

STATE OF MISSOURI
DEPARTMENT OF NATURAL RESOURCES

Jeremiah W. (Jay) Nixon, Governor • Sara Parker Pauley, Director

www.dnr.mo.gov

JUL 26 2012

Village of Leonard
P.O. Box 155
Leonard, MO 63451

Dear Permittee:

Pursuant to the Federal Water Pollution Control Act, under the authority granted to the State of Missouri and in compliance with the Missouri Clean Water Law, we have issued and are enclosing your State Operating Permit to discharge from Leonard WWTF.

Please read your permit and attached Standard Conditions. They contain important information on monitoring requirements, effluent limitations, sampling frequencies and reporting requirements.

Monitoring reports required by the special conditions must be submitted on a periodic basis. Copies of the necessary report forms are enclosed and should be mailed to your regional office. Please contact that office for additional forms.

This permit is both your Federal NPDES Permit and your new Missouri State Operating Permit and replaces all previous State Operating Permits issued for this facility under this permit number. In all future correspondence regarding this facility, please refer to your State Operating Permit number and facility name as shown on page one of the permit.

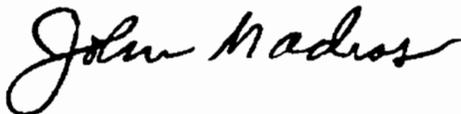
If you were adversely affected by this decision, you may be entitled to an appeal before the administrative hearing commission pursuant to 10 CSR 20-1.020 and Section 621.250, RSMo. To appeal, you must file a petition with the administrative hearing commission within thirty days after the date this decision 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 administrative hearing commission. Contact information for the AHC is: Administrative Hearing Commission, Truman State Office Building, Room 640, 301 W. High Street, P.O. Box 1557, Jefferson City, Missouri 65102, Phone: 573-751-2422, Fax: 573-751-5018, and Website: www.oa.mo.gov/ahc.

Please be aware that this facility may also be subject to any applicable county or other local ordinances or restrictions.

If you have any questions concerning this permit, please do not hesitate to contact the Water Protection Program at PO Box 176, Jefferson City, MO 65102, 573-751-1300.

Sincerely,

WATER PROTECTION PROGRAM

A handwritten signature in black ink that reads "John Madras". The signature is written in a cursive, flowing style.

John Madras
Director

JM/ns

Enclosure

STATE OF MISSOURI

DEPARTMENT OF NATURAL RESOURCES

MISSOURI CLEAN WATER COMMISSION



MISSOURI STATE OPERATING PERMIT

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

Permit No. MO-0136115

Owner: Village of Leonard
Address: P.O. Box 155, Leonard, MO 63451

Continuing Authority: Same as above
Address: Same as above

Facility Name: Leonard WWTF
Facility Address: East side of intersection of Highway H and Middle Street, Leonard, MO 63451

Legal Description: See Page 2
Latitude/Longitude: See Page 2
Receiving Stream: See Page 2
First Classified Stream and ID: See Page 2
USGS Basin & Sub-watershed No.: See Page 2

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

FACILITY DESCRIPTION

Domestic Wastewater – POTW – SIC #4952 **No Certified Operator Required**

No-discharge System

One storage basin/wastewater irrigation/sludge is retained in the storage basin

Design population equivalent is 94

Design flow is 5,000 gallons per day, 5,900 gallons per day including 1 in 10 year wet weather flows

Actual flow is 4,160 gallons per day

Design sludge production is 1.5 dry tons/year

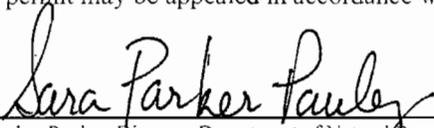
This permit authorizes only wastewater discharges under the Missouri Clean Water Law and the National Pollutant Discharge Elimination System: it does not apply to other regulated areas. This permit may be appealed in accordance with Section 644.051.6 of the Law.

July 27, 2012

Effective Date

July 26, 2017

Expiration Date


Sara Parker Pauley, Director, Department of Natural Resources


John Madras, Director, Water Protection Program

FACILITY DESCRIPTION (continued)

Outfall 001 - Storage Basin operational monitoring

Legal Description: NW ¼, NW ¼, Sec. 30, T59N, R11W, Shelby County
UTM Coordinates: X = 570404/Y = 4416302
Receiving Stream: Unnamed Tributary to Black Creek (U)
First Classified Stream and ID: Black Creek (P) (00112)
USGS Basin & Sub-watershed No.: (07110005-0201)

Facility Type:

No-discharge Storage and Irrigation System.

Design Basis:

Design dry weather flows
Design with 1-in-10 year flows
Design PE 94

Avg Annual:

5,000 gpd
5,900 gpd

Storage Basins:

Freeboard for basins: 1 foot
Approximate Storage volume (minimum to maximum water levels) 1,072,503 gallons

Days of Storage Capacity:

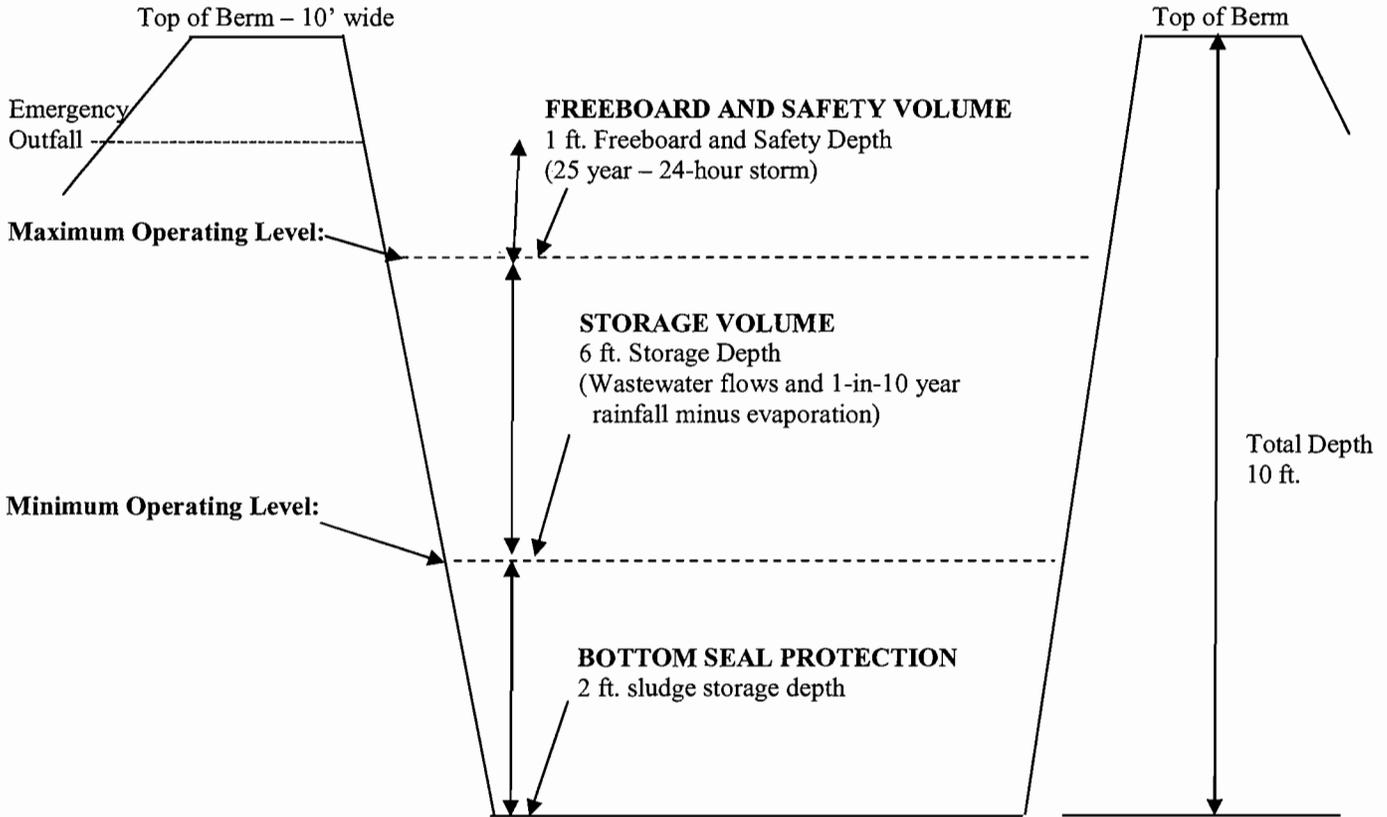
Design for Dry weather Flows: 215 days
Design with 1-in 10 year flows: 182 days

Land Application:

Irrigation Volume/year: 2,153,500 gallons (including 1-in-10 year flows)
Irrigation areas: 3.3 acres at design loading (3.3 acres total available)
Application rates/acre: 0.2 inch/hour; 1.0 inch/day; 3.0 inches/week; up to 24 inches/year.
Field slopes: less than 10 percent
Equipment type: Sprinklers
Vegetation: Grass
Application rate is based on: Hydraulic Loading

LAGOON PROFILE

Cell #1



Lagoon Dimensions: Surface Area Depth from Bottom Pump down depth (from berm)

Center Line Top Berm:	<u>37,641</u> sq. ft.	<u>10</u> feet depth	
Inside Top Berm:	<u>34,876</u> sq. ft.	<u>10</u> feet depth	
Freeboard & Safety Vol:	<u>30,537</u> sq. ft.	<u>8</u> feet depth	<u>2</u> feet

Maximum operating level:	<u>8.0</u> feet depth	<u>2</u> feet
Minimum operating level:	<u>2.0</u> feet depth	<u>8</u> feet
Aerobic BOD design basis:	<u>3.0</u> feet depth	<u>7</u> feet

Storage volume (minimum to maximum water levels): 1,072,503 gallons

Berm top width: 10 feet Berm runoff area (Centerline to 2 ft freeboard and safety volume): 7,712 sq. ft.

1-in-10 year annual storm water flows into lagoon (R-E): 43,914 cu. ft. (328,500 gallons)

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS					PAGE NUMBER 4 of 7	
					PERMIT NUMBER MO-0136115	
The permittee is authorized to discharge from outfall(s) with serial number(s) as specified in the application for this permit. The final effluent limitations shall become effective 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:						
OUTFALL NUMBER AND EFFLUENT PARAMETER(S)	UNITS	FINAL EFFLUENT LIMITATIONS			MONITORING REQUIREMENTS	
		DAILY MAXIMUM	WEEKLY AVERAGE	MONTHLY AVERAGE	MEASUREMENT FREQUENCY	SAMPLE TYPE
Outfall 001 - Land Application Operational Monitoring (Notes 1-3)						
Basin Freeboard (all basins)	feet	*			once/month	measured
Rainfall	inches	*			daily	total
Irrigation Period	hours	*			daily	total
Volume Irrigated	gallons	*			daily	total
Application Area	acres	*			daily	total
Application Rate	inches	*			daily	total
MONITORING REPORTS SHALL BE SUBMITTED <u>ANNUALLY</u> ; THE FIRST REPORT IS DUE <u>January 28, 2013</u> .						
Outfall 001 – Irrigated Wastewater (Notes 1-6)						
Total Kjeldahl Nitrogen as N	mg/L	*			once/year	grab
Nitrate Nitrogen as N	mg/L	*			once/year	grab
MONITORING REPORTS SHALL BE SUBMITTED <u>ANNUALLY</u> ; THE FIRST REPORT IS DUE <u>January 28, 2013</u> .						
B. STANDARD CONDITIONS						
IN ADDITION TO SPECIFIED CONDITIONS STATED HEREIN, THIS PERMIT IS SUBJECT TO THE ATTACHED <u>Parts I, II & III</u> STANDARD CONDITIONS DATED <u>October 1, 1980 & August 15, 1994</u> AND HEREBY INCORPORATED AS THOUGH FULLY SET FORTH HEREIN.						

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS (continued)

* Monitoring requirement only.

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 1-in-10-year, 365-day rainfall or the 25-year-24 hour storm event. Storage lagoon(s) shall be lowered to the minimum operating level prior to each winter by October 31st.

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 year using report forms approved by the Department. The summarized annual report is in addition to the requirements listed in Table A. The report shall include the following:

- a. 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;
- b. The number of days the lagoon has discharged during the year, the discharge flow, the reasons discharge occurred and effluent analysis performed; and
- c. 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 and summary of testing results.

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.

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS (continued)

Note 4 - Wastewater that is irrigated shall be sampled at the irrigation pump or wet well.

Note 5 - Monitor once per year during the months of March through November.

Note 6 - Wastewater irrigation rates shall not exceed a nitrogen application rate of 150 pounds total nitrogen per acre per year, and the applied wastewater shall not exceed ten (10) mg/l of nitrate nitrogen as N. If the nitrogen application exceeds a rate of 150 pounds total nitrogen per acre per year, and/or the applied wastewater exceeds ten (10) mg/l of nitrate nitrogen as N, see Special Condition #7 (j) for additional requirements.

C. SPECIAL CONDITIONS

1. Emergency Discharge. This facility may only discharge if rainfall exceeds the 1-in-10-year, 365-day rainfall (Data taken from the Missouri Climate Atlas) or the 25-year-24 hour storm event (Data taken from NRCS Urban Hydrology for Small Watersheds) rainfall events. **Discharge for any other reason shall constitute a permit violation and shall be reported in accordance with Standard Conditions, Part 1, Section B.2.b.** Facility must perform appropriate land application when feasible as specified in this permit in order to justify discharge. The emergency overflow location must be marked in the field. Monitoring shall take place once per day while discharging. Test results are due on the 28th day of the month after the cessation of the discharge. Permittee shall monitor for the following constituents:

Constituent	Units
Flow	MGD
Biochemical Oxygen Demand ₅	mg/L
Total Suspended Solids	mg/L
Total Ammonia Nitrogen	mg/L
Fecal Coliform	#/100 mL
Oil and Grease	mg/L
Temperature	°C
pH – Units	Standard Units

2. 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.

3. Changes in Discharges of Toxic Substances
 The permittee shall notify the Director as soon as it knows or has reason to believe:

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

C. SPECIAL CONDITIONS (continued)

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. 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.

6. 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.

7. Lagoons and earthen basins shall have a liner that is designed, constructed and maintained. If operating records indicate excessive percolation, or if evidence exists of leakage through the berm, 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 within 24 hours. Discharge is allowed only as described in the Special Conditions #1. 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 one foot below the overflow point except due to exceedences of the 1-in-10 year or 25-year-24 hour storm events. Wastewater shall be land applied whenever feasible based on soil and weather conditions and permit requirements.
- (c) 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.
- (d) Saturated/Frozen Conditions. There shall be no irrigation during frozen, snow covered, or saturated soil conditions.
- (e) 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.

C. SPECIAL CONDITIONS (continued)

- (f) 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 years.
 - (g) Equipment Checks during Irrigation. The irrigation system and application site shall be visually inspected at least once per hour during wastewater irrigation to check for equipment malfunctions and runoff from the irrigation site.
 - (h) Public Access Restrictions. Public access shall not be allowed to the irrigation site(s).
 - (i) Nitrogen Loading Rates. Wastewater irrigation rates shall not exceed a nitrogen application rate of 150 pounds total nitrogen per acre per year, and the applied wastewater shall not exceed ten (10) mg/l of nitrate nitrogen as N. Hydraulic application rates exceeding 60 inches per acre per year shall calculate nitrogen loading rates and include results in the annual report. The calculation procedures are as follows: $(\text{Total N}) \times (0.226) \times (\text{inches per acre irrigated}) = \text{pounds total N per acre}$. Where $\text{Total N} = [\text{Total Kjeldahl Nitrogen (TKN) as N}] + [\text{Nitrate Nitrogen as N}]$. If the applied wastewater exceeds 150 pounds total nitrogen per acre/year, the permittee must reduce the application rates or submit a revised permit application to request use of the Plant Available Nitrogen (PAN) method based on crop nitrogen requirements for harvested crops, along with calculations to show the amount of plant-available nitrogen provided and the amount of nitrogen that will be utilized by the vegetation to be grown. $\text{PAN availability factors for surface application are: } [\text{Ammonia N} \times 0.6] + [\text{Nitrate N} \times 0.9] + [\text{Organic N} \times 0.6] = \text{PAN}$. If the applied wastewater exceeds ten (10) mg/l of nitrate nitrogen as N, then the facility shall submit a revised permit application to request use of the Plant Available Nitrogen (PAN) method based on crop nitrogen requirements for harvested crops, along with calculations to show the amount of plant-available nitrogen provided and the amount of nitrogen that will be utilized by the vegetation to be grown.
9. A permit modification is required to add additional land for irrigation of wastewater, or to convert any of the land to public use areas.
10. The permittee shall develop and implement a program for maintenance and repair of the collection system. The permittee shall submit a report annually by January 28 with the annual operating report which describes maintenance, repair, and cleaning actions that have been performed on the collection system during the previous year.

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
FACT SHEET
FOR THE PURPOSE OF INITIAL PERMITTING
OF
MO-0136115
LEONARD WWTF

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

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

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

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

Part I – Facility Information

Facility Type: POTW
Facility SIC Code(s): 4952

Facility Description:

The facility is a no-discharge system consisting of a single storage basin with land application of wastewater. Land application is by fixed-position sprinklers. The storage cell has a working volume of 1,072,503 gallons between the two (2) foot and eight (8) foot levels. The system is designed for a daily flow of 5,000 gallons. The actual expected flow is 4,160 gallons per day. Flow from single-family residences in town is expected to be below normal at 55 gallons per person per day, based on current water usage records.

The collection system will include the installation of approximately 210 feet of forcemain and 11,520 feet of gravity sewer. In addition to the lift station in the collection system, there is a pump station to deliver wastewater from the lagoon to the land application field. The duplex collection system station uses two (2) horsepower pumps. A single vertical turbine pump will deliver all of the water to the irrigation field.

Geologic evaluations have been performed the lagoon and land application sites, and both were determined to have slight geologic limitations, with the other possible ratings being moderate or severe. Both sites have slopes of less than four (4) percent, and have surficial materials consisting of greater than 50 feet of silty clay.

Have any changes occurred at this facility or in the receiving water body that effects effluent limit derivation?
 - N/A, The system is no-discharge and has no effluent limits.

Application Date: 08/03/09
Expiration Date: N/A - new facility
Last Inspection: N/A - new facility

OUTFALL(S) TABLE:

OUTFALL	DESIGN FLOW (CFS)	TREATMENT LEVEL	EFFLUENT TYPE	DISTANCE TO CLASSIFIED SEGMENT (MI)
001	0.0077	No Discharge	Domestic	<0.2

Outfall #001

Legal Description: NW ¼, NW ¼, Sec. 30, T59N, R11W

Latitude/Longitude: +3953379/-9210380

Receiving Stream: Unnamed Tributary to Black Creek (U)

First Classified Stream and ID: Black Creek (P) (00112)

USGS Basin & Sub-watershed No.: (07110005-020001)

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

The treatment facility and collection system are new. There is no water quality history for this WWTF.

Comments:

The facility is a no-discharge system, therefore effluent limits have not been included in the permit. The facility must not discharge except during periods of precipitation that exceed the emergency conditions of the one (1)-in-10-year, 365-day chronic rainfall total or the 25-year, 24-hour storm event. The facility is to take all feasible steps to irrigate and prevent discharge. If emergency discharge is necessary, daily monitoring must be performed for the parameters listed in the permit. This is the first central collection and treatment system for the Village of Leonard.

Part IIA – Operator Certification Requirements

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 required to conduct operational monitoring.

Part III – Receiving Stream Information

APPLICABLE DESIGNATIONS OF WATERS OF THE STATE:

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

- Missouri or Mississippi River [10 CSR 20-7.015(2)]:
- Lake or Reservoir [10 CSR 20-7.015(3)]:
- Lossing [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 1st classified receiving stream's beneficial water uses to be maintained are located in the Receiving Stream Table located below in accordance with [10 CSR 20-7.031(3)].

RECEIVING STREAM(S) TABLE:

WATERBODY NAME	CLASS	WBID	DESIGNATED USES*	8-DIGIT HUC	EDU**
Unnamed Tributary to Black Creek	U	---	General Criteria	07110005	Central Plains/Quivre/Salt
Black Creek	P	00112	LWW, AQL, WBC***		

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

** - Ecological Drainage Unit

*** - UAA has not been conducted.

RECEIVING STREAM MONITORING REQUIREMENTS:

No receiving water monitoring requirements recommended at this time.

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

ALTERNATIVE EVALUATIONS FOR NEW FACILITIES:

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

Not Applicable ;

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

ANTI-BACKSLIDING:

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

- New facility, backsliding does not apply.

ANTIDegradation:

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

- No discharge facility, no degradation is proposed.

BIO-SOLIDS, SLUDGE, & SEWAGE SLUDGE:

Bio-solids are solid materials resulting from wastewater treatment that meet federal and state criteria for beneficial uses (i.e. fertilizer). Sludge is any solid, semi-solid, or liquid waste generated from a municipal, commercial, or industrial wastewater treatment plant, water supply treatment plant, or air pollution control facility or any other such waste having similar characteristics and effect. Sewage sludge is solids, semi-solids, or liquid residue generated during the treatment of domestic sewage in a treatment works; including but not limited to, domestic septage; scum or solids removed in primary, secondary, or advanced wastewater treatment process; and a material derived from sewage sludge. Sewage sludge does not include ash generated during the firing of sewage sludge in a sewage sludge incinerator or grit and screening generated during preliminary treatment of domestic sewage in a treatment works.

Applicable (renewal and modifications to existing operating permits) ;

This facility has been approved to land apply as per Permit Standard Conditions III and a Department approved bio-solids management plan.

COMPLIANCE AND ENFORCEMENT:

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

Not Applicable ;

The facility is new, and is not currently under Water Protection Program enforcement action.

PRETREATMENT PROGRAM:

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

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

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

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

Not Applicable ;

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

REASONABLE POTENTIAL ANALYSIS (RPA):

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

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

Not Applicable ;

A RPA was not conducted for this facility.

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. 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.

Applicable ;

This is a no-discharge facility, removal efficiency does not apply.

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.

Applicable ;

In accordance with 40 CFR Part 122.41(e), the permittee is required to develop and/or implement a program for maintenance and repair of the collection system and shall be required in this operating permit by either means of a Special Condition or Schedule of Compliance. In addition, the Department considers the development of this program as an implementation of this condition. Additionally, 40 CFR Part 403.3(o) defines a POTW to include any device and systems used in the storage, treatment, recycling and reclamation of municipal sewage or industrial wastes of liquid nature. It also includes sewers, pipes, and other conveyances only if they convey wastewater to a POTW Treatment Plant.

At this time, the Department recommends the US EPA's Guide for Evaluating Capacity, Management, Operation and Maintenance (CMOM) Programs At Sanitary Sewer Collection Systems (Document # EPA 305-B-05-002). The CMOM identifies some of the criteria used by the EPA to evaluate a collection system's management, operation, and maintenance and was intended for use by the EPA, state, regulated community, and/or third party entities. The CMOM is applicable to small, medium, and large systems; both public and privately owned; and both regional and satellite collection systems. The CMOM does not substitute for the Clean Water Act, the Missouri Clean Water Law, and both federal and state regulations, as it is not a regulation.

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.

In accordance with the EPA's *Storm Water Management for Industrial Activities: Developing Pollution Prevention Plans and Best Management Practices* [EPA 832-R-92-006] (Storm Water Management), BMPs are measures or practices used to reduce the amount of pollution entering (regarding this operating permit) waters of the state. BMPs may take the form of a process, activity, or physical structure.

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

Not Applicable .

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

VARIANCE:

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

Not Applicable ;

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

WASTELOAD ALLOCATIONS (WLA) FOR LIMITS:

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

Applicable ;

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

Not Applicable ;

Wasteload allocations were not calculated because this facility is no-discharge.

WLA MODELING:

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

Not Applicable ;

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

WATER QUALITY STANDARDS:

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

WHOLE EFFLUENT TOXICITY (WET) TEST:

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

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.

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

Not Applicable ;

This facility does not discharge.

Part V – Effluent Limits Determination

Outfall #001 – Main Facility Outfall

There are no effluent limits associated with this no-discharge facility. However, the following monitoring is required of the land applied wastewater.

MONITORING REQUIREMENTS TABLE:

PARAMETER	UNIT	BASIS FOR LIMITS	DAILY MAXIMUM	WEEKLY AVERAGE	MONTHLY AVERAGE	MODIFIED	PREVIOUS PERMIT LIMITATIONS
Total Kjeldahl Nitrogen as N	mg/L	9	*			N/A	N/A
Nitrate Nitrogen as N	mg/L	9	*			N/A	N/A
Basin Freeboard (all basins)	feet	9	*			N/A	N/A
Rainfall	inches	9	*			N/A	N/A
Irrigation Period	hours	9	*			N/A	N/A
Volume Irrigated	gallons	9	*			N/A	N/A
Application Area	acres	9	*			N/A	N/A
Application Rate	inches	9	*			N/A	N/A

* - Monitoring requirement only.

Basis for Limitations Codes:

- | | |
|--|------------------------------------|
| 1. State or Federal Regulation/Law | 7. Antidegradation Policy |
| 2. Water Quality Standard (includes RPA) | 8. Water Quality Model |
| 3. Water Quality Based Effluent Limits | 9. Best Professional Judgment |
| 4. Lagoon Policy | 10. TMDL or Permit in lieu of TMDL |
| 5. Ammonia Policy | 11. WET Test Policy |
| 6. Dissolved Oxygen Policy | 12. Antidegradation Review |

In addition to the monitoring requirements in the table above, the following parameters must be monitored daily during discharge events.

PARAMETER	UNIT	BASIS FOR LIMITS	DAILY MAXIMUM	WEEKLY AVERAGE	MONTHLY AVERAGE	MODIFIED	PREVIOUS PERMIT LIMITATIONS
Flow	MGD	9	*			N/A	N/A
BOD ₅	mg/L	9	*			N/A	N/A
TSS	mg/L	9	*			N/A	N/A
Ammonia	mg/L	9	*			N/A	N/A
Fecal Coliform	#/100 mL	9	*			N/A	N/A
Oil and Grease	mg/L	9	*			N/A	N/A
Temperature	°C	9	*			N/A	N/A
pH	Standard Units	9	*			N/A	N/A

OUTFALL #001 – DERIVATION AND DISCUSSION OF LIMITS:

Total Kjeldahl Nitrogen - Monitoring to ensure that excessive amounts of Nitrogen are not applied by this facility.

Nitrate Nitrogen as N - Monitoring to ensure that excessive amounts of Nitrogen are not applied by this facility.

Basin Freeboard – Monitoring to ensure adequate safety volume in the storage cell.

Rainfall - Monitoring to determine compliance with irrigation requirements.

Irrigation Period - Monitoring to determine compliance with irrigation requirements.

Volume Irrigated - Monitoring to determine compliance with irrigation requirements.

Application Area - Monitoring to determine compliance with irrigation requirements.

Application Rate - Monitoring to determine compliance with irrigation requirements.

Part VI – 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.

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 was from 12/18/2009 to 01/17/2010. No responses received or responses to the Public Notice of this operating permit do not warrant the modification of effluent limits and/or the terms and conditions of this permit.

Date of Factsheet:: October 21, 2009

Date of Public Notice: December 18, 2009

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