

STATE OF MISSOURI  
**DEPARTMENT OF NATURAL RESOURCES**  
MISSOURI CLEAN WATER COMMISSION



## MISSOURI STATE OPERATING PERMIT

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

Permit No. MO-0136212

Owner: MDNR, Division of State Parks  
Address: P.O. Box 176, Jefferson City, MO 65102

Continuing Authority: MDNR, Division of State Parks  
Address: P.O. Box 176, Jefferson City, MO 65102

Facility Name: MDNR, Long Branch State Park WWTF  
Facility Address: 28615 Visitor Center Road, Macon, MO 63552

Legal Description: SW ¼, SE ¼, Sec. 1, T57N, R15W, Macon County  
UTM Coordinates: X=540694, Y= 4402255

Receiving Stream: Unnamed tributary to Long Branch Lake (U)  
First Classified Stream and ID: Long Branch Lake (L2) (07171)  
USGS Basin & Sub-watershed No.: (10280203-030001)

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

### **FACILITY DESCRIPTION**

Land Application Site #001 – POTW/State Park – Domestic Wastewater No-discharge System – SIC #4952

No Certified Operator Required

Two-cell storage lagoon/wastewater irrigation/sludge is retained in lagoon.

Design population equivalent is 28.

Design flow is 5,811 gallons per day (1-in-10 year design including net rainfall minus evaporation).

Average design flow is 2,741 gallons per day (dry weather flows).

Actual flow is 2,576 gallons per day.

Design sludge production is 0.42 dry tons per year.

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

June 25, 2010

Effective Date

Handwritten signature of Mark N. Templeton in black ink.

Mark N. Templeton, Director  
Department of Natural Resources

June 24, 2015

Expiration Date

Handwritten signature of Irene Crawford in black ink.

Irene Crawford  
Regional Director, Northeast Regional Office

**FACILITY DESCRIPTION** (continued)

Land Application Site #001 – MDNR, Long Branch State Park WWTF

**Receiving Stream Watershed:** a gaining stream setting that flows into Long Branch Lake

**Facility Type:**

No-discharge Storage and Irrigation System for seasonal flows into an L2 lake

<b><u>Design Basis:</u></b>	<b><u>Avg Annual</u></b>	<b><u>Recreational Season</u></b> <b><u>(April-Oct)</u></b>
Design dry weather flows	2,741 gpd	2,576 gpd
Design with 1-in-10 year flows	5,811 gpd	5,646 gpd
Design PE:	28	

**Storage Basin/Tank:**

Freeboard for basin: two (2) feet

Storage volume (minimum to maximum water levels): approximately 1,367,000 gallons

**Days of Storage**

**Storage Capacity:**

Design for dry weather flows:

**Recreational Season**

at least 90 days

**Land Application:**

Irrigation Volume/year: 2,121,000 gallons at design loading (including 1-in-10 year flows)

Irrigation area: approximately five (5) acres total available

Application rates: 0.5 inch/hour; 1.0 inch/day; 2.0 inches/week; 12.0 inches/year

Field slopes: less than five (5) percent

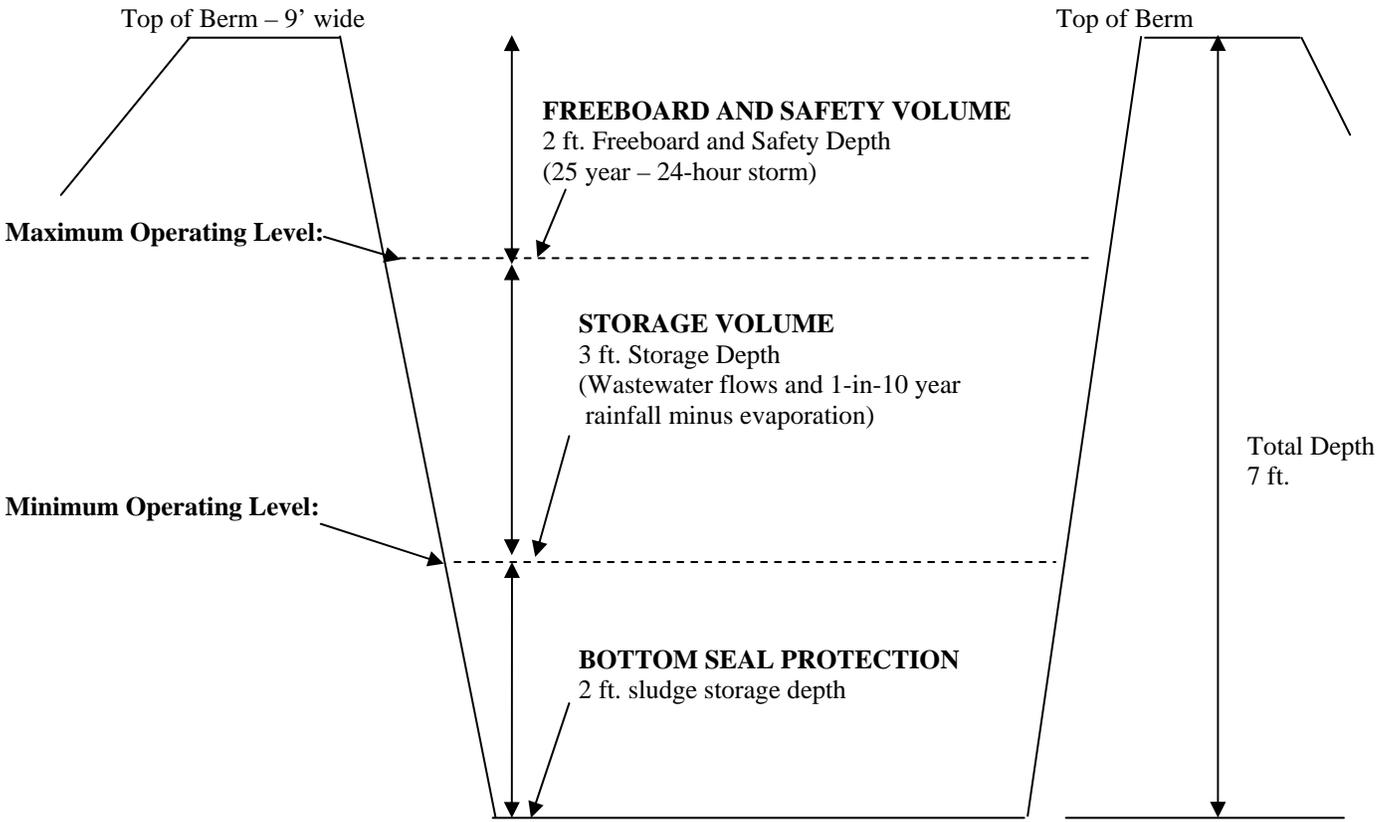
Equipment type: portable gated pipe or traveling gun

Vegetation: Prairie Restoration Area (grass hay)

Application rate is based on: hydraulic loading rate

LAGOON PROFILE

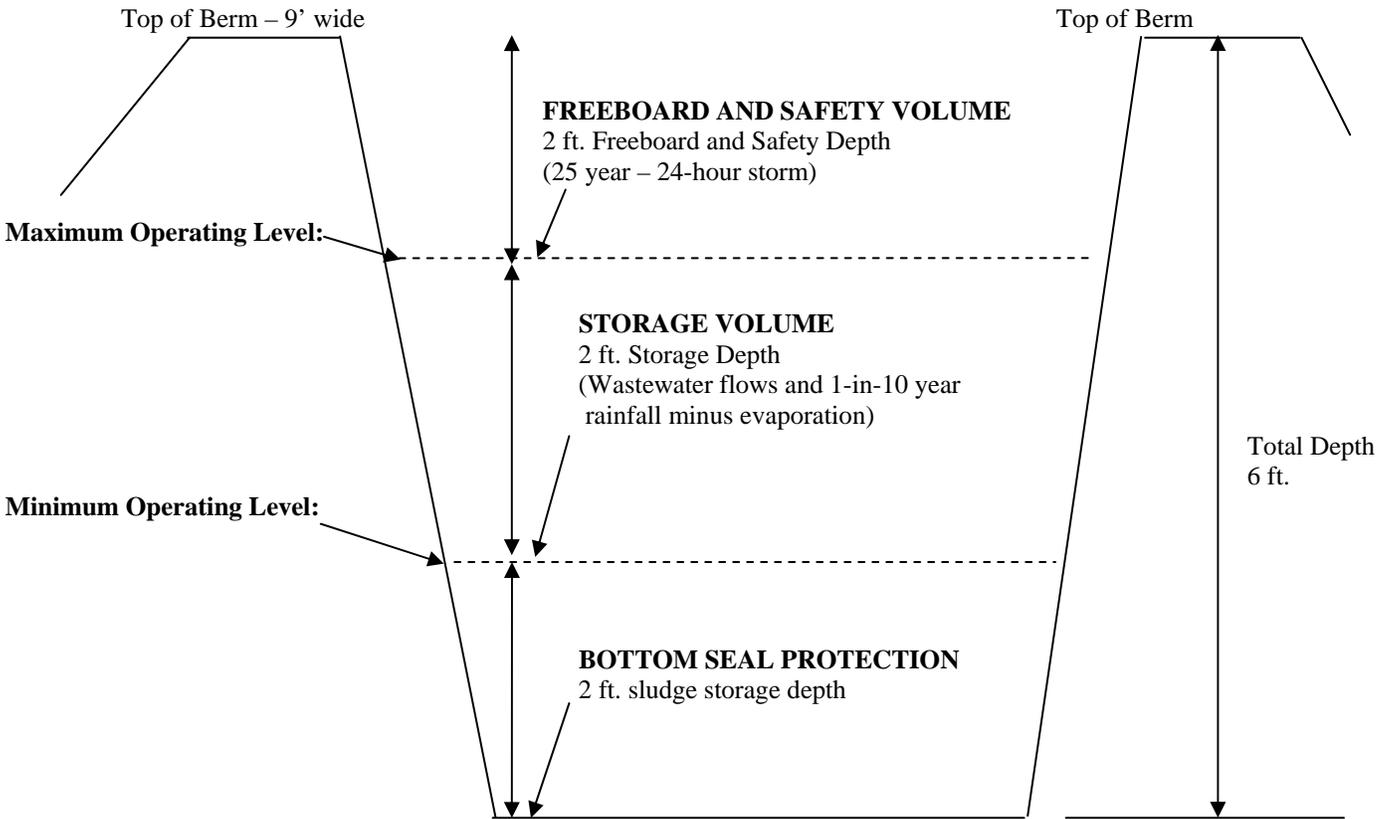
Cell #1



<u>Lagoon Dimensions:</u>	<u>(Length x Width)</u>	<u>Surface Area</u>	<u>Depth from Bottom</u>	<u>Pump down depth (from berm)</u>
Center Line Top Berm:	225.5 x 222.5	50,174 sq. ft.	by 7 feet	
Inside Top Berm:	221 x 218	48,178 sq. ft.	by 7 feet	
Freeboard & Safety Vol:	209 x 206	43,054 sq. ft.	by 5 feet	2 feet
Maximum operating level:			5.0 feet deep	2 feet
Minimum operating level:			2.0 feet deep	5 feet
Aerobic BOD design basis:			3.0 feet deep	4 feet
Storage volume (minimum to maximum water levels): 884,800 gallons				
Berm top width: 9 feet		Berm runoff area (Centerline to 2 ft freeboard and safety volume): 1,996 sq. ft.		
1-in-10 year annual storm water flows into lagoon (R-E): 82,300 cu. ft. (615,600 gallons)				

LAGOON PROFILE

Cell #2



<u>Lagoon Dimensions:</u>	<u>(Length x Width)</u>	<u>Surface Area</u>	<u>Depth from Bottom</u>	<u>Pump down depth (from berm)</u>
Center Line Top Berm:	204.5 x 199.5	40,800 sq. ft.	by 6 feet	
Inside Top Berm:	200 x 195	39,000 sq. ft.	by 6 feet	
Freeboard & Safety Vol:	187 x 182	34,200 sq. ft.	by 4 feet	2 feet
Maximum operating level:			4.0 feet deep	2 feet
Minimum operating level:			2.0 feet deep	4 feet
Aerobic BOD design basis:			3.0 feet deep	3 feet

Storage volume (minimum to maximum water levels): 482,100 gallons

Berm top width: 9 feet                      Berm runoff area (Centerline to 2 ft freeboard and safety volume): 1,800 sq. ft.

1-in-10 year annual storm water flows into lagoon (R-E): 67,500 cu. ft. (505,200 gallons)

<b>A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS</b>					PAGE NUMBER 5 of 8	
					PERMIT NUMBER MO-0136212	
The permittee is authorized to land apply at sites with serial number(s) as specified in the application for this permit. The final effluent limitations and operational monitoring requirements shall become effective upon issuance and remain in effect until expiration of the permit. Such discharges shall be controlled, limited and monitored by the permittee as specified below:						
PERMITTED FEATURE NUMBER AND EFFLUENT PARAMETER(S)	UNITS	FINAL EFFLUENT LIMITATIONS			MONITORING REQUIREMENTS	
		DAILY MAXIMUM	WEEKLY AVERAGE	MONTHLY AVERAGE	MEASUREMENT TYPE	SAMPLE FREQUENCY
<u>Land Application Site #001 - Land Application Operational Monitoring (Notes 1, 2, 3, and 4)</u>						
Lagoon Freeboard	feet	*			once/month	measured
Irrigation Period	hours	*			daily	total
Volume Irrigated	gallons	*			daily	total
Application Area	acres	*			daily	total
Application Rate	inches	*			daily	total
Rainfall	inches	*			daily	total
MONITORING REPORTS SHALL BE SUBMITTED <u>ANNUALLY</u> ; THE FIRST REPORT IS DUE <u>JANUARY 28, 2011</u> .						
<b>B. STANDARD CONDITIONS</b>						
IN ADDITION TO SPECIFIED CONDITIONS STATED HEREIN, THIS PERMIT IS SUBJECT TO THE ATTACHED <u>Parts I &amp; III</u> STANDARD CONDITIONS DATED <u>October 1, 1980 and August 15, 1994</u> , AND HEREBY INCORPORATED AS THOUGH FULLY SET FORTH HEREIN.						

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS (continued)

\* Monitoring requirement only. Report as no-discharge when a discharge does not occur during the report period.

Note 1 - **No-discharge facility requirements.** Wastewater shall be stored and land applied during suitable conditions so that there is no discharge from the lagoon or irrigation site. An emergency discharge may occur when excess wastewater has accumulated above feasible irrigation rates due to precipitation exceeding the chronic, 1-in-10-year, 365-day rainfall or the catastrophic, 25-year, 24-hour storm event. **In the event of any discharge the department must be notified within 24 hours.** This notification must be made to the appropriate regional office or to the environmental emergency response.

Note 2 - Records shall be maintained and summarized into an **annual operating report**, which shall be submitted by **January 28th** of each year for the previous calendar year period using report forms approved by the Department. The summarized annual report is in addition to the reporting requirements listed in Table A. The summarized annual report shall include the following:

- Record of maintenance and repairs performed during the year, average number of times per month the facility is checked to see if it is operating properly, and description of any unusual operating conditions encountered during the year;
- The number of days the lagoon has discharged during the year, the discharge flow, the reasons discharge occurred and effluent analysis performed; and
- A summary of the irrigation operations including freeboard at the start and end of the irrigation season, the number of days of irrigation for each month, the total gallons irrigated, the total acres used, crops grown, crop yields per acre, the application rate in inches/acre per day and for the year, the monthly and annual precipitation received at the facility, a summary of testing results for wastewater and soils, and calculations for nitrogen applied and crop removal of nitrogen.

Note 3 - Lagoon freeboard shall be reported as lagoon water level in feet below the overflow level. See Special Conditions for Wastewater Irrigation System requirements.

Note 4 – Land application of wastewater shall not occur to public use areas. Signs must be posted at least on each side of the application area and at any additional points of public access.

**C. SPECIAL CONDITIONS**

1. **Emergency Discharge.** The lagoon and/or land application site may only discharge if rainfall exceeds the chronic (1-in-10-year rainfall, data taken from the Missouri Climate Atlas) or the catastrophic (24-hour, 25-year rainfall, data taken from NRCS Urban Hydrology for Small Watersheds) precipitation events. **Discharge for any other reason shall constitute a permit violation and shall be recorded in accordance with Standard Conditions, Part 1, Section B.2.b.** Monitoring shall take place **once per day** while discharging from the lagoon or irrigation site. Test results are due on the 28<sup>th</sup> day of the month after the cessation of the discharge. Permittee shall monitor for the following pollutants:

Pollutant	Units
Flow	MGD
Rainfall	inches
Biochemical Oxygen Demand <sub>5</sub>	mg/L
Total Suspended Solids	mg/L
pH	S.U.

Constituent	Units
Ammonia as N	mg/L
Temperature	°C
Oil & Grease	mg/L
E. coli (Note 5)	#/100 mL

Note 5 – Sample during the recreational season, from April 1 to October 31. Report as no discharge from November through March.

It is a violation of the permit to violate water quality in the stream even during the chronic or catastrophic precipitation events.

2. Permitted features (outfalls, etc.) must be marked in field and on the topographic site map submitted with the permit application.
3. Permittee will cease discharge by connection to a facility with an area-wide management plan per 10 CSR 20-6.010(3)(B)1. or 2. within 90 days of notice of its availability. The permittee shall obtain department approval for closure or alternate use of the facility.
4. **Water Quality Standards**
  - a. Discharges to waters of the state shall not cause a violation of water quality standards rule under 10 CSR 20-7.031, including both specific and general criteria.
  - b. General Criteria. The following general water quality criteria shall be applicable to all waters of the state at all times including mixing zones. No water contaminant, by itself or in combination with other substances, shall prevent the waters of the state from meeting the following conditions:
    - (1) Waters shall be free from substances in sufficient amounts to cause the formation of putrescent, unsightly or harmful bottom deposits or prevent full maintenance of beneficial uses;
    - (2) Waters shall be free from oil, scum and floating debris in sufficient amounts to be unsightly or prevent full maintenance of beneficial uses;
    - (3) Waters shall be free from substances in sufficient amounts to cause unsightly color or turbidity, offensive odor or prevent full maintenance of beneficial uses;
    - (4) Waters shall be free from substances or conditions in sufficient amounts to result in toxicity to human, animal or aquatic life;
    - (5) There shall be no significant human health hazard from incidental contact with the water;
    - (6) There shall be no acute toxicity to livestock or wildlife watering;
    - (7) Waters shall be free from physical, chemical or hydrologic changes that would impair the natural biological community;
    - (8) Waters shall be free from used tires, car bodies, appliances, demolition debris, used vehicles or equipment and solid waste as defined in Missouri's Solid Waste Law, section 260.200, RSMo, except as the use of such materials is specifically permitted pursuant to section 260.200-260.247.
5. This permit may be reopened and modified, or alternatively revoked and reissued, to:
  - (a) Comply with any applicable effluent standard or limitation issued or approved under Sections 301(b)(2)(C) and (D), 304(b)(2), and 307(a) (2) of the Clean Water Act, if the effluent standard or limitation so issued or approved:
    - (1) contains different conditions or is otherwise more stringent than any effluent limitation in the permit; or
    - (2) controls any pollutant not limited in the permit.
  - (b) Incorporate new or modified effluent limitations or other conditions, if the result of a waste load allocation study, toxicity test or other information indicates changes are necessary to assure compliance with Missouri's Water Quality Standards.
  - (c) Incorporate new or modified effluent limitations or other conditions if, as the result of a watershed analysis, a Total Maximum Daily Load (TMDL) limitation is developed for the receiving waters which are currently included in Missouri's list of waters of the state not fully achieving the state's water quality standards, also called the 303(d) list.

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

C. SPECIAL CONDITIONS (continued)

6. Sludge and Biosolids Use For Domestic Wastewater Treatment Facilities
  - (a) Permittee shall comply with the pollutant limitations, monitoring, reporting, and other requirements in accordance with the attached permit Standard Conditions.
  - (b) If sludge is not removed by a contract hauler, permittee is authorized to land apply biosolids. Permit Standard Conditions, Part III shall apply to the land application of biosolids. Permittee shall notify the department at least 180 days prior to the planned removal of biosolids. The department may require submittal of a biosolids management plan for department review and approval as determined appropriate on a case-by-case basis.
7. Lagoons and earthen basins shall have a liner that is designed, constructed and maintained. If operating records indicate excessive percolation, the department may require corrective action as necessary to eliminate excess leakage.
8. Wastewater Irrigation System.
  - (a) Discharge Reporting. Any unauthorized discharge from the lagoon or irrigation system shall be reported to the department as soon as possible but always within 24 hours. Discharge is allowed only as described in the Facility Description and Effluent Limitations sections of this permit.
  - (b) Lagoon Operating Levels - No-discharge Systems. The minimum and maximum operating water levels for the storage lagoon shall be clearly marked. Each lagoon shall be operated so that the maximum water elevation does not exceed two feet below the Top of Berm except due to exceedances of the 1-in-10 year, 365-day or 25-year, 24-hour storm events according to National Weather Service data. Wastewater shall be land applied whenever feasible based on soil and weather conditions and permit requirements. Storage lagoon(s) shall be lowered to the minimum operating level prior to each winter by November 30.
  - (c) Emergency Spillway. Lagoons and earthen storage basins should have an emergency spillway to protect the structural integrity of earthen structures during operation at near full water levels and in the event of overflow conditions. The spillway shall be at least one foot below top of berm. The department may waive the requirement for overflow structures on small existing basins.
  - (d) General Irrigation Requirements. The wastewater irrigation system shall be operated so as to provide uniform distribution of irrigated wastewater over the entire irrigation site. A complete ground cover of vegetation shall be maintained on the irrigation site unless the system is approved for row crop irrigation. Wastewater shall be land applied only during daylight hours. The wastewater irrigation system shall be capable of irrigating the annual design flow during an application period of less than 100 days or 800 hours per year.
  - (e) Saturated/Frozen Conditions. There shall be no irrigation during ground frost, frozen, snow covered, or saturated soil conditions, or when precipitation is imminent or occurring.
  - (f) Buffer Zones. There shall be no irrigation within 300 feet of any down gradient pond, lake, sinkhole, losing stream or water supply withdrawal; 100 feet of gaining streams or tributaries; 150 feet of dwelling or public use areas; or 50 feet of the property line.
  - (g) Public Access Restrictions. Wastewater shall not be land applied to public access areas. Signs must be posted around the application site warning the public not to access the site. Signs may be removed during a period of vegetation burning.
  - (h) Irrigated Wastewater Disinfection. Wastewater shall be disinfected prior to land application (not storage) to public use areas. If land application to a public use area is proposed, the permit must be modified to add disinfection equipment.
  - (i) Operation and Maintenance Manual.

The permittee shall develop, maintain and implement an Operation and Maintenance (O&M) Manual that includes all necessary items to ensure the operation and integrity of the waste handling and land application systems. Copies of the O&M Manual and subsequent revisions shall be submitted to Regional Office for review and approval. The O&M Manual shall be reviewed and updated at least every five (5) years, and should be submitted with the application to renew the permit.
  - (j) Equipment Checks during Irrigation. The irrigation system and application site shall be visually inspected at least once/day during wastewater irrigation to check for equipment malfunctions and runoff from the irrigation site.
9. Land Application Sites. To add additional land application sites, the permittee shall submit an application to modify the operating permit along with documentation showing that the new land application site(s) meet the setback requirements referenced in Special Conditions #8(f). Additionally, the O&M Manual shall be updated to include the additional land application site(s) and a copy of the updated sections of the O&M Manual shall be submitted to the Northeast Regional Office prior to land applying on the additional sites. If land application to a public use area is proposed, the permit must be modified to add disinfection equipment.
10. The permittee shall comply with any applicable requirements listed in 10 CSR 20-8 and 10 CSR 20-9, unless the facility has received written notification that the Department has approved a modification to the requirements. The monitoring frequencies contained in this permit shall not be construed by the permittee as a modification of the monitoring frequencies listed in 10 CSR 20-9. If a modification of the monitoring frequencies listed in 10 CSR 20-9 is needed, the permittee shall submit a written request to the department for review and, if deemed necessary, approval.

PERMIT TRANSFER

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

PERMIT RENEWAL REQUIREMENTS

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

TERMINATION

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

DUTY OF COMPLIANCE

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

**Missouri Department of Natural Resources**  
**Statement of Basis**  
**MDNR, Long Branch State Park WWTF**  
**MO-0136212**

A Statement of Basis (Statement) gives pertinent information regarding the applicable regulations and rationale for the development of the NPDES Missouri State Operating Permit (operating permit). This Statement includes Wasteload Allocations, Water Quality Based Effluent Limitations, and Reasonable Potential Analysis calculations as well as any other calculations that effect the effluent limitations of this operating permit. This Statement does not pertain to operating permits that include sewage sludge land application plans and variance procedures, and does not include the public comment process for this operating permit.

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

**Part I – Facility Information**

Facility Type: POTW, State Park  
 Facility SIC Code(s): 4952

Facility Description:

The MDNR, Long Branch State Park lagoon operates as a no-discharge, two-cell storage lagoon which services 83 campsites, two shower houses, an RV dump station, a marina and fish cleaning station, a maintenance building, and the Park Superintendent house. The wastewater from the lagoon is land applied via gated pipe onto approximately five acres of ground to the southeast of the lagoon. The Long Branch State Park has a public beach over 900 feet to the southeast of the land application site.

**PERMITTED FEATURES TABLE:**

LAND APPLICATION SITES	DESIGN FLOW (GPD)	TREATMENT LEVEL	EFFLUENT TYPE	DISTANCE TO CLASSIFIED SEGMENT (MI)
#001	2,741	No-discharge, land application	Domestic	~ 700 feet to Long Branch Lake

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

No stream surveys or low-flow surveys are on record. This facility was previously considered exempt. Due to violations for discharging, a permit for this facility is being required. See the Comment section for further information.

Comments:

The facility was originally constructed in 1987 under construction permit (CP) #25-651, issued on March 6, 1987. Letter of Approval (LOA) #2001977-O was issued to operate the two-cell storage lagoon on July 29, 1988. After concerns over the integrity of the south lagoon cell and in an effort to enlarge the system to increase storage capacity, CP#25-1602 was issued on June 18, 1996. The construction permit expired without the work being performed. CP#25-1936 was issued on August 3, 1998, to renew the project so as to enlarge the lagoon and reseal the south lagoon cell. It is unknown whether the cell was ever resealed.

On March 24, 2006, the department received an engineering report for improvements to the Long Branch State Park wastewater treatment facility. The engineering report proposed the installation of a recirculating sand filter system to preserve and restore the existing natural area. According to the engineering report the average daily flow during the summer peak season is 6,348 gallons per day (gpd), which was derived from the campground area water usage data between the period of July 2002 and June 2005. To date, a construction permit application has not been submitted to the department.

On November 9 & 10, 2009, staff from the Northeast Regional Office conducted an investigation of a bypass from the two-cell lagoon. The facility was found to be in non-compliance with the Missouri Clean Water Law and the Clean Water Commission Regulations based upon the observations made at the time of the investigation. Notice of Violation (NOV) #NER2009121513054710 was issued to MDNR, Division of State Parks due to the violations. The required action of the report was for the facility to apply for an operating permit. On December 15, 2009, Mr. Webb provided a report with water usage records for the period of December 2007 to November 2009. According to the water usage records, the average daily water usage for the period is 1,660 gpd and the average daily water usage during the summer peak season is 3,743 gallons per day (gpd). Mr. Webb stated in his report that the use of outdoor faucets was significant during the summer months of 2009. On February 2, 2010, a letter was sent closing the inspection.

On January 15, 2010, an application for an operating permit was received. A comment letter was sent on January 22, 2010, and a response was received on March 15, 2010.

On March 22, 2010, staff from the Northeast Regional Office conducted an investigation of an unpermitted discharge from the lagoon. On March 22, 2010, the Northeast Regional Office received a report documenting the actions taken by the facility to resolve the deficiencies of the inspection. The facility was found to be in non-compliance, and a Letter of Warning was sent on April 6, 2010.

The posting of signs are being required by 10 CSR 8.020(15)(B)5. The restriction on irrigating to public use areas is being required by 10 CSR (15)(F)9. and 10.

**Part IIA – Operator Certification Requirements**

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

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

**Part IIB– Operational Monitoring**

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

**Part III – Receiving Stream Information**

**APPLICABLE DESIGNATIONS OF WATERS OF THE STATE:**

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

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

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

**RECEIVING STREAM(S) TABLE:**

WATERBODY NAME	CLASS	WBID	DESIGNATED USES*	8-DIGIT HUC	EDU**
Unnamed tributary to Long Branch Lake	U	N/A	General Criteria	10280203	Central Plains/ Grand/ Chariton
Long Branch Lake	L2	07171	AQL, DWS, LWW, SCR, WBC(A)***		

\* - Irrigation (IRR), Livestock & Wildlife Watering (LWW), Protection of Warm Water Aquatic Life and Human Health-Fish Consumption (AQL), Cool Water Fishery(CLF), Cold Water Fishery (CDF), Whole Body Contact Recreation (WBC), Secondary Contact Recreation (SCR), Drinking Water Supply (DWS), Industrial (IND), Groundwater (GRW).

\*\* - Ecological Drainage Unit

\*\*\* - UAA has not been conducted.

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

### **ANTI-BACKSLIDING:**

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

- All limits in this statement are at least as protective as those previously established; therefore, backsliding does not apply. This is an existing facility that was no discharge and will continue to be no discharge. This is a new permit to cover the facility as no discharge.

### **AREA-WIDE WASTE TREATMENT MANAGEMENT & CONTINUING AUTHORITY:**

As per [10 CSR 20-6.010(8)(A)10.], when a Continuing Authority under paragraph 10 CSR 20-6.010(3)(B)1. or 2. is expected to be available for connection within the next five (5) years, any operating permit issued to a permittee under this paragraph, located within the service area of the paragraph (3)(B)1. or 2. facility, shall contain the following special condition... This language is contained in Special Condition #3 of this operating permit.

### **COMPLIANCE AND ENFORCEMENT:**

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

Not Applicable ;

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

### **REMOVAL EFFICIENCY:**

Removal efficiency is a method by which the Federal Regulations define Secondary Treatment and Equivalent to Secondary Treatment, which applies to Biochemical Oxygen Demand 5-day (BOD<sub>5</sub>) and Total Suspended Solids (TSS) for Publicly Owned Treatment Works (POTWs)/municipals. Please see the United States Environmental Protection Agency's (EPA) website for interpretation of percent removal requirements for National Pollutant Discharge Elimination System Permit Application Requirements for Publicly Owned Treatment Works and Other Treatment Works Treating Domestic Sewage @ [www.epa.gov/fedrgstr/EPA-WATER/1999/August/Day-04/w18866.htm](http://www.epa.gov/fedrgstr/EPA-WATER/1999/August/Day-04/w18866.htm)

Not Applicable ;

This is a no-discharge facility.

### **SANITARY SEWER OVERFLOWS (SSOs), BYPASSES, INFLOW & INFILTRATION (I&I) – PREVENTION/REDUCTION:**

Sanitary Sewer Systems (SSSs) are municipal wastewater collection systems that convey domestic, commercial, and industrial wastewater, and limited amounts of infiltrated groundwater and storm water (i.e. I&I), to a POTW. SSSs are not designed to collect large amounts of storm water runoff from precipitation events.

Untreated or partially treated discharges from SSSs are commonly referred to as SSOs. SSOs have a variety of causes including blockages, line breaks, sewer defects that allow excess storm water and ground water to overload the system, lapses in sewer system operation and maintenance, inadequate sewer design and construction, power failures, and vandalism. A SSOs is defined as an untreated or partially treated sewage release from a SSS. SSOs can occur at any point in an SSS, during dry weather or wet weather. SSOs include overflows that reach waters of the state. SSOs also include overflows out of manholes and onto city streets, sidewalks, and other terrestrial locations. SSSs can back up into buildings, including private residences. When sewage backups are caused by problems in the publicly-owned portion of an SSS, they are considered SSOs.

Not Applicable ;

This facility is not required to develop or implement a program for maintenance and repair of the collection system; however, it is a violation of Missouri State Environmental Laws and Regulations to allow untreated wastewater to discharge to waters of the state. The application stated that this facility has only 7,500 feet in the collection system, and the facility is a no-discharge facility designed for only 2,741 gpd of dry-weather flow. The need for developing a maintenance program is not deemed necessary on such a small system.

**SCHEDULE OF COMPLIANCE (SOC):**

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

Not Applicable ;

This permit does not contain a SOC.

**STORM WATER POLLUTION PREVENTION PLAN (SWPPP):**

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

Not Applicable ;

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

**WATER QUALITY STANDARDS:**

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

**WHOLE EFFLUENT TOXICITY (WET) TEST:**

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

Not Applicable ;

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

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

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

Not Applicable ;

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

## Part V – EFFLUENT LIMITS DETERMINATION

### Land Application Site #001

#### EFFLUENT LIMITATIONS AND OPERATIONAL MONITORING TABLE:

PARAMETER	UNIT	BASIS FOR LIMITS	DAILY MAXIMUM	WEEKLY AVERAGE	MONTHLY AVERAGE	MODIFIED	PREVIOUS PERMIT LIMITATIONS
<b>LAND APPLICATION OPERATIONAL MONITORING</b>							
Lagoon Freeboard	feet	9	*			**	N/A
Irrigation Period	hours	9	*			**	N/A
Volume Irrigated	gallons	9	*			**	N/A
Application Area	acres	9	*			**	N/A
Application Rate	inches	9	*			**	N/A
Rainfall	inches	9	*			**	N/A
<b>EMERGENCY DISCHARGES</b>							
Flow	MGD	1/9	*			**	N/A
Rainfall	inches	9	*			**	N/A
Biochemical Oxygen Demand <sub>5</sub>	mg/L	1/9	*			**	N/A
Total Suspended Solids	mg/L	1/9	*			**	N/A
pH	S.U.	1/9	*			**	N/A
Ammonia as N	mg/L	5/9	*			**	N/A
Temperature	°C	5/9	*			**	N/A
Oil & Grease	mg/L	2/9	*			**	N/A
E. coli	#/100 mL	2/9	*			**	N/A
Monitoring Frequency	Please see Minimum Sampling and Reporting Frequency Requirements in the Derivation and Discussion Section below.						

\* Monitoring requirement only

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

N/A Not applicable.

#### Basis for Limitations Codes:

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

- **Land application operational monitoring (Lagoon Freeboard, Irrigation Period, Volume Irrigated, Application Area, Application Rate, Rainfall)**. These parameters are standard monitoring parameters required in all no-discharge operating permits. These are being required to ensure the permittee is operating the facility properly and to ensure that emergency discharges are only when the facility has been adequately land applying when possible. This is based on best professional judgment.
- **Emergency Discharges (Flow, Rainfall, Biochemical Oxygen Demand<sub>5</sub>, Total Suspended Solids, pH, Ammonia as N, Temperature, Oil & Grease, E. coli, Influent BOD<sub>5</sub>, Influent TSS, Percent removal efficiency)**. These parameters are being required daily during an emergency discharge event. Emergency discharge events are only allowed when the permittee can document a chronic rainfall period or catastrophic rainfall event and when the permittee can document that they were land applying when it was feasible. This is based on best professional judgment.

- **Minimum Sampling and Reporting Frequency Requirements.**

PARAMETER	SAMPLING FREQUENCY	REPORTING FREQUENCY
Lagoon Freeboard	once/month	once/year
Irrigation Period	daily	once/year
Volume Irrigated	daily	once/year
Application Area	daily	once/year
Application Rate	daily	once/year
Rainfall	daily	once/year
Flow	daily only if there is an emergency discharge	once/month only if a discharge occurs
Rainfall	daily only if there is an emergency discharge	once/month only if a discharge occurs
Biochemical Oxygen Demand <sub>5</sub>	daily only if there is an emergency discharge	once/month only if a discharge occurs
Total Suspended Solids	daily only if there is an emergency discharge	once/month only if a discharge occurs
pH	daily only if there is an emergency discharge	once/month only if a discharge occurs
Ammonia as N	daily only if there is an emergency discharge	once/month only if a discharge occurs
Temperature	daily only if there is an emergency discharge	once/month only if a discharge occurs
Oil & Grease	daily only if there is an emergency discharge	once/month only if a discharge occurs
E. coli	daily during the recreational season only if there is an emergency discharge	once/month only if a discharge occurs

## **Part VI – Administrative Requirements**

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

**Date of Statement of Basis:** April 16, 2010

**Date of Public Notice:** May 21, 2010

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Scott Adams

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Date