Code of Federal Regulation (CFR) Section 131.12 (a), the department was to develop a statewide antidegradation policy and corresponding procedures to implement the policy. A proposed discharge to a water body will be required to undergo a level of Antidegradation Review which documents that the use of a water body’s available assimilative capacity is justified. Effective August 30, 2008, a facility is required to use Missouri’s Antidegradation Rule and Implementation Procedure (AIP). This procedure is applicable to new and expanded wastewater facilities. The following is a review of the Eagle View Estates Report.

6.1 TIER DETERMINATION

Below is a list of pollutants of concern reasonably expected to be in the discharge (see Appendix B: Tier Determination and Effluent Limit Summary). Pollutants of concern are defined as those pollutants “proposed for discharge that affect beneficial use(s) in waters of the state. POCs include pollutants that create conditions unfavorable to beneficial uses in the water body receiving the discharge or proposed to receive the discharge.” (AIP, Page 7).

Table 1. Pollutants of Concern and Tier Determination

<table>
<thead>
<tr>
<th>Pollutants of Concern</th>
<th>Tier</th>
<th>Degradation</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ammonia as Nitrogen</td>
<td>2</td>
<td>Significant</td>
<td></td>
</tr>
<tr>
<td>Biochemical Oxygen Demand</td>
<td>2</td>
<td>Significant</td>
<td></td>
</tr>
<tr>
<td>Dissolved Oxygen</td>
<td>2</td>
<td>Significant</td>
<td></td>
</tr>
<tr>
<td>Bacteria (E. Coli &amp; Fecal Coliform)</td>
<td>2</td>
<td>Significant</td>
<td>**</td>
</tr>
<tr>
<td>pH</td>
<td>2</td>
<td>Significant</td>
<td></td>
</tr>
<tr>
<td>Total Suspended Solids***</td>
<td>2</td>
<td>Significant</td>
<td>*</td>
</tr>
</tbody>
</table>
The following Antidegradation Review Summary attachments in Appendix B were used by the applicant:

- Tier Determination and Effluent Summary
  For pollutants of concern, the attachments are:
  - Attachment A, Tier 2 with significant degradation.
  - Attachment B, Tier 2 with minimal degradation.
  - Attachment D, Tier 1 Review. Additionally, a Tier 2 review must be conducted for each pollutant of concern on the appropriate water body segment

6.2 EXISTING WATER QUALITY
No existing water quality data was submitted.

6.3 ASSIMILATIVE CAPACITY CALCULATIONS
This antidegradation review assumed significant degradation for all Pollutants of Concern, so there is no need to calculate the assimilative capacity for this review.

6.4 ALTERNATIVE ANALYSIS
This antidegradation review assumed significant degradation for all Pollutants of Concern, so there is a demonstration of necessity (i.e., alternatives analysis) and a determination of social and economic importance included in the report. The report included an analysis of nine alternatives ranging from non-degrading to less degrading to the degrading alternative (base case alternative). The non-degrading alternatives of land application, subsurface irrigation, discharge to regional system, and alternative discharge location were each determined to be not practicable. The less degrading alternatives of Intermittent Sand Filter, Extended Aeration, Extended Aeration with Filter, and Membrane Bioreactor were considered practicable, but not economically efficient as shown in Table 2 (Please see the full Eagle View Estates Report for a more detailed discussion of the proposed alternatives). All meet Water Quality Standards with the exception of the ammonia for the extended aeration alternative. The preferred alternative is the recirculating rock filter.

<table>
<thead>
<tr>
<th>DISCHARGING ALTERNATIVES</th>
<th>BODs (MG/L)</th>
<th>TSS (MG/L)</th>
<th>FECAL COLI (#/100 ML)</th>
<th>DO (MG/L)</th>
<th>NH4 (MG/L)</th>
<th>PRESENT WORTH COST*</th>
<th>RATIO TO BASE</th>
</tr>
</thead>
<tbody>
<tr>
<td>RECIRCULATING SAND FILTER</td>
<td>10</td>
<td>10</td>
<td>400</td>
<td>5</td>
<td>3.0</td>
<td>$48,307</td>
<td>BASE</td>
</tr>
<tr>
<td>INTERMITTENT SAND FILTER</td>
<td>3</td>
<td>6</td>
<td>400</td>
<td>5</td>
<td>3.0</td>
<td>$106,020</td>
<td>2.1</td>
</tr>
<tr>
<td>EXTENDED AERATION</td>
<td>20</td>
<td>20</td>
<td>400</td>
<td>5</td>
<td>2.0</td>
<td>$87,564</td>
<td>1.8</td>
</tr>
<tr>
<td>EXTENDED AERATION/FILTER</td>
<td>10</td>
<td>15</td>
<td>400</td>
<td>5</td>
<td>2.0</td>
<td>$157,564</td>
<td>3.2</td>
</tr>
<tr>
<td>MEMBRANE BIOREACTOR</td>
<td>5</td>
<td>1</td>
<td>400</td>
<td>5</td>
<td>1.0</td>
<td>$763,564</td>
<td>15.8</td>
</tr>
</tbody>
</table>

* Present Worth Cost: 20 year design life and 7% interest
6.5 Demonstration of Necessity and Social and Economic Importance

This antidegradation review assumed significant degradation for all Pollutants of Concern, so there is a
demonstration of necessity (i.e., alternatives analysis) and a determination of social and economic
importance that was included in the report. This facility will provide the wastewater service to allow
lower income level families to enjoy the recreational attributes of the Lake of the Ozarks. It will increase
the tax base for the community and provide highly efficient and monitored sewage treatment system in a
community that is predominately served by substandard onsite treatment systems.

6.6 Preliminary Determination

The proposed facility is assumed to result in significant degradation for all POCs in the noted Lake of the
Ozarks segment. Miller/Lindsey assumed significant degradation for the segments mentioned above and
provided an alternatives analysis which showed that a recirculating rock filtration plant would be the most
economically efficient and practicable option for treatment. The Social and Economic Importance of the
proposed facility will support homes, which will allow lower income level families to enjoy the
recreational attributes of the Lake of the Ozarks and provide a tax base increase for the area. The effluent
limits in this review were developed to be protective of beneficial uses and to retain the remaining
assimilative capacity. MDNR has determined that the submitted report is sufficient and meets the
requirement of the AIP. No further analysis is needed for this discharge.

7. General Assumptions of the Water Quality and Antidegradation Review

1. A Water Quality and Antidegradation Review (WQAR) assumes that [10 CSR 20-6.010(3)
Continuing Authorities and 10 CSR 20-6.010(4) (D), consideration for no discharge] has been or will
be addressed in a Missouri State Operating Permit or Construction Permit Application.
2. A WQAR does not indicate approval or disapproval of alternative analysis as per [10 CSR 20-
7.015(4) Losing Streams], and/or any section of the effluent regulations.
3. Changes to Federal and State Regulations made after the drafting of this WQAR may alter Water
Quality Based Effluent Limits (WQBEL).
4. Effluent limitations derived from Federal or Missouri State Regulations (FSR) may be WQBEL or
Effluent Limit Guidelines (ELG).
5. WQBEL supercede ELG only when they are more stringent. Mass limits derived from technology
based limits are still appropriate.
6. A WQAR does not allow discharges to waters of the state, and shall not be construed as a National
Pollution Discharge Elimination System or Missouri State Operating Permit to discharge or a permit
to construct, modify, or upgrade.
7. Limitations and other requirements in a WQAR may change as Water Quality Standards,
Methodology, and Implementation procedures change.
8. Nothing in this WQAR removes any obligations to comply with county or other local ordinances or
restrictions.

8. Mixing Considerations

Mixing Zone (MZ). One-quarter (1/4) of the lake width at the discharge point or one hundred
feet (100') from the discharge point, whichever is less [10 CSR 20-7.031(4)(A)5.B.(IV)(a)].
Using the USGS Quadrangle map, the Triangular Prism Method was used to calculate the volume
in the triangular prism. Using the dimensions of length = 100 feet, width = 100 feet, and depth =
20 feet, the volume of the triangular prism (.5*L*W*H) is 100,000 cubic feet. This volume is the
daily mixing zone. This is divided down to the MZ Volume of Flow = 1.16 cfs.

Zone of Initial Dilution (ZID). Not allowed [10 CSR 20-7.031(4)(A)5.B.(IV)(b)].

\[ A.E.C.\% = \left( \frac{DesignFlow + ZIDFlow}{DesignFlow} \right)^{-1} \times 100 \]
9. PERMIT LIMITS AND INFORMATION

TMDL WATERSHED: N  W.L.A. STUDY CONDUCTED: N  DISINFECTION REQUIRED: Y  USE ATTAINABILITY ANALYSIS: N

9.1 OUTFALL #001 – Main Facility Outfall

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Units</th>
<th>Daily Maximum</th>
<th>Weekly Average</th>
<th>Monthly Average</th>
<th>WQBEL (Note 1)</th>
<th>Monitoring Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flow</td>
<td>MGD</td>
<td>*</td>
<td></td>
<td></td>
<td>FSR</td>
<td>Once/Quarter</td>
</tr>
<tr>
<td>Biochemical Oxygen Demand (BOD₅)**</td>
<td>mg/L</td>
<td>15</td>
<td></td>
<td>10</td>
<td>TBEL</td>
<td>Once/Quarter</td>
</tr>
<tr>
<td>Total Suspended Solids**</td>
<td>mg/L</td>
<td>15</td>
<td></td>
<td>10</td>
<td>TBEL</td>
<td>Once/Quarter</td>
</tr>
<tr>
<td>Dissolved Oxygen</td>
<td>mg/L</td>
<td>5.0 (Minimum)</td>
<td>5.0 (Minimum)</td>
<td></td>
<td>WQBEL</td>
<td>Once/Quarter</td>
</tr>
<tr>
<td>pH</td>
<td>SU</td>
<td>6 – 9</td>
<td></td>
<td>6 – 9</td>
<td>FSR</td>
<td>Once/Quarter</td>
</tr>
<tr>
<td>Fecal Coliform</td>
<td></td>
<td>1000</td>
<td></td>
<td>400</td>
<td>FSR</td>
<td>Once/Quarter</td>
</tr>
<tr>
<td>Escherichia coliiform (E. coli)</td>
<td></td>
<td>126***</td>
<td></td>
<td></td>
<td>FSR</td>
<td>Once/Week</td>
</tr>
<tr>
<td>Chlorine, Total Residual</td>
<td>mg/L</td>
<td>0.017</td>
<td></td>
<td>0.008</td>
<td>FSR</td>
<td>Once/Quarter</td>
</tr>
<tr>
<td>Total Ammonia N</td>
<td>mg/L</td>
<td>4.5</td>
<td></td>
<td>3.0</td>
<td>TBEL</td>
<td>Once/Quarter</td>
</tr>
</tbody>
</table>

Note 1 – Water Quality-based Effluent Limitation – WQBEL; or Minimally Degrading Effluent Limit – MDEL; or Technology-based Effluent Limit – TBEL; or No Degradation Limit – NDL; or FSR – Federal/State Regulation; or N/A – Not Applicable. Also, please see the General Assumptions of the WQAR #4 & #5.

- Monitoring Requirement Only
- This facility is required to meet a removal efficiency of 85% or more for BOD₅ and TSS. Influent BOD₅ and TSS data shall be reported to ensure removal efficiency requirements are met.
- *** – colonies/100 mL
- **** – The Monthly Average for Fecal Coliform shall be reported as a Geometric Mean.

10. RECEIVING WATER MONITORING REQUIREMENTS

No receiving water monitoring requirements recommended at this time.

11. DERIVATION AND DISCUSSION OF LIMITS

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

\[ C = \frac{(Cs \times Qs) + (Ce \times Qe)}{(Qe + Qs)} \]  

(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).

11.1 OUTFALL #001 – Main Facility Outfall – Limit Derivation

- **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).** Technology based effluent limit proposed of 10 mg/L monthly average, 15 mg/L maximum daily limit.

- **Total Suspended Solids (TSS).** According to EPA, because TSS and BOD are closely correlated, we apply the same limits for TSS as BOD.

- **Dissolved Oxygen.** Dissolved oxygen in the stream is dependent upon the wastewater treatment plant effluent concentration of dissolved oxygen. There are currently no appropriate models available for discharges in a lake; therefore a D.O. level of 5.0 mg/L will be required, per 10 CSR 20-7.031(4)(J), for the effluent. Water Quality Standards for dissolved oxygen is 5.0 mg/L [10 CSR 20-7.031, Table A].

- **pH.** pH shall be maintained in the range from six to nine (6 – 9) standard units [10 CSR 20-7.015 (8)(B)2.]

- **Fecal Coliform.** Discharge shall not contain more than a monthly geometric mean of 400 colonies/100 mL and a daily maximum of 1000 colonies/100 mL during the recreational season (April 1 – October 31) [10 CSR 20-7.015(8)(B)4.A.] Future renewals of the facility operating permit will contain effluent limitations for E. coli which will replace fecal coliform as the applicable bacteria criteria in Missouri’s water quality standards.

- **Escherichia Coliform (E. Coli).** Discharge shall not contain more than a monthly geometric mean of 126 colonies/100 mL during the recreational season (April 1 – October 31). This facility will be required to have E. coli effluent limitations when Missouri adopts the implementation of the E. coli effluent regulations. The proposed E. Coli rule was published in the Missouri Register on November 2, 2009. In the proposed rule, weekly monitoring is required during the recreational season. To view the proposed law, to submit comments on the rule or to attend the public hearing on January 6, 2010, please visit [http://dnr.mo.gov/env/wpp/rules/wpp-rule-dev.htm](http://dnr.mo.gov/env/wpp/rules/wpp-rule-dev.htm). Also, please see **GENERAL ASSUMPTIONS OF THE WQRS #7.**

- **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.

\[
C_e = (((Qe + Qs) \times C) - (Qs \times Cs))/Qe
\]

**Chronic WLA:**
\[
C_e = ((0.001 + 1.16)10 - (1.16 \times 0.00))/0.001
C_e = 11,610 \text{ mg/L}
\]

**Acute WLA:**
\[
C_e = ((0.001 + 0.0)19 - (0.0 \times 0.0))/0.001
C_e = 19 \mu g/L
\]

\[
LTA_e = 11,610 \text{ µg/L (0.527)} = 6120 \text{ µg/L} \quad [CV = 0.6, 99^{th} \text{ Percentile}]
\]
LTAₐ = 19 µg/L (0.321) = 6.1 µg/L  
MDL = 0.0061(3.114) = 19 µg/L  
AML = 0.0061(1.55) = 9.5 µg/L  

[CV = 0.6, 99th Percentile]  
[CV = 0.6, 99th Percentile]  
[CV = 0.6, 95th 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.

- **Total Ammonia Nitrogen.** Water Quality Based Effluent Limits (WQBEL) were calculated using the **Triangular Prism Method** for determining the Regulatory Mixing Zone. The WQBEL for this discharge for both summer and winter MDL and AML at 12.1 mg/L and 4.6 mg/L, respectively. The Technology Based Effluent Limits (TBEL) provided in the application (Appendix B) set the AML for summer and winter to 3.0. The maximum daily TBEL was calculated to be 4.5 mg/L for both summer and winter. Due to the TBEL being more stringent, they are the limits recommended by the Department. No ammonia decay due to the discharge being directly to Lake of the Ozarks.

**Triangular Prism Method**

**Mixing Zone (MZ) Parameters:** According to the USGS 1:24,000K Quadrangle, the mainstem lake width near the assumed new facility outfall location is approximately 2250 feet (ft). One-quarter of this width equals 562 ft. Therefore, because 100 feet is less than 562 ft, MZ Width = 100 feet [10 CSR 20-7.031(4)(A)5.B.(IV)(a)].

**Mixing Zone Volume:** The flow volume approximates a triangular prism because of the slope of the lake bottom, where the formula is Volume = L*W*(D*0.5). Assuming that the width will be either side of the discharge (MZ) length (100 feet) to form the plume effect, the box dimensions are length (L) = 100 ft, width (W) = 100 ft, and depth (D) = 20 ft. Depth was obtained using mixing zone length projected 100 ft from shoreline to the intersecting contour on 7.5’ USGS topographic map.

Volume = L*W*(D*(0.5)) = (100’)*(100’)*(20’*0.5) = 100,000 ft³. The flow volume of 100,000 ft³ is assumed as the daily mixing zone. Therefore; (100,000 ft³/day)*(1 day/86,400 sec) = 1.16 ft³/sec.

**Summer**

Cₑ=((Qₑ + Qₛ)*C) - (Qₛ*Cₛ))/Qₑ

Chronic WLA: \[ Cₑ = ((0.001 + 1.16)1.5 - (1.16 \times 0.01))/0.001 \]
\[ Cₑ = 1730 \text{ mg/L} \]

Acute WLA: \[ Cₑ = ((0.001 + 0.0)12.1 - (0.0 \times 0.01))/0.001 \]
\[ Cₑ = 12.1 \text{ mg/L} \]

LTAₑ = 1730 mg/L (0.780) = 1350 mg/L \[ [CV = 0.6, \text{ 99th Percentile, 30 day avg.}] \]
LTAₑ = 12.1 mg/L (0.321) = 3.9 mg/L \[ [CV = 0.6, \text{ 99th Percentile}] \]

MDL = 3.9 mg/L (3.11) = 12.1 mg/L \[ [CV = 0.6, \text{ 99th Percentile}] \]
AML = 3.9 mg/L (1.19) = 4.6 mg/L \[ [CV = 0.6, \text{ 95th Percentile, n = 30}] \]

**Winter** – Not calculated due to acute value being more protective than the chronic value. Winter chronic value is higher than the summer value used above.
Technology-based wasteload allocation (average monthly limit) for the recirculating gravel filter is proposed at 3.0 mg/L. The Maximum Daily Limitation (MDL) = 1.5 x AML = 4.5 mg/L. These technology-based effluent limits are applicable as they are more protective than the water quality based effluent limits. Therefore, the technology-based limits are used for this proposed facility as noted in the table below:

<table>
<thead>
<tr>
<th>Season</th>
<th>Maximum Daily Limit (mg/l)</th>
<th>Average Monthly Limit (mg/l)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Summer &amp; Winter</td>
<td>4.5</td>
<td>3.0</td>
</tr>
</tbody>
</table>

Reviewer: Keith Forck
Date: June 19, 2009
Revision Date: November 16, 2009
Unit Chief: John Rustige
Section Chief: Refaat Mefakis

Monitoring and effluent limits contained within this document have been developed in accordance with EPA guidelines using the best available data and are believed to be consistent with Missouri's Water Quality Standards and Effluent Regulations. If additional water quality data or anecdotal information are available that may affect the recommended monitoring and effluent limits, please forward these data and information to the author.
Appendix A: Map of Discharge Location

Lots 3 & 4 Eagle View WWTP

Location of Discharge
End of Segment

View Scale 1:36,000
Disclaimer: Although this map has been compiled by the Missouri Department of Natural Resources, no warranty, expressed or implied, is made by the department as to the accuracy of the data and related materials. The act of duplication shall not constitute any such warranty, and no responsibility is assumed by the department in the use of these data or related materials.
APPENDIX B: ANTIDEGRADEATION REVIEW SUMMARY ATTACHMENTS

The attachments that follow contain summary information provided by the applicant.

1) Tier Determination and Effluent Limit Summary Sheet: Water Body Segment coordinates, tier determination and effluent limits for BOD₃, TSS, Dissolved Oxygen, Ammonia as N, Bacteria (Fecal Coliform and E.coli), Oil and Grease, and pH.

2) Attachment A: Summary of the alternatives analysis.
1.00 FACILITY

<table>
<thead>
<tr>
<th>NAME</th>
<th>PHONE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lots 3 &amp; 4 Eagle View WWTP</td>
<td>417.699.6803</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ADDRESS (PHYSICAL)</th>
<th>CITY</th>
<th>STATE</th>
<th>ZIP</th>
</tr>
</thead>
<tbody>
<tr>
<td>1680 Camp Hohn Dr.</td>
<td>Gravois Mills</td>
<td>MO</td>
<td>65037</td>
</tr>
</tbody>
</table>

2.00 RECEIVING WATER BODY SEGMENT #1

<table>
<thead>
<tr>
<th>NAME</th>
<th>UTM OR Lat</th>
<th>Long</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lake of the Ozarks</td>
<td>N38D10M49.2S, W92D53M41.5S</td>
<td></td>
</tr>
</tbody>
</table>

3.00 WATER BODY SEGMENT #2 (IF APPLICABLE)

<table>
<thead>
<tr>
<th>NAME</th>
<th>UTM OR Lat</th>
<th>Long</th>
</tr>
</thead>
</table>

4.00 WATER BODY SEGMENT #3 (IF APPLICABLE)

<table>
<thead>
<tr>
<th>NAME</th>
<th>UTM OR Lat</th>
<th>Long</th>
</tr>
</thead>
</table>

6.00 PROJECT INFORMATION

Is the receiving water body an Outstanding National Resource Water (ONRW), an Outstanding State Resource Water (OSRW), or drainage thereto?

- [ ] YES
- [x] NO

In Tables 8 and 12 of 10 CSR 20.7.01, ONRWs and OSRWs are listed. Per the Missouri Antidegradation Rule and Implementation Procedure (AIRP) Section 1.9.3, "any degradation of water quality is prohibited in these waters unless the discharge only results in temporary degradation." Therefore, if degradation is significant or minimal, the Antidegradation Review will be denied.

Will the proposed discharge of all pollutants of concern (POCs) result in no net increase in the ambient water quality concentration of the receiving water after mixing?

- [ ] YES
- [x] NO

If yes, submit a summary table showing the levels of each POC before and after the proposed discharge in the receiving water and then complete Attachment B for the first downstream classified Water Body Segment.

Will the discharge result in temporary degradation?

- [ ] YES
- [x] NO

If yes, complete Attachment C.

Has the project been determined as non-degrading?

- [ ] YES
- [x] NO

If yes, complete Tier Evaluation – Conclusion of Antidegradation Review Form. Submit with the appropriate Conservation Permit Application as an antidegradation review is required.

Is Tier 2 with significant degradation assumed for all Pollutants of Concern?

- [ ] YES
- [x] NO

If yes, complete Attachment A.

If no, complete Tier Evaluation and Tier Evaluation – Conclusion of Antidegradation Review Form. Submit with the appropriate Conservation Permit Application as an antidegradation review is required.

6.00 WET WEATHER ANTICIPATIONS

If an applicant anticipates excessive inflow in an effort to mitigate and pursue approval from the department to bypass secondary treatment, a feasibility analysis is required. The feasibility analysis must comply with the criteria of all applicable state and federal regulations including 40 CFR 122.41(a)(4). Please attach the feasibility analysis to this report.

What is the Wet Weather Flow Peaking Factor in relation to Design Flow? 1

Wet Weather Design Summary:

No Infiltration
7.00 EXISTING WATER QUALITY (EWQ) DATA OR MODEL SUMMARY

Obtaining EWQ is possible by three methods according to the AIP Section II.A.1: (1) using previously collected data with an appropriate Quality Assurance Project Plan (QAPP) (2) collecting water quality data by approved the Missouri Department of Natural Resources (department) methodology or (3) using an appropriate water quality model. QAPPs must be submitted to the department for approval well in advance (six months) of the proposed activity. Please provide all the appropriate corresponding data and reports which were approved by the department Water Quality Monitoring and Assessment Section (WQMA).

Date EWQ data was provided by the department WQMA:

Approval date of the QAPP by the department WQMA:

Approval date of the project sampling plan by the department WQMA:

Approval date of the data collected for all appropriate pollutants of concern (POC) by the department WQMA:

Comments/Discussion:

8.00 POLLUTANTS OF CONCERN (POCs) AND TIER DETERMINATION(S)

POCs to be considered include those pollutants reasonably expected to be present in the discharge per the AIP Section II.B. The tier protection levels are specified and defined in rule at 10 CSR 20-7.031 (2).

<table>
<thead>
<tr>
<th>Water Body Segment One</th>
<th>Pollutants of Concern and Tier Determination(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tier 1</td>
<td>Tier 2 with Minimal Degradation</td>
</tr>
<tr>
<td></td>
<td>Tier 2 with Significant Degradation</td>
</tr>
<tr>
<td></td>
<td>BOD-5</td>
</tr>
<tr>
<td></td>
<td>TSS</td>
</tr>
<tr>
<td></td>
<td>Ammonia</td>
</tr>
<tr>
<td></td>
<td>fecal</td>
</tr>
<tr>
<td></td>
<td>DO</td>
</tr>
</tbody>
</table>

* Assumed Tier 2 with Significant Degradation.

<table>
<thead>
<tr>
<th>Water Body Segment Two</th>
<th>Pollutants of Concern and Tier Determination(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tier 1</td>
<td>Tier 2 with Minimal Degradation</td>
</tr>
<tr>
<td></td>
<td>Tier 2 with Significant Degradation</td>
</tr>
</tbody>
</table>

- For pollutants of concern that are Tier 2 with significant degradation, complete Attachment A.
- For pollutants of concern that are Tier 2 with minimal degradation, complete Attachment B.
- For pollutants of concern that are Tier 1, complete Attachment D. Additionally, a Tier 2 review must be conducted for each pollutant of concern on the appropriate water body segment.
### SUMMARY OF THE PROPOSED ANTIDEGRADATION REVIEW EFFLUENT LIMITS

What are the proposed pollutants of concern and their respective effluent limits that the selected treatment option will comply with:

<table>
<thead>
<tr>
<th>Pollutant of Concern</th>
<th>Units</th>
<th>Wasteload Allocation</th>
<th>Average Monthly Limit</th>
<th>Daily Maximum Limit</th>
</tr>
</thead>
<tbody>
<tr>
<td>BOD5</td>
<td>mg/l</td>
<td></td>
<td>10</td>
<td></td>
</tr>
<tr>
<td>TSS</td>
<td>mg/l</td>
<td></td>
<td>10</td>
<td></td>
</tr>
<tr>
<td>Dissolved Oxygen</td>
<td>mg/l</td>
<td></td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>Ammonia</td>
<td>mg/l</td>
<td></td>
<td>3.0</td>
<td></td>
</tr>
<tr>
<td>Bacteria (fecal)</td>
<td>/100 ml</td>
<td></td>
<td>400</td>
<td></td>
</tr>
</tbody>
</table>

These proposed limits will not violate water quality standards, be protective of beneficial uses, and achieve the highest statutory and regulatory requirements.

Please attach the Antidegradation Review report and all supporting documentation.

**CONSULTANT:** I have prepared/reviewed this form and all attached reports and documentation. The conclusion proposed is consistent with the AIP and current state and federal regulation.

**SIGNATURE**

**DATE**

**NAME AND OFFICIAL TITLES**
Rockne C. Miller, PE

**COMPANY NAME**
Miller/Lindsay Inc.

**ADDRESS**
P.O. Box 282
Osage Beach
MO 65065

**TELEPHONE NUMBER**
573.348.9799

**OWNER:** I have read and reviewed the prepared documents and agree with this submittal.

**SIGNATURE**

**DATE**

**NAME AND OFFICIAL TITLES**
Von Puckett, Developer

**ADDRESS**
513 N. Dill St.
Marshfield
MO 65706

**TELEPHONE NUMBER**
573.832.6803

**CONTINUING AUTHORITY:** Continuing Authority is the permanent organization which will be responsible for the operation, maintenance and modernization of the facility. The regulatory requirement regarding continuing authority is available at [http://www.soe.mo.gov/adrules/css/current/10css/10c20-6a.pdf](http://www.soe.mo.gov/adrules/css/current/10css/10c20-6a.pdf).

I have read and reviewed the prepared documents and agree with this submittal.

**SIGNATURE**

**DATE**

**ADDRESS**

**TELEPHONE NUMBER**
STATE OF MISSOURI
MISSOURI DEPARTMENT OF NATURAL RESOURCES
WATER POLLUTION CONTROL PROGRAM
ANTIDEGRADATION REVIEW SUMMARY
ATTACHMENT A: TIER 2 - SIGNIFICANT DEGRADATION
UNDER MISSOURI CLEAN WATER LAW

1.00 FACILITY

NAME: Lots 3&4 Eagle View WWTP
PHONE: 417.839.6606

ADDRESS (PHYSICAL): 1680 Camp Hohn Dr.
CITY: Gravola Mills
STATE: MO
ZIP: 65037

2.00 RECEIVING WATER BODY SEGMENT (WBS) #1

NAME: Lake of the Ozarks

3.00 WATER BODY SEGMENT (WBS) #2 (IF APPLICABLE)

NAME:

4.00 IDENTIFYING ALTERNATIVES:

Please supply a summary of the alternatives considered and the level of treatment attainable with regards to the alternative. "For Discharges likely to cause significant degradation, an analysis of non-degrading and less-degrading alternatives must be provided," as stated in the AIP Section II.B.1. Per 10 CSR 20-0.010(6)(C)(1), the feasibility of a no-discharge system must be considered. Please attach all supportive documentation in the Antidegradation Review report.

Non-degrading alternatives: Land Application, Subsurface irrigation, discharge to regional system, alternative discharge location

Alternatives ranging from less-degrading to degrading including Preferred Alternative (All must meet Water Quality Standards):

<table>
<thead>
<tr>
<th>Alternatives</th>
<th>Level of treatment attainable for each POC</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>BOD</td>
</tr>
<tr>
<td></td>
<td>(mg/L)</td>
</tr>
<tr>
<td>Membrane Biological Reactor</td>
<td>5</td>
</tr>
<tr>
<td>Intermittent Sand Filter</td>
<td>3</td>
</tr>
<tr>
<td>Recirculating Rock Filter</td>
<td>10</td>
</tr>
<tr>
<td>Extended Aeration with filtration</td>
<td>10</td>
</tr>
<tr>
<td>Extended Aeration</td>
<td>20</td>
</tr>
</tbody>
</table>

Identifying Alternatives Summary: The base technology for protection of beneficial use is the extended aeration treatment plant. The attached report discusses all non-degrading through degrading options considered. The report details why non-degrading and less degrading options were not chosen to be proposed based on practicality, economic and other issues.

EAGLE VIEW_2009_WQAR Page 16 of 18
5.00 DETERMINATION FOR THE REASONABLE ALTERNATIVE:

Per the AIP Section II.B.2, "a reasonable alternative is one that is practicable, economically efficient, and affordable." Please provide basis and supporting documentation in the Antidegradation Review report.

Practicability Summary:
"The practicability of an alternative is considered by evaluating the effectiveness, reliability, and potential environmental impacts," according to the AIP Section II.B.2.a. Examples of factors to consider, including secondary environmental impacts, are given in the AIP Section II.B.2.a.

Land application was found to be not technically feasible. Subsurface application and onsite treatment was found to be not technically feasible. Connecting the project site to an existing regional treatment facility was found to be not technically feasible. Alternative discharge location was found to be not practical. Extended aeration, Recirculating rock filter, Extended aeration with effluent filtration and Membrane biological reactor was found to meet effective and reliability issues based on technical and reliability issues as well as environmental factors.

Economic Efficiency Summary:
Alternatives that are deemed practicable must undergo a direct cost comparison in order to determine economic efficiency. Means to determine economic efficiency are provided in the AIP Section II.B.2.b.

Present worth economic analysis showed the cost effective alternative to be Recirculating rock filter. Extended aeration did not provide better discharge quality and cost more. Extended aeration with filtration provided no improvement in discharge quality at 340 percent of base cost. Interment sand filter at 219 percent of base cost and Membrane biological reactor at 1,580 percent of base cost were deemed not cost effective.

Affordability Summary:
Alternatives identified as most practicable and economically efficient are considered affordable if the applicant does not supply an affordability analysis. An affordability analysis per the AIP Section II.B.2.c, "may be used to determine if the alternative is too expensive to reasonably implement."

Affordability analysis was not performed

Preferred Chosen Alternative:

Recirculating Rock Filter

Reasons for Rejecting the other Evaluated Alternatives:

Cost to construct extended aeration treatment plant with effluent filtration were not economically efficient. This project requires the treatment plant to be located where the intermittent sand filter may allow vector contact directly to those served. The multiple times the media will be required to be replaced is also a major concern for those served as service would be interrupted.

Comments/Discussion:

All alternatives were capable of meeting water quality standards and able to protect existing uses.
SOCIAL AND ECONOMIC IMPORTANCE (SEI) OF THE PREFERRED ALTERNATIVE:

If the preferred alternative will result in significant degradation, then it must be demonstrated that it will allow important economic and social development in accordance with the AIP Section II.E. SEI is defined as the social and economic benefits to the community that will occur from any activity involving a new or expanding discharge.

Identify the affected community:

The affected community is defined in 10 CSR 20-7.031(2)(B) as the community "in the geographical area in which the waters are located." Per the AIP Section II.E.1, "the affected community should include those living near the site of the proposed project as well as those in the community that are expected to directly or indirectly benefit from the project."

Land owners in the Lake of the Ozarks area

Identify relevant factors that characterize the social and economic conditions of the affected community:

Examples of social and economic factors are provided in the AIP Section II.E.1, but specific community examples are encouraged.

This project provides lower cost homes and increases tax revenues for taxing entities.

Describe the important social and economic development associated with the project:

Determining benefits for the community and the environment should be site specific and in accordance with the AIP Section II.E.1.

Relocation option to people on failing unmonitored onsite septic systems.

PROPOSED PROJECT SUMMARY:

Provide housing in the Lake of the Ozarks area at a location that will have a monitored sewage treatment facility at acceptable discharge levels.

Please attach the Antidegradation Review report and all supporting documentation. This is a technical document, which must be signed, sealed, and dated by a registered professional engineer of Missouri.

CONSULTANT: I have prepared/reviewed this form and all attached reports and documentation. The conclusion proposed is consistent with the AIP and current state and federal regulations.

SIGNATURE [Signature]

DATE [5/24/09]

PRINT NAME Rockne C. Miller, PE

LICENSE #: E-26097

TELEPHONE NUMBER 573.349.9799

E-MAIL ADDRESS:

OWNER: I have read and reviewed the prepared documents and agree with this submittal.

SIGNATURE [Signature]

DATE [5-26-09]

CONTINUING AUTHORITY: I have read and reviewed the prepared documents and agree with this submittal.

SIGNATURE [Signature]

DATE
These Standard Conditions incorporate permit conditions as required by 40 CFR 122.41 or other applicable state statutes or regulations. These minimum conditions apply unless superseded by requirements specified in the permit.

Part I – General Conditions

Section A – Sampling, Monitoring, and Recording

1. Sampling Requirements.
   a. Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity.
   b. All samples shall be taken at the outfall(s) or Missouri Department of Natural Resources (Department) approved sampling location(s), and unless specified, before the effluent joins or is diluted by any other body of water or substance.

2. Monitoring Requirements.
   a. Records of monitoring information shall include:
      i. The date, exact place, and time of sampling or measurements;
      ii. The individual(s) who performed the sampling or measurements;
      iii. The date(s) analyses were performed;
      iv. The individual(s) who performed the analyses;
      v. The analytical techniques or methods used; and
      vi. The results of such analyses.
   b. If the permittee monitors any pollutant more frequently than required by the permit at the location specified in the permit using test procedures approved under 40 CFR Part 136, or another method required for an industry-specific waste stream under 40 CFR subchapters N or O, the results of such monitoring shall be included in the calculation and reported to the Department with the discharge monitoring report data (DMR) submitted to the Department pursuant to Section B, paragraph 7.

3. Sample and Monitoring Calculations. Calculations for all sample and monitoring results which require averaging of measurements shall utilize an arithmetic mean unless otherwise specified in the permit.

4. Test Procedures. The analytical and sampling methods used shall conform to the reference methods listed in 10 CSR 20-7.015 unless alternates are approved by the Department. The facility shall use sufficiently sensitive analytical methods for detecting, identifying, and measuring the concentrations of pollutants. The facility shall ensure that the selected methods are able to quantify the presence of pollutants in a given discharge at concentrations that are low enough to determine compliance with Water Quality Standards in 10 CSR 20-7.031 or effluent limitations unless provisions in the permit allow for other alternatives. A method is “sufficiently sensitive” when: 1) the method minimum level is at or below the level of the applicable water quality criterion for the pollutant or, 2) the method minimum level is above the applicable water quality criterion, but the amount of pollutant in a facility’s discharge is high enough that the method detects and quantifies the level of pollutant in the discharge, or 3) the method has the lowest minimum level of the analytical methods approved under 10 CSR 20-7.015. These methods are also required for parameters that are listed as monitoring only, as the data collected may be used to determine if limitations need to be established. A permittee is responsible for working with their contractors to ensure that the analysis performed is sufficiently sensitive.

5. Record Retention. Except for records of monitoring information required by the permit related to the permittee’s sewage sludge use and disposal activities, which shall be retained for a period of at least five (5) years (or longer as required by 40 CFR part 503), the permittee shall retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by the permit, and records of all data used to complete the application for the permit, for a period of at least three (3) years from the date of the sample, measurement, report or application. This period may be extended by request of the Department at any time.

Section B – Reporting Requirements

1. Planned Changes.
   a. The permittee shall give notice to the Department as soon as possible of any planned physical alterations or additions to the permitted facility when:
      i. The alteration or addition to a permitted facility may meet one of the criteria for determining whether a facility is a new source in 40 CFR 122.29(b); or
      ii. The alteration or addition could significantly change the nature or increase the quantity of pollutants discharged. This notification applies to pollutants which are subject neither to effluent limitations in the permit, nor to notification requirements under 40 CFR 122.42;
   b. The alteration or addition results in a significant change in the permittee’s sludge use or disposal practices, and such alteration, addition, or change may modify the application of permit conditions that are different from or absent in the existing permit, including notification of additional use or disposal sites not reported during the permit application process or not reported pursuant to an approved land application plan;
   c. Any facility expansions, production increases, or process modifications which will result in a new or substantially different discharge or sludge characteristics must be reported to the Department 60 days before the facility or process modification begins. Notification may be accomplished by application for a new permit. If the discharge does not violate effluent limitations specified in the permit, the facility is to submit a notice to the Department of the changed discharge at least 30 days before such changes. The Department may require a construction permit and/or permit modification as a result of the proposed changes at the facility.

   a. The permittee shall report any noncompliance which may endanger health or the environment. Relevant information shall be provided orally or via the current electronic method approved by the Department, within 24 hours from the time the permittee becomes aware of the circumstances, and shall be reported to the appropriate Regional Office during normal business hours or the Environmental Emergency Response hotline at 573-634-2436 outside of normal business hours. A written submission shall also be provided within five (5) business days of the time the permittee becomes aware of the circumstances. The written submission shall contain a description of the noncompliance and its cause; the period of noncompliance, including exact dates and times, and if the noncompliance has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance.
b. The following shall be included as information which must be reported within 24 hours under this paragraph:
   i. Any unanticipated bypass which exceeds any effluent limitation in the permit.
   ii. Any upset which exceeds any effluent limitation in the permit.
   iii. Violation of a maximum daily discharge limitation for any of the pollutants listed by the Department in the permit required to be reported within 24 hours.
   c. The Department may waive the written report on a case-by-case basis for reports under paragraph 2. b. of this section if the oral report has been received within 24 hours.

3. Anticipated Noncompliance. The permittee shall give advance notice to the Department of any planned changes in the permitted facility or activity which may result in noncompliance with permit requirements. The notice shall be submitted to the Department 60 days prior to such changes or activity.

4. Compliance Schedules. Reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any compliance schedule of the permit shall be submitted no later than 14 days following each schedule date. The report shall provide an explanation for the instance of noncompliance and a proposed schedule or anticipated date, for achieving compliance with the compliance schedule requirement.

5. Other Noncompliance. The permittee shall report all instances of noncompliance not reported under paragraphs 2, 3, and 6 of this section, at the time monitoring reports are submitted. The reports shall contain the information listed in paragraph 2. a. of this section.

6. Other Information. Where the permittee becomes aware that it failed to submit any relevant facts in a permit application, or submitted incorrect information in a permit application or in any report to the Department, it shall promptly submit such facts or information.

7. Discharge Monitoring Reports. a. Monitoring results shall be reported at the intervals specified in the permit.
   b. Monitoring results must be reported to the Department via the current method approved by the Department, unless the permittee has been granted a waiver from using the method. If the permittee has been granted a waiver, the permittee must use forms provided by the Department.
   c. Monitoring results shall be reported to the Department no later than the 28th day of the month following the end of the reporting period.

Section C – Bypass/Upset Requirements

1. Definitions.
   a. **Bypass**: the intentional diversion of waste streams from any portion of a treatment facility, except in the case of blending.
   b. **Severe Property Damage**: substantial physical damage to property, damage to the treatment facilities which causes them to become inoperable, or substantial and permanent loss of natural resources which can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production.
   c. **Upset**: an exceptional incident in which there is unintentional and temporary noncompliance with technology based permit effluent limitations because of factors beyond the reasonable control of the permittee. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation.

2. Bypass Requirements.
   a. Bypass not exceeding limitations. The permittee may allow any bypass to occur which does not cause effluent limitations to be exceeded, but only if it also is for essential maintenance to assure efficient operation. These bypasses are not subject to the provisions of paragraphs 2. b. and 2. c. of this section.
   b. Notice.
      i. Anticipated bypass. If the permittee knows in advance of the need for a bypass, it shall submit prior notice, if possible at least 10 days before the date of the bypass.
      ii. Unanticipated bypass. The permittee shall submit notice of an unanticipated bypass as required in Section B – Reporting Requirements, paragraph 5 (24-hour notice).
   c. Prohibition of bypass.
      i. Bypass is prohibited, and the Department may take enforcement action against a permittee for bypass, unless:
         1. Bypass was unavoidable to prevent loss of life, personal injury, or severe property damage;
         2. There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate back-up equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass which occurred during normal periods of equipment downtime or preventive maintenance; and
         3. The permittee submitted notices as required under paragraph 2. b. of this section.
      ii. The Department may approve an anticipated bypass, after considering its adverse effects, if the Department determines that it will meet the three (3) conditions listed above in paragraph 2. c. i. of this section.

3. Upset Requirements.
   a. Effect of an upset. An upset constitutes an affirmative defense to an action brought for noncompliance with such technology based permit effluent limitations if the requirements of paragraph 3. b. of this section are met. No determination made during administrative review of claims that noncompliance was caused by upset, and before an action for noncompliance, is final administrative action subject to judicial review.
   b. Conditions necessary for a demonstration of upset. A permittee who wishes to establish the affirmative defense of upset shall demonstrate, through properly signed, contemporaneous operating logs, or other relevant evidence that:
      i. An upset occurred and that the permittee can identify the cause(s) of the upset;
      ii. The permittee was at the time being properly operated; and
      iii. The permittee submitted notice of the upset as required in Section B – Reporting Requirements, paragraph 2. b. ii. (24-hour notice).
   c. Burden of proof. In any enforcement proceeding, the permittee seeking to establish the occurrence of an upset has the burden of proof.

Section D – Administrative Requirements

1. Duty to Comply. The permittee must comply with all conditions of this permit. Any permit noncompliance constitutes a violation of the Missouri Clean Water Law and Federal Clean Water Act and is grounds for enforcement action; for permit termination, revocation and reissuance, or modification; or denial of a permit renewal application.
   a. The permittee shall comply with effluent standards or prohibitions established under section 307(a) of the Federal Clean Water Act for toxic pollutants and with standards for sewage sludge use or disposal established under section 405(d) of the CWA within the time provided in the regulations that establish these standards or prohibitions or standards for sewage sludge use or disposal, even if the permit has not yet been modified to incorporate the requirement.
   b. The Federal Clean Water Act provides that any person who violates section 301, 302, 306, 307, 308, 318 or 405 of the Act, or any permit condition or limitation implementing any such sections in a permit issued under section 402, or any requirement imposed in a pretreatment program approved under sections 402(a)(3) or 402(b)(8) of the Act, is subject to a civil penalty not to exceed $25,000 per day for each violation. The Federal Clean Water Act provides that any person who negligently violates sections 301, 302, 306, 307, 308, 318, or 405 of the Act, or any condition or limitation implementing any of such sections in a permit issued under section 402 of the Act, or any requirement...
imposed in a pretreatment program approved under section 402(a)(3) or 402(b)(8) of the Act, is subject to criminal penalties of $2,500 to $25,000 per day of violation, or imprisonment of not more than one (1) year, or both. In the case of a second or subsequent conviction for a negligent violation, a person shall be subject to criminal penalties of not more than $50,000 per day of violation, or by imprisonment of not more than two (2) years, or both. Any person who knowingly violates such sections, or such conditions or limitations is subject to criminal penalties of $5,000 to $50,000 per day of violation, or imprisonment for not more than three (3) years, or both. In the case of a second or subsequent conviction for a knowing violation, a person shall be subject to criminal penalties of not more than $100,000 per day of violation, or imprisonment of not more than six (6) years, or both. Any person who knowingly violates section 301, 302, 303, 306, 307, 308, 318 or 405 of the Act, or any permit condition or limitation implementing any of such sections in a permit issued under section 402 of the Act, and who knows at that time that he thereby places another person in imminent danger of death or serious bodily injury, shall, upon conviction, be subject to a fine of not more than $250,000 or imprisonment of not more than 15 years, or both. In the case of a second or subsequent conviction for a knowing endangerment violation, a person shall be subject to a fine of not more than $500,000 or by imprisonment of not more than 30 years, or both. An organization, as defined in section 309(c)(3)(B)(iii) of the CWA, shall, upon conviction of violating the imminent danger provision, be subject to a fine of not more than $1,000,000 and can be fined up to $2,000,000 for second or subsequent convictions.

c. Any person may be assessed an administrative penalty by the EPA Director for violating section 301, 302, 306, 307, 308, 318 or 405 of this Act, or any permit condition or limitation implementing any of such sections in a permit issued under section 402 of this Act. Administrative penalties for Class I violations are not to exceed $10,000 per violation, with the maximum amount of any Class I penalty assessed not to exceed $25,000. Penalties for Class II violations are not to exceed $10,000 per day for each day during which the violation continues, with the maximum amount of any Class II penalty not to exceed $125,000.

d. It is unlawful for any person to cause or permit any discharge of water contaminants from any water contaminant or point source located in Missouri in violation of sections 644.006 to 644.141 of the Missouri Clean Water Law, or any standard, rule or regulation promulgated by the commission. In the event the commission or the director determines that any provision of sections 644.006 to 644.141 of the Missouri Clean Water Law or standard, rules, limitations or regulations promulgated pursuant thereto, or permits issued by, or any final abatement order, other order, or determination made by the commission or the director, or any filing requirement pursuant to sections 644.006 to 644.141 of the Missouri Clean Water Law or any other provision which this state is required to enforce pursuant to any federal water pollution control act, is being, was, or is in imminent danger of being violated, the commission or director may cause to have instituted a civil action in any court of competent jurisdiction for the injunctive relief to prevent any such violation or further violation or for the assessment of a penalty not to exceed $10,000 per day for each day, or part thereof, the violation occurred and continues to occur, or both, as the court deems proper. Any person who willfully or negligently commits any violation in this paragraph shall, upon conviction, be punished by a fine of not less than $2,500 nor more than $25,000 per day of violation, or by imprisonment for not more than one year, or both. Second and successive convictions for violation of the same provision of this paragraph by any person shall be punished by a fine of not more than $50,000 per day of violation, or by imprisonment for not more than two (2) years, or both.

2. Duty to Reapply.

a. If the permittee wishes to continue an activity regulated by this permit after the expiration date of this permit, the permittee must apply for and obtain a new permit.

b. A permittee with a currently effective site-specific permit shall submit an application for renewal at least 180 days before the expiration date of the existing permit, unless permission for a later date has been granted by the Department. (The Department shall not grant permission for applications to be submitted later than the expiration date of the existing permit.)

c. A permittees with currently effective general permit shall submit an application for renewal at least 30 days before the existing permit expires, unless the permittee has been notified by the Department that an earlier application must be made. The Department may grant permission for a later submission date. (The Department shall not grant permission for applications to be submitted later than the expiration date of the existing permit.)

3. Need to Halt or Reduce Activity Not a Defense. It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.

4. Duty to Mitigate. The permittee shall take all reasonable steps to minimize or prevent any discharge or sludge use or disposal in violation of this permit which has a reasonable likelihood of adversely affecting human health or the environment.

5. Proper Operation and Maintenance. The permittee shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the permittee to achieve compliance with the conditions of this permit. Proper operation and maintenance also includes adequate laboratory controls and appropriate quality assurance procedures. This provision requires the operation of back-up or auxiliary facilities or similar systems which are installed by a permittee only when the operation is necessary to achieve compliance with the conditions of the permit.

6. Permit Actions.

a. Subject to compliance with statutory requirements of the Law and Regulations and applicable Court Order, this permit may be modified, suspended, or revoked in whole or in part during its term for cause including, but not limited to, the following:

i. Violations of any terms or conditions of this permit or the law;

ii. Having obtained this permit by misrepresentation or failure to disclose fully any relevant facts;

iii. A change in any circumstances or conditions that requires either a temporary or permanent reduction or elimination of the authorized discharge; or

iv. Any reason set forth in the Law or Regulations.

b. The filing of a request by the permittee for a permit modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance does not stay any permit condition.

7. Permit Transfer.

a. Subject to 10 CSR 20-6.010, an operating permit may be transferred upon submission to the Department of an application to transfer signed by the existing owner and the new owner, unless prohibited by the terms of the permit. Until such time the permit is officially transferred, the original permittee remains responsible for complying with the terms and conditions of the existing permit.

b. The Department may require modification or revocation and reissuance of the permit to change the name of the permittee and incorporate such other requirements as may be necessary under the Missouri Clean Water Law or the Federal Clean Water Act.

c. The Department, within 30 days of receipt of the application, shall notify the new permittee of its intent to revoke or reissue or transfer the permit.

8. Toxic Pollutants. The permittee shall comply with effluent standards or prohibitions established under section 307(a) of the Federal Clean Water Act for toxic pollutants and with standards for sewage sludge use or disposal established under section 405(d) of the Federal Clean Water Act within the time provided in the regulations that establish these standards or prohibitions or standards for sewage sludge use or disposal, even if the permit has not yet been modified to incorporate the requirement.

9. Property Rights. This permit does not convey any property rights of any sort, or any exclusive privilege.
10. **Duty to Provide Information.** The permittee shall furnish to the Department, within a reasonable time, any information which the Department may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit or to determine compliance with this permit. The permittee shall also furnish to the Department upon request, copies of records required to be kept by this permit.

11. **Inspection and Entry.** The permittee shall allow the Department, or an authorized representative (including an authorized contractor acting as a representative of the Department), upon presentation of credentials and other documents as may be required by law, to:
   a. Enter upon the permittee’s premises where a regulated facility or activity is located or conducted, or where records must be kept under the conditions of the permit;
   b. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;
   c. Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this permit; and
   d. Sample or monitor at reasonable times, for the purposes of assuring permit compliance or as otherwise authorized by the Federal Clean Water Act or Missouri Clean Water Law, any substances or parameters at any location.

12. **Closure of Treatment Facilities.**
   a. Persons who cease operation or plan to cease operation of waste, wastewater, and sludge handling and treatment facilities shall close the facilities in accordance with a closure plan approved by the Department.
   b. Operating Permits under 10 CSR 20-6.010 or under 10 CSR 20-6.015 are required until all waste, wastewater, and sludges have been disposed of in accordance with the closure plan approved by the Department and any disturbed areas have been properly stabilized. Disturbed areas will be considered stabilized when perennial vegetation, pavement, or structures using permanent materials cover all areas that have been disturbed. Vegetative cover, if used, shall be at least 70% plant density over 100% of the disturbed area.

13. **Signatory Requirement.**
   a. All permit applications, reports required by the permit, or information requested by the Department shall be signed and certified. (See 40 CFR 122.22 and 10 CSR 20-6.010)
   b. The Federal Clean Water Act provides that any person who knowingly makes any false statement, representation, or certification in any record or other document submitted or required to be maintained under this permit, including monitoring reports or reports of compliance or non-compliance shall, upon conviction, be punished by a fine of not more than $10,000 per violation, or by imprisonment for not more than six (6) months per violation, or by both.
   c. The Missouri Clean Water Law provides that any person who knowingly makes any false statement, representation or certification in any application, record, report, plan, or other document filed or required to be maintained pursuant to sections 644.006 to 644.141 shall, upon conviction, be punished by a fine of not more than ten thousand dollars, or by imprisonment for not more than six months, or by both.

14. **Severability.** The provisions of the permit are severable, and if any provision of the permit, or the application of any provision of the permit to any circumstance, is held invalid, the application of such provision to other circumstances, and the remainder of the permit, shall not be affected thereby.
PART III – BIOSOLIDS AND SLUDGE FROM DOMESTIC TREATMENT FACILITIES

SECTION A – GENERAL REQUIREMENTS

1. PART III Standard Conditions pertain to biosolids and sludge requirements under the Missouri Clean Water Law and regulations for domestic and municipal wastewater and also incorporates federal sludge disposal requirements under 40 CFR Part 503 for domestic wastewater. The Environmental Protection Agency (EPA) has principal authority for permitting and enforcement of the federal sludge regulations under 40 CFR Part 503 for domestic biosolids and sludge.

2. PART III Standard Conditions apply only to biosolids and sludge generated at domestic wastewater treatment facilities, including public owned treatment works (POTW) and privately owned facilities.

3. Biosolids and Sludge Use and Disposal Practices:
   a. The permittee is authorized to operate the biosolids and sludge generating, treatment, storage, use, and disposal facilities listed in the facility description of this permit.
   b. The permittee shall not exceed the design sludge/biosolids volume listed in the facility description and shall not use biosolids or sludge disposal methods that are not listed in the facility description, without prior approval of the permitting authority.
   c. For facilities operating under general operating permits that incorporate Standard Conditions PART III, the facility is authorized to operate the biosolids and sludge generating, treatment, storage, use and disposal facilities identified in the original operating permit application, subsequent renewal applications or subsequent written approval by the department.

4. Biosolids or Sludge Received from other Facilities:
   a. Permittees may accept domestic wastewater biosolids or sludge from other facilities as long as the permittee’s design sludge capacity is not exceeded and the treatment facility performance is not impaired.
   b. The permittee shall obtain a signed statement from the biosolids or sludge generator or hauler that certifies the type and source of the sludge.

5. Nothing in this permit precludes the initiation of legal action under local laws, except to the extent local laws are preempted by state law.

6. This permit does not preclude the enforcement of other applicable environmental regulations such as odor emissions under the Missouri Air Pollution Control Law and regulations.

7. This permit may (after due process) be modified, or alternatively revoked and reissued, to comply with any applicable biosolids or sludge disposal standard or limitation issued or approved under Section 405(d) of the Clean Water Act or under Chapter 644 RSMo.

8. In addition to Standard Conditions PART III, the Department may include biosolids and sludge limitations in the special conditions portion or other sections of a site specific permit.

9. Exceptions to Standard Conditions PART III may be authorized on a case-by-case basis by the Department, as follows:
   b. Exceptions cannot be granted where prohibited by the federal sludge regulations under 40 CFR Part 503.
SECTION B – DEFINITIONS

1. Best Management Practices are practices to prevent or reduce the pollution of waters of the state and include agronomic loading rates (nitrogen based), soil conservation practices, spill prevention and maintenance procedures and other site restrictions.
2. Biosolids means organic fertilizer or soil amendment produced by the treatment of domestic wastewater sludge.
3. Biosolids land application facility is a facility where biosolids are spread onto the land at agronomic rates for production of food, feed or fiber. The facility includes any structures necessary to store the biosolids until soil, weather, and crop conditions are favorable for land application.
4. Class A biosolids means a material that has met the Class A pathogen reduction requirements or equivalent treatment by a Process to Further Reduce Pathogens (PFRP) in accordance with 40 CFR Part 503.
5. Class B biosolids means a material that has met the Class B pathogen reduction requirements or equivalent treatment by a Process to Significantly Reduce Pathogens (PSRP) in accordance with 40 CFR Part 503.
6. Domestic wastewater means wastewater originating from the sanitary conveniences of residences, commercial buildings, factories and institutions; or co-mingled sanitary and industrial wastewater processed by a (POTW) or a privately owned facility.
7. Feed crops are crops produced primarily for consumption by animals.
8. Fiber crops are crops such as flax and cotton.
9. Food crops are crops consumed by humans which include, but is not limited to, fruits, vegetables and tobacco.
10. Industrial wastewater means any wastewater, also known as process wastewater, not defined as domestic wastewater. Per 40 CFR Part 122.2, process wastewater means any water which, during manufacturing or processing, comes into direct contact with or results from the production or use of any raw material, intermediate product, finished product, byproduct, or waste product. Land application of industrial wastewater, residuals or sludge is not authorized by Standard Conditions PART III.
11. Sludge is the solid, semisolid, or liquid residue removed during the treatment of wastewater. Sludge includes septage removed from septic tanks or equivalent facilities. Sludge does not include carbon coal byproducts (CCBs), sewage sludge incinerator ash, or grit/screenings generated during preliminary treatment of domestic sewage.
12. Sludge lagoon is part of a mechanical wastewater treatment facility. A sludge lagoon is an earthen or concrete lined basin that receives sludge that has been removed from a wastewater treatment facility. It does not include a wastewater treatment lagoon or sludge treatment units that are not a part of a mechanical wastewater treatment facility.
13. Sludge lagoon is part of a mechanical wastewater treatment facility. A sludge lagoon is an earthen or concrete lined basin that receives sludge that has been removed from a wastewater treatment facility. It does not include a wastewater treatment lagoon or sludge treatment units that are not a part of a mechanical wastewater treatment facility.
14. Septage is the sludge pumped from residential septic tanks, cesspools, portable toilets, Type III marine sanitation devices, or similar treatment works such as sludge holding structures from residential wastewater treatment facilities with design populations of less than 150 people. Septage does not include grease removed from grease traps at a restaurant or material removed from septic tanks and other similar treatment works that have received industrial wastewater. The standard for biosolids from septage is different from other sludges. See Section H for more information.

SECTION C – MECHANICAL WASTEWATER TREATMENT FACILITIES

1. Biosolids or sludge shall be routinely removed from wastewater treatment facilities and handled according to the permit facility description and the requirements of Standard Conditions PART III or in accordance with Section A.3.c., above.
2. The permittee shall operate storage and treatment facilities, as defined by Section 644.016(23), RS Mo, so that there is no biosolids or sludge discharged to waters of the state. Agricultural storm water discharges are exempt under the provisions of Section 644.059, RS Mo.
3. Mechanical treatment plants shall have separate biosolids or sludge storage compartments in accordance with 10 CSR 20, Chapter 8. Failure to remove biosolids or sludge from these storage compartments on the required design schedule is a violation of this permit.

SECTION D – BIO SOLIDS OR SLUDGE DISPOSED AT OTHER TREATMENT FACILITY OR BY CONTRACT HAULER

1. Permittees that use contract haulers, under the authority of their operating permit, to dispose of biosolids or sludge, are responsible for compliance with all the terms of this permit. Contract haulers that assume the responsibility of the final disposal of biosolids or sludge, including biosolids land application, must obtain a Missouri State Operating Permit unless the hauler transports the biosolids or sludge to another permitted treatment facility.
2. Testing of biosolids or sludge, other than total solids content, is not required if biosolids or sludge are hauled to a permitted wastewater treatment facility, unless it is required by the accepting facility.
SECTION E – INCINERATION OF SLUDGE

1. Please be aware that sludge incineration facilities may be subject to the requirements of 40 CFR Part 503 Subpart E, Missouri Air Conservation Commission regulations under 10 CSR 10, and solid waste management regulations under 10 CSR 80, as applicable.

2. Permittee may be authorized under the facility description of this permit to store incineration ash in lagoons or ash ponds. This permit does not authorize the disposal of incineration ash. Incineration ash shall be disposed in accordance with 10 CSR 80; or, if the ash is determined to be hazardous, with 10 CSR 25.

3. In addition to normal sludge monitoring, incineration facilities shall report the following as part of the annual report, mass of sludge incinerated and mass of ash generated. Permittee shall also provide the name of the ash disposal facility and permit number if applicable.

SECTION F – SURFACE DISPOSAL SITES AND BIOSOLIDS AND SLUDGE LAGOONS

1. Please be aware that surface disposal sites of biosolids or sludge from wastewater treatment facilities may be subject to other laws including the requirements in 40 CFR Part 503 Subpart C, Missouri Air Conservation Commission regulations under 10 CSR 10, and solid waste management regulations under 10 CSR 80, as applicable.

2. Biosolids or sludge storage lagoons are temporary facilities and are not required to obtain a permit as a solid waste management facility under 10 CSR 80. In order to maintain biosolids or sludge storage lagoons as storage facilities, accumulated biosolids or sludge must be removed routinely, but not less than once every two years unless an alternate schedule is approved in the permit. The amount of biosolids or sludge removed will be dependent on biosolids or sludge generation and accumulation in the facility. Enough biosolids or sludge must be removed to maintain adequate storage capacity in the facility.
   a. In order to avoid damage to the lagoon seal during cleaning, the permittee may leave a layer of biosolids or sludge on the bottom of the lagoon, upon prior approval of the Department; or
   b. Permittee shall close the lagoon in accordance with Section I.

SECTION G – LAND APPLICATION OF BIOSOLIDS

1. The permittee shall not land apply biosolids unless land application is authorized in the facility description, the special conditions of the issued NPDES permit, or in accordance with Section A.3.c., above.

2. This permit only authorizes “Class A” or “Class B” biosolids derived from domestic wastewater to be land applied onto grass land, crop land, timber, or other similar agricultural or silviculture lands at rates suitable for beneficial use as organic fertilizer and soil conditioner.

3. Class A Biosolids Requirements: Biosolids shall meet Class A requirements for application to public contact sites, residential lawns, home gardens or sold and/or given away in a bag or other container.

4. Class B biosolids that are land applied to agricultural and public contact sites shall comply with the following restrictions:
   a. Food crops that touch the biosolids/soil mixture and are totally above the land surface shall not be harvested for 14 months after application of biosolids.
   b. Food crops below the surface of the land shall not be harvested for 20 months after application of biosolids when the biosolids remain on the land surface for four months or longer prior to incorporation into the soil.
   c. Food crops below the surface of the land shall not be harvested for 38 months after application of biosolids when the biosolids remain on the land surface for less than four months prior to incorporation into the soil.
   d. Animal grazing shall not be allowed for 30 days after application of biosolids.
   e. Food crops, feed crops, and fiber crops shall not be harvested for 30 days after application of biosolids.
   f. Turf shall not be harvested for one year after application of biosolids if used for lawns or high public contact sites in close proximity to populated areas such as city parks or golf courses.
   g. After Class B biosolids have been land applied to public contact sites with high potential for public exposure, as defined in 40 CFR § 503.31, such as city parks or golf courses, access must be restricted for 12 months.
   h. After Class B biosolids have been land applied public contact sites with low potential for public exposure as defined in 40 CFR § 503.31, such as a rural land application or reclamation sites, access must be restricted for 30 days.

5. Pollutant limits
   a. Biosolids shall be monitored to determine the quality for regulated pollutants listed in Table 1, below. Limits for any pollutants not listed below may be established in the permit.
   b. The number of samples taken is directly related to the amount of biosolids or sludge produced by the facility (See Section J, below). Samples should be taken only during land application periods. When necessary, it is permissible to mix biosolids with lower concentrations of biosolids as well as other suitable Department approved material to achieve pollutant concentration below those identified in Table 1, below.
   c. Table 1 gives the ceiling concentration for biosolids. Biosolids which exceed the concentrations in Table 1 may not be land applied.
TABLE 1

<table>
<thead>
<tr>
<th>Pollutant</th>
<th>Milligrams per kilogram dry weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arsenic</td>
<td>75</td>
</tr>
<tr>
<td>Cadmium</td>
<td>85</td>
</tr>
<tr>
<td>Copper</td>
<td>4,300</td>
</tr>
<tr>
<td>Lead</td>
<td>840</td>
</tr>
<tr>
<td>Mercury</td>
<td>57</td>
</tr>
<tr>
<td>Molybdenum</td>
<td>75</td>
</tr>
<tr>
<td>Nickel</td>
<td>420</td>
</tr>
<tr>
<td>Selenium</td>
<td>100</td>
</tr>
<tr>
<td>Zinc</td>
<td>7,500</td>
</tr>
</tbody>
</table>

d. Table 2 below gives the low metal concentration for biosolids. Because of its higher quality, biosolids with pollutant concentrations below those listed in Table 2 can safely be applied to agricultural land, forest, public contact sites, lawns, home gardens or be given away without further analysis. Biosolids containing metals in concentrations above the low metals concentrations but below the ceiling concentration limits may be land applied but shall not exceed the annual loading rates in Table 3 and the cumulative loading rates in Table 4. The permittee is required to track pollutant loading onto application sites for parameters that have exceeded the low metal concentration limits.

TABLE 2

<table>
<thead>
<tr>
<th>Pollutant</th>
<th>Milligrams per kilogram dry weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arsenic</td>
<td>41</td>
</tr>
<tr>
<td>Cadmium</td>
<td>39</td>
</tr>
<tr>
<td>Copper</td>
<td>1,500</td>
</tr>
<tr>
<td>Lead</td>
<td>300</td>
</tr>
<tr>
<td>Mercury</td>
<td>17</td>
</tr>
<tr>
<td>Nickel</td>
<td>420</td>
</tr>
<tr>
<td>Selenium</td>
<td>100</td>
</tr>
<tr>
<td>Zinc</td>
<td>2,800</td>
</tr>
</tbody>
</table>

e. Annual pollutant loading rate.

Table 3

<table>
<thead>
<tr>
<th>Pollutant</th>
<th>Kg/ha (lbs./ac) per year</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arsenic</td>
<td>2.0 (1.79)</td>
</tr>
<tr>
<td>Cadmium</td>
<td>1.9 (1.70)</td>
</tr>
<tr>
<td>Copper</td>
<td>75 (66.94)</td>
</tr>
<tr>
<td>Lead</td>
<td>15 (13.39)</td>
</tr>
<tr>
<td>Mercury</td>
<td>0.85 (0.76)</td>
</tr>
<tr>
<td>Nickel</td>
<td>21 (18.74)</td>
</tr>
<tr>
<td>Selenium</td>
<td>5.0 (4.46)</td>
</tr>
<tr>
<td>Zinc</td>
<td>140 (124.96)</td>
</tr>
</tbody>
</table>

f. Cumulative pollutant loading rates.

Table 4

<table>
<thead>
<tr>
<th>Pollutant</th>
<th>Kg/ha (lbs./ac)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arsenic</td>
<td>41 (37)</td>
</tr>
<tr>
<td>Cadmium</td>
<td>39 (35)</td>
</tr>
<tr>
<td>Copper</td>
<td>1500 (1339)</td>
</tr>
<tr>
<td>Lead</td>
<td>300 (268)</td>
</tr>
<tr>
<td>Mercury</td>
<td>17 (15)</td>
</tr>
<tr>
<td>Nickel</td>
<td>420 (375)</td>
</tr>
<tr>
<td>Selenium</td>
<td>100 (89)</td>
</tr>
<tr>
<td>Zinc</td>
<td>2800 (2499)</td>
</tr>
</tbody>
</table>

6. Best Management Practices. The permittee shall use the following best management practices during land application activities to prevent the discharge of biosolids to waters of the state.
   a. Biosolids shall not be applied to the land if it is likely to adversely affect a threatened or endangered species listed under § 4 of the Endangered Species Act or its designated critical habitat.
   b. Apply biosolids only at the agronomic rate of nitrogen needed (see 5.c. of this section).
   c. The applicator must document the Plant Available Nitrogen (PAN) loadings, available nitrogen in the soil, and crop
nitrogen removal when either of the following occurs: 1) When biosolids are greater than 50,000 mg/kg TN; or 2) When biosolids are land applied at an application rate greater than two dry tons per acre per year.

i. PAN can be determined as follows:

\[
\text{PAN} = (\text{Nitrate} + \text{nitrite nitrogen}) + (\text{organic nitrogen} \times 0.2) + (\text{ammonia nitrogen} \times \text{volatilization factor})^1.
\]

1 Volatilization factor is 0.7 for surface application and 1 for subsurface application. Alternative volatilization factors and mineralization rates can be utilized on a case-by-case basis.

ii. Crop nutrient production/removal to be based on crop specific nitrogen needs and realistic yield goals. **NOTE:** There are a number of reference documents on the Missouri Department of Natural Resources website that are informative to implement best management practices in the proper management of biosolids, including crop specific nitrogen needs, realistic yields on a county by county basis and other supporting references.

iii. Biosolids that are applied at agronomic rates shall not cause the annual pollutant loading rates identified in Table 3 to be exceeded.

d. Buffer zones are as follows:

i. 300 feet of a water supply well, sinkhole, water supply reservoir or water supply intake in a stream;

ii. 300 feet of a losing stream, no discharge stream, stream stretches designated for whole body contact recreation, wild and scenic rivers, Ozark National Scenic Riverways or outstanding state resource waters as listed in the Water Quality Standards, 10 CSR 20-7.031;

iii. 150 feet of dwellings or public use areas;

iv. 100 feet (35 feet if biosolids application is down-gradient or the buffer zone is entirely vegetated) of lake, pond, wetlands or gaining streams (perennial or intermittent);

v. 50 feet of a property line. Buffer distances from property lines may be waived with written permission from neighboring property owner.

vi. For the application of dry, cake or liquid biosolids that are subsurface injected, buffer zones identified in 5.d.i. through 5.d.iii above, may be reduced to 100 feet. The buffer zone may be reduced to 35 feet if the buffer zone is permanently vegetated. Subsurface injection does not include methods or technology reflective of combination surface/shallow soil incorporation.

e. Slope limitation for application sites are as follows:

i. For slopes less than or equal to 6 percent, no rate limitation;

ii. Applied to a slope 7 to 12 percent, the applicator may apply biosolids when soil conservation practices are used to meet the minimum erosion levels;

iii. Slopes > 12 percent, apply biosolids only when grass is vegetated and maintained with at least 80 percent ground cover at a rate of two dry tons per acre per year or less.

iv. Dry, cake or liquid biosolids that are subsurface injected, may be applied on slopes not to exceed 20 percent. Subsurface injection does not include the use of methods or technology reflective of combination surface/shallow soil incorporation.

f. No biosolids may be land applied in an area that it is reasonably certain that pollutants will be transported into waters of the state.

g. Biosolids may be land applied to sites with soil that are snow covered, frozen, or saturated with liquid when site restrictions or other controls are provided to prevent pollutants from being discharged to waters of the state during snowmelt or stormwater runoff. During inclement weather or unfavorable soil conditions use the following management practices:

i. A maximum field slope of 6% and a minimum 300 feet grass buffer between the application site and waters of the state. A 35 feet grass buffer may be utilized for the application of dry, cake or liquid biosolids that are subsurface injected. Subsurface injection does not include the use of methods or technology reflective of combination surface/shallow soil incorporation;

ii. A maximum field slope of 2% and 100 feet grass buffer between the application site and waters of the state. A 35 feet grass buffer may be utilized for the application of dry, cake or liquid biosolids that are subsurface injected. Subsurface injection does not include the use of methods or technology reflective of combination surface/shallow soil incorporation;

iii. Other best management practices approved by the Department.
SECTION H – SEPTAGE

1. Haulers that land apply septage must obtain a state permit. An operating permit is not required for septage haulers who transport septage to another permitted treatment facility for disposal.
2. Do not apply more than 30,000 gallons of septage per acre per year or the volume otherwise stipulated in the operating permit.
3. Septic tanks are designed to retain sludge for one to three years which will allow for a larger reduction in pathogens and vectors, as compared to mechanical treatment facilities.
4. Septage must comply with Class B biosolids regarding pathogen and vector attraction reduction requirements before it may be applied to crops, pastures or timberland. To meet required pathogen and vector reduction requirements, mix 50 pounds of hydrated lime for every 1,000 gallons of septage and maintain a septage pH of at least 12 pH standard units for 30 minutes or more prior to application.
5. Lime is to be added to the pump truck and not directly to the septic tanks, as lime would harm the beneficial bacteria of the septic tank.
6. As residential septage contains relatively low levels of metals, the testing of metals in septage is not required.

SECTION I– CLOSURE REQUIREMENTS

1. This section applies to all wastewater facilities (mechanical and lagoons) and sludge or biosolids storage and treatment facilities. It does not apply to land application sites.
2. Permittees of a domestic wastewater facility who plan to cease operation must obtain Department approval of a closure plan which addresses proper removal and disposal of all sludges and/or biosolids. Permittee must maintain this permit until the facility is closed in accordance with the approved closure plan per 10 CSR 20-6.010 and 10 CSR 20-6.015.
3. Biosolids or sludge that are left in place during closure of a lagoon or earthen structure or ash pond shall not exceed the agricultural loading rates as follows:
   a. Biosolids and sludge shall meet the monitoring and land application limits for agricultural rates as referenced in Section G, above.
   b. If a wastewater treatment lagoon has been in operation for 15 years or more without sludge removal, the sludge in the lagoon qualifies as a Class B biosolids with respect to pathogens due to anaerobic digestion, and testing for fecal coliform is not required. For other lagoons, testing for fecal coliform is required to show compliance with Class B biosolids limitations. In order to reach Class B biosolids requirements, fecal coliform must be less than 2,000,000 colony forming units or 2,000,000 most probable number. All fecal samples must be presented as geometric mean per gram.
   c. The allowable nitrogen loading that may be left in the lagoon shall be based on the plant available nitrogen (PAN) loading. For a grass cover crop, the allowable PAN is 300 pounds/acre. Alternative, site-specific application rates may be included in the closure plan for department consideration.
      i. PAN can be determined as follows:
         (Nitrate + nitrite nitrogen) + (organic nitrogen x 0.2) + (ammonia nitrogen x volatilization factor).
         Volatilization factor is 0.7 for surface application and 1 for subsurface application. Alternative volatilization factors and mineralization rates can be utilized on a case-by-case basis.
   d. Domestic wastewater treatment lagoons with a design treatment capacity less than or equal to 150 persons, are “similar treatment works” under the definition of septage. Therefore the sludge within the lagoons may be treated as septage during closure activities. See Section B, above. Under the septage category, residuals may be left in place as follows:
      a. Testing for metals or fecal coliform is not required.
      b. If the wastewater treatment lagoon has been in use for less than 15 years, mix lime with the sludge at a rate of 50 pounds of hydrated lime per 1000 gallons (134 cubic feet) of sludge.
      c. The amount of sludge that may be left in the lagoon shall be based on the plant available nitrogen (PAN) loading. 100 dry tons/acre of sludge may be left in the basin without testing for nitrogen. If 100 dry tons/acre or more will be left in the lagoon, test for nitrogen and determine the PAN using the calculation above. Allowable PAN loading is 300 pounds/acre.
   e. Biosolids or sludge left within the domestic lagoon shall be mixed with soil on at least a 1 to 1 ratio, and unless otherwise approved, the lagoon berm shall be demolished, and the site shall be graded and contain ≥70% vegetative density over 100% of the site so as to avoid ponding of storm water and provide adequate surface water drainage without creating erosion. Alternative biosolids or sludge and soil mixing ratios may be included in the closure plan for department consideration.
6. Lagoon and earthen structure closure activities shall obtain a storm water permit for land disturbance activities that exceed one acre in accordance with 10 CSR 20-6.200.
7. When closing a mechanical wastewater plant, all biosolids or sludge must be cleaned out and disposed of in accordance with the Department approved closure plan before the permit for the facility can be terminated.
   a. Land must be stabilized which includes any grading, alternate use or fate upon approval by the Department, remediation, or other work that exposes sediment to stormwater per 10 CSR 20-6.200. The site shall be graded and contain ≥70% vegetative density over 100% of the site, so as to avoid ponding of storm water and provide adequate
surface water drainage without creating erosion.

b. Hazardous Waste shall not be land applied or disposed during mechanical plant closures unless in accordance with Missouri Hazardous Waste Management Law and Regulations pursuant to 10 CSR 25.

c. After demolition of the mechanical plant, the site must only contain clean fill defined in Section 260.200.1(6) RSMo as uncontaminated soil, rock, sand, gravel, concrete, asphaltic concrete, cinderblocks, brick, minimal amounts of wood and metal, and inert solids as approved by rule or policy of the Department for fill, reclamation, or other beneficial use. Other solid wastes must be removed.

8. If biosolids or sludge from the domestic lagoon or mechanical treatment plant exceeds agricultural rates under Section G and/or I, a landfill permit or solid waste disposal permit must be obtained if the permittee chooses to seek authorization for on-site sludge disposal under the Missouri Solid Waste Management Law and regulations per 10 CSR 80, and the permittee must comply with the surface disposal requirements under 40 CFR Part 503, Subpart C.

SECTION J – MONITORING FREQUENCY

1. At a minimum, biosolids or sludge shall be tested for volume and percent total solids on a frequency that will accurately represent sludge quantities produced and disposed. Please see the table below.

<table>
<thead>
<tr>
<th>Biosolids or Sludge produced and disposed (Dry Tons per Year)</th>
<th>Monitoring Frequency (See Notes 1, and 2)</th>
<th>Nitrogen TKN, Nitrogen PAN³</th>
<th>Priority Pollutants²</th>
</tr>
</thead>
<tbody>
<tr>
<td>319 or less</td>
<td>1/year</td>
<td>1 per month</td>
<td>1/year</td>
</tr>
<tr>
<td>320 to 1650</td>
<td>4/year</td>
<td>1 per month</td>
<td>1/year</td>
</tr>
<tr>
<td>1651 to 16,500</td>
<td>6/year</td>
<td>1 per month</td>
<td>1/year</td>
</tr>
<tr>
<td>16,501+</td>
<td>12/year</td>
<td>1 per month</td>
<td>1/year</td>
</tr>
</tbody>
</table>

¹Calculate plant available nitrogen (PAN) when either of the following occurs: 1) when biosolids are greater than 50,000 mg/kg TN; or 2) when biosolids are land applied at an application rate greater than two dry tons per acre per year.

² Priority pollutants (40 CFR 122.21, Appendix D, Tables II and III) are required only for permit holders that must have a pre-treatment program. Monitoring requirements may be modified and incorporated into the operating permit by the Department on a case-by-case basis.

Note 1: Total solids: A grab sample of sludges shall be tested one per day during land application periods for percent total solids. This data shall be used to calculate the dry tons of sludge applied per acre.

Note 2: Table 5 is not applicable for incineration and permit holders that landfill their sludge.

2. Permittees that operate wastewater treatment lagoons, peak flow equalization basins, combined sewer overflow basins or biosolids or sludge lagoons that are cleaned out once a year or less, may choose to sample only when the biosolids or sludge is removed or the lagoon is closed. Test one composite sample for each 319 dry tons of biosolids or sludge removed from the lagoon during the reporting year or during lagoon closure. Composite sample must represent various areas at one-foot depth.

3. Additional testing may be required in the special conditions or other sections of the permit.

4. Biosolids and sludge monitoring shall be conducted in accordance with federal regulation 40 CFR § 503.8, Sampling and analysis.

SECTION K – RECORD KEEPING AND REPORTING REQUIREMENTS

1. The permittee shall maintain records on file at the facility for at least five years for the items listed in Standard Conditions PART III and any additional items in the Special Conditions section of this permit. This shall include dates when the biosolids or sludge facility is checked for proper operation, records of maintenance and repairs and other relevant information.

2. Reporting period
   a. By February 19th of each year, applicable facilities shall submit an annual report for the previous calendar year period for all mechanical wastewater treatment facilities, sludge lagoons, and biosolids or sludge disposal facilities.
   b. Permittees with wastewater treatment lagoons shall submit the above annual report only when biosolids or sludge are removed from the lagoon during the report period or when the lagoon is closed.

3. Report Form. The annual report shall be prepared on report forms provided by the Department or equivalent forms approved by the Department.

4. Reports shall be submitted as follows:
   a. Major facilities, which are those serving 10,000 persons or more or with a design flow equal to or greater than 1 million gallons per day, that are required to have an approved pretreatment program, shall report to both the Department and EPA if the facility land applied, disposed of biosolids by surface disposal, or operated a sewage sludge incinerator. All other facilities shall maintain their biosolids or sludge records and keep them available to Department personnel upon request. State reports shall be submitted to the address listed as follows:
      DNR regional or other applicable office listed in the permit (see cover letter of permit)
      ATTN: Sludge Coordinator
5. Annual report contents. The annual report shall include the following:
   a. Biosolids and sludge testing performed. If testing was conducted at a greater frequency than what is required by the permit, all test results must be included in the report.
   b. Biosolids or sludge quantity shall be reported as dry tons for the quantity produced and/or disposed.
   c. Gallons and % solids data used to calculate the dry ton amounts.
   d. Description of any unusual operating conditions.
   e. Final disposal method, dates, and location, and person responsible for hauling and disposal.
      i. This must include the name and address for the hauler and sludge facility. If hauled to a municipal wastewater treatment facility, sanitary landfill, or other approved treatment facility, give the name of that facility.
      ii. Include a description of the type of hauling equipment used and the capacity in tons, gallons, or cubic feet.
   f. Contract Hauler Activities:
      If using a contract hauler, provide a copy of a signed contract from the contractor. Permittee shall require the contractor to supply information required under this permit for which the contractor is responsible. The permittee shall submit a signed statement from the contractor that he has complied with the standards contained in this permit, unless the contract hauler has a separate biosolids or sludge use permit.
   g. Land Application Sites:
      i. Report the location of each application site, the annual and cumulative dry tons/acre for each site, and the landowners name and address. The location for each spreading site shall be given as a legal description for nearest ¼, ¼, Section, Township, Range, and county, or UTM coordinates. The facility shall report PAN when either of the following occurs: 1) When biosolids are greater than 50,000 mg/kg TN; or 2) when biosolids are land applied at an application rate greater than two dry tons per acre per year.
      ii. If the “Low Metals” criteria are exceeded, report the annual and cumulative pollutant loading rates in pounds per acre for each applicable pollutant, and report the percent of cumulative pollutant loading which has been reached at each site.
      iii. Report the method used for compliance with pathogen and vector attraction requirements.
      iv. Report soil test results for pH and phosphorus. If no soil was tested during the year, report the last date when tested and the results.
MISSOURI DEPARTMENT OF NATURAL RESOURCES
WATER PROTECTION PROGRAM
FORM B: APPLICATION FOR OPERATING PERMIT FOR FACILITIES THAT RECEIVE PRIMARILY DOMESTIC WASTE AND HAVE A DESIGN FLOW LESS THAN OR EQUAL TO 100,000 GALLONS PER DAY

READ THE ACCOMPANYING INSTRUCTIONS BEFORE COMPLETING THIS FORM

1. THIS APPLICATION IS FOR:

☐ An operating permit for a new or unpermitted facility. Construction Permit # ______
  (Include completed antidegradation review or request for antidegradation review, see instructions)

☐ A new site-specific operating permit formerly general permit #MOG ______

☑ A site-specific operating permit renewal: Permit #MO-0136085 Expiration Date 12/31/2021

☐ A site-specific operating permit modification: Permit #MO-_______ Reason: ______

☐ General permit (MOG - Non POTWs discharging < 50,000 GPD or MOG823 – Land Application of Domestic Wastewater):
  Permit #MO-_______ Expiration Date ______

1.1 Is the appropriate fee included with the application (see instructions for appropriate fee)? ☐ YES ☐ NO

2. FACILITY

NAME
Eagle View Lots 3&4 Association, Inc.

ADDRESS (PHYSICAL)
1696 Camp Hohn Road
Gravois Mills

ADDRESS (MAILING)
1696 Camp Hohn Road
Gravois Mills

CITY
Gravois Mills
STATE MO
ZIP CODE 65037

TELEPHONE NUMBER WITH AREA CODE
(913) 424-5916

2.1 Legal description: SE 1/4, SW 1/4, SW 3/4, Sec. 35, T40N, R18W County Camden

2.2 UTM Coordinates Easting (X): 509171 Northing (Y): 4225844
For Universal Transverse Mercator (UTM), Zone 15 North referenced to North American Datum 1983 (NAD83)

2.3 Name of receiving stream: Lake of the Ozarks (L2)

2.4 Number of outfalls: 1 Wastewater outfalls: 0 Stormwater outfalls: 0 Instream monitoring sites: 0

3. OWNER

NAME
Eagle View Lots 3&4 Association, Inc.

EMAIL ADDRESS
DJ.REITER1@GMAIL.COM

ADDRESS
1696 Camp Hohn Road
Gravois Mills

CITY
Gravois Mills
STATE MO
ZIP CODE 65037

TELEPHONE NUMBER WITH AREA CODE
(913) 424-5916

3.1 Request review of draft permit prior to public notice? ☐ YES ☐ NO

☐ YES ☐ NO

☐ YES ☐ NO

☐ YES ☐ NO

3.3 Are you a privately owned treatment works? ☐ YES ☐ NO

3.4 Are you a privately owned treatment facility regulated by the Public Service Commission? ☐ YES ☐ NO

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

NAME
Eagle View Lots 3&4 Association, Inc. (Same)

EMAIL ADDRESS
DJ.REITER1@GMAIL.COM

ADDRESS
1696 Camp Hohn Road
Gravois Mills

CITY
Gravois Mills
STATE MO
ZIP CODE 65037

TELEPHONE NUMBER WITH AREA CODE
(913) 424-5916

If the continuing authority is different than the owner, include a copy of the contract agreement between the two parties and a description of the responsibilities of both parties within the agreement.

5. OPERATOR

NAME
Tim Ripley

TITLE Operator

CERTIFICATE NUMBER 15115

EMAIL ADDRESS
tim@lowsonline.com

TELEPHONE NUMBER WITH AREA CODE (573) 345-2092

6. FACILITY CONTACT

NAME
Dan Reiter

EMAIL ADDRESS
DJ.REITER1@GMAIL.COM

ADDRESS
1696 Camp Hohn Road
Gravois Mills

CITY
Gravois Mills
STATE MO
ZIP CODE 64082

If the facility contact is different than the owner, include a copy of the contract agreement between the two parties and a description of the responsibilities of both parties within the agreement.
7. DESCRIPTION OF FACILITY

7.1 Process Flow Diagram or Schematic: Provide a diagram showing the processes of the treatment plant. Show all of the treatment units, including disinfection (e.g. – chlorination and dechlorination), influents, and outfalls. Specify where samples are taken. Indicate any treatment process changes in the routing of wastewater during dry weather and peak wet weather. Include a brief narrative description of the diagram. Attach sheets as necessary.

See Attached Diagram

7.2 Attach an aerial photograph or USGS topographic map showing the location of the facility and outfall. Attached
8. ADDITIONAL FACILITY INFORMATION

8.1 Facility SIC code: 8641  Discharge SIC code: 4952

8.2 Number of people presently connected or population equivalent (P.E.) 3  Design P.E. 7.4

8.3 Connections to the facility:
Number of units presently connected:
Homes 2  Trailers 0  Apartments 0  Other (including industrial) 0

8.4 Design flow: 659 gpd  Actual flow: 329 gpd

8.5 Will discharge be continuous through the year? ☑ Yes ☐ No
Discharge will occur during the following months:

How many days of the week will discharge occur?

8.6 Is industrial wastewater discharged to the facility? ☑ Yes ☐ No
If yes, attach a list of the industries that discharge to your facility

8.7 Does the facility accept or process leachate from landfills? ☑ Yes ☐ No

8.8 Is wastewater land applied? ☐ Yes ☑ No
If yes, is Form I attached? ☑ Yes ☐ No

8.9 Does the facility discharge to a losing stream or sinkhole? ☐ Yes ☑ No

8.10 Has a wasteload allocation study been completed for this facility? ☑ Yes ☐ No

9. LABORATORY CONTROL INFORMATION

LABORATORY WORK CONDUCTED BY PLANT PERSONNEL

Lab work conducted outside of plant. ☑ Yes ☐ No
Push-button or visual methods for simple test such as pH, settleable solids. ☐ Yes ☑ No
Additional procedures such as dissolved oxygen, chemical oxygen demand, biological oxygen demand, titrations, solids, volatile content. ☐ Yes ☑ No
More advanced determinations such as BOD seeding procedures, fecal coliform, nutrients, total oils, phenols, etc. ☐ Yes ☑ No
Highly sophisticated instrumentation, such as atomic absorption and gas chromatograph. ☐ Yes ☑ No

10. COLLECTION SYSTEM

10.1 Length of pipe in the sewer collection system? 52 Feet, or 0 Miles (either unit is appropriate)

10.2 Does significant infiltration occur in the collection system? ☑ Yes ☐ No
If yes, briefly explain any steps underway or planned to minimize inflow and infiltration:

11. BYPASSING

Does any bypassing occur in the collection system or at the treatment facility? ☐ Yes ☑ No
If yes, explain:

MO 790-1512 (03-15)
12. SLUDGE HANDLING, USE AND DISPOSAL

12.1 Is the sludge a hazardous waste as defined by 10 CSR 257? □ Yes □ No

12.2 Sludge production, including sludge received from others: 0.126 Design dry tons/year 0 Actual dry tons/year

12.3 Capacity of sludge holding structures:
- Sludge storage provided: ___ cubic feet; ___ days of storage; ___ average percent solids of sludge;
- □ No sludge storage is provided.
- □ Sludge is stored in lagoon.

12.4 Type of Storage:
- □ Holding tank
- □ Basin
- □ Building
- □ Lagoon
- □ Concrete Pad
- □ Other (Describe) Septic

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

12.6 Sludge Use or Disposal:
- □ Land Application
- □ Surface Disposal (Sludge Disposal Lagoon, Sludge held for more than two years)
- □ Contract Hauler
- □ Hauled to Another treatment facility
- □ Incineration
- □ Sludge Retained in Wastewater treatment lagoon
- □ Solid waste landfill

12.7 Person responsible for hauling sludge to disposal facility:
- □ By applicant
- □ By others (complete below)

<table>
<thead>
<tr>
<th>NAME</th>
<th>EMAIL ADDRESS</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

12.8 Sludge use or disposal facility

<table>
<thead>
<tr>
<th>NAME</th>
<th>EMAIL ADDRESS</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

12.9 Does the sludge or biosolids disposal comply with federal sludge regulations under 40 CFR 503?
- □ Yes
- □ No (Explain)

No Sludge has been removed to date

13. CERTIFICATION

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.

<table>
<thead>
<tr>
<th>NAME (TYPE OR PRINT)</th>
<th>OFFICIAL TITLE</th>
<th>TELEPHONE NUMBER WITH AREA CODE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Daniel J. Reiter</td>
<td>President, Eagle View Lots 3&amp;4 Assoc., Inc.</td>
<td>(913) 424-5916</td>
</tr>
</tbody>
</table>

SIGNATURE: [Signature]

DATE SIGNED: Mar 24, 2021

MO 780-1512 (03-15)
This timestamp indicates the date and time the map was generated. Data layers in the map are updated at a variety of intervals and may not reflect current conditions.

Disclaimer: Although this map has been compiled by the Missouri Department of Natural Resources, no warranty, expressed or implied, is made by the department as to the accuracy of the data and related materials. The act of distribution shall not constitute any such warranty, and no responsibility is assumed by the department in the use of these data or related materials.
WWTF Flow Diagram
Permit # MO-0136085

Filter Bed
Recirculation Tank
1,000 gal Septic
260 gal Septic
Pumps & Septic
Chlorine Chamber
Chlorinator
Dechlor Chamber
Post Aerate
Sample Tank
Outfall 001