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-0118494
Owner:	Premium Standard Farms, LLC
Address:	RR2, Box 194, Highway 65N, Princeton, MO 64673
Continuing Authority:	Same as above
Address:	Same as above
Facility Name:	PSF, Locust Ridge Finishing Site
Address:	Hwy E at Hwy KK, Harris, MO 64645
Legal Description:	See pages 2-5
Latitude/Longitude:	See pages 2-5
Receiving Stream:	See pages 2-5
First Classified Stream and ID:	See pages 2-5
USGS Basin & Sub-watershed No:	See pages 2-5

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

Operation of this facility shall not cause a violation of water quality standards.

FACILITY DESCRIPTION

Outfalls #001 - #009, #011, #013 & #037– Concentrated Animal Feeding Operation - SIC #0213
No-discharge of Process Waste.
Eight anaerobic lagoons/secondary containment structures/wastewater irrigation/storm water runoff/dead animal disposal/domestic wastewater no-discharge earthen basin with land application.
Design flow is 43,496,737 gallons per year. (0.119 mgd) (after proposed AND system installation)
Design number of animals is 70,656 finishing hogs (28,262 animal units).

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.

November 29, 2010
Effective Date

Kip A. Stetzler, Acting Director, Department of Natural Resources

November 28, 2015
Expiration Date

John Madras, Director, Water Protection Program

FACILITY DESCRIPTION (continued)

This swine finishing facility consists of eight complexes designated as Farms #1, 2, 3, 5, 6, 7, 8, and 9. Each complex is made up of eight confinement buildings. Buildings each contain approximately 1,104 hogs and are constructed over shallow concrete pits. Waste from each group of the eight buildings is currently flushed using recycle flush water into a waste treatment lagoon. Domestic wastes from production office are flushed to one domestic waste lagoon. Each animal waste lagoon has at least one earthen secondary containment structure.

(Proposed) Advanced Nitrification/Denitrification (A.N.D.) Waste Water Treatment System: Lagoon effluent will periodically be pumped from lagoons at all eight swine facilities to this system designed to reduce total nitrogen before land application. The system is comprised of an equalization basin, an anoxic basin with artificial liner, an aerated basin with artificial liner, a solids storage basin, and an irrigation storage pond.

Mortalities are hauled offsite to a rendering facility.

Total Number of acres of Land Application Area(s) included in the Nutrient Management Plan:

Percent Slope	Land Application Area(s)
0-10%	863
10-20%	1470
TOTAL	2333

Outfall #001 - Site #1 - Anaerobic Lagoon/Secondary Containment
Legal Description: SE ¼, NE ¼, Sec. 31, T64N, R21W, Sullivan County
Lat/Long: +4018240/-09317356
Receiving Water: Unnamed tributary to West Fork Locust Creek (U)
First Classified Stream and ID: West Fork Locust Creek (C) 00613
USGS Basin & Sub-watershed No: 10280103-090007
Design Number of Animals: 8,832 Swine over 55 lbs
Design Waste Volume: 5,274,615 gallons per year.
Design Storage 365 days.
Upper Operating Level: one foot below overflow level.
Lower Operating Level: 4.8 feet below overflow level.

Outfall #002 - Site #2 - System Type: Anaerobic Lagoon/Secondary Containment (2)
Legal Description: SW ¼, SE ¼, Sec. 30, T64N, R21W, Sullivan County
Lat/Long: +4018407/-09317583
Receiving Water: Unnamed tributary to West Fork Locust Creek (U)
First Classified Stream and ID: West Fork Locust Creek (C) 00613
USGS Basin & Sub-watershed No: 10280103-090007
Design Number of Animals: 8,832 Swine over 55 lbs
Design Waste Volume: 5,267,680 gallons per year.
Design Storage: 365 days.
Upper Operating Level: one foot below overflow level.
Lower Operating Level: 4.8 feet below overflow level.

Outfall #003 - Site #3 - Anaerobic Lagoon/Secondary Containment (2)
Legal Description: NW ¼, NW ¼, Sec. 31, T64N, R21W, Sullivan County
Lat/Long: +4018322/-09318329
Receiving Water: Unnamed tributary to East Fork Medicine Creek (U)
First Classified Stream and ID: East Fork Medicine Creek (P) 00619
USGS Basin & Sub-watershed No: 10280103-040004
Design Number of Animals: 8,832 Swine over 55 lbs
Design Waste Volume: 4,330,360 gallons per year.
Design Storage: 365 days.
Upper Operating Level: one foot below overflow level.
Lower Operating Level: 4.3 feet below overflow level.

FACILITY DESCRIPTION (continued)

Outfall #004 - Site #5 - Anaerobic Lagoon/Secondary Containment
Legal Description: SE ¼, SW ¼, Sec. 30, T64N, R21W, Sullivan County
Lat/Long: +4018498/-09318161
Receiving Water: Unnamed tributary to West Fork Locust Creek (U)
First Classified Stream and ID: West Fork Locust Creek (C) 00613
USGS Basin & Sub-watershed No: 10280103-090007
Design Number of Animals: 8,832 Swine over 55 lbs
Design Waste Volume: 5,274,615 gallons per year.
Design Storage: 365 days.
Upper Operating Level: one foot below overflow level.
Lower Operating Level: 4.8 feet below overflow level.

Outfall #005 - Site #6 - Anaerobic Lagoon/Secondary Containment
Legal Description: NW ¼, NE ¼, Sec. 30, T64N, R21W, Sullivan County
Lat/Long: +4019231/-09318003
Receiving Water: Unnamed tributary to West Fork Locust Creek (U)
First Classified Stream and ID: West Fork Locust Creek (C) 00613
USGS Basin & Sub-watershed No: 10280103-09007
Design Number of Animals: 8,832 Swine over 55 lbs
Design Waste Volume: 4,336,565 gallons per year.
Design Storage: 365 days.
Upper Operating Level: one foot below overflow level.
Lower Operating Level: 4.9 feet below overflow level.

Outfall #006 - Site #7 - Anaerobic Lagoon/Secondary Containment
Legal Description: SW ¼, SE ¼, Sec. 19, T64N, R21W, Sullivan County
Lat/Long: +4019398/-09317479
Receiving Water: Unnamed tributary to West Fork Locust Creek (U)
First Classified Stream and ID: West Fork Locust Creek (C) 00613
USGS Basin & Sub-watershed No: 10280103-090007
Design Number of Animals: 8,832 Swine over 55 lbs
Design Waste Volume: 5,328,270 gallons per year.
Design Storage: 365 days.
Upper Operating Level: one foot below overflow level.
Lower Operating Level: 4.6 feet below overflow level.

Outfall #007 - Site #8 - Anaerobic Lagoon/Secondary Containment
Legal Description: NE ¼, NE ¼, Sec. 30, T64N, R21W, Sullivan County
Lat/Long: +4019249/-09317344
Receiving Water: Unnamed tributary to West Fork Locust Creek (U)
First Classified Stream and ID: West Fork Locust Creek (C) 00613
USGS Basin & Sub-watershed No: 10280103-090007
Design Number of Animals: 8,832 Swine over 55 lbs
Design Waste Volume: 5,484,855 gallons per year.
Design Storage: 365 days.
Upper Operating Level: one foot below overflow level.
Lower Operating Level: 5.0 feet below overflow level.

Outfall #008 - Site #9 - Anaerobic Lagoon/Secondary Containment
Legal Description: SE ¼, NE ¼, Sec. 19, T64N, R21W, Sullivan County
Lat/Long: +4020029/-09317367
Receiving Water: Unnamed tributary to West Fork Locust Creek (U)
First Classified Stream and ID: West Fork Locust Creek (C) 00613
USGS Basin & Sub-watershed No: 10280103-090005
Design Number of Animals: 8,832 Swine over 55 lbs
Design Waste Volume: 4,109,535 gallons per year.
Design Storage: 365 days.
Upper Operating Level: one foot below overflow level.
Lower Operating Level: 4.6 feet below overflow level.

FACILITY DESCRIPTION (continued)

Outfall #009 – Domestic Wastewater SIC Code #4952
No-discharge domestic wastewater treatment system serving employee restrooms and showers consisting of earthen basin with land application to hay, pasture, or row crops.
Legal Description: NW ¼, NW ¼, Sec. 32, T64N, R21W, Sullivan County
Lat/Long: +4018355/-9317202
Receiving stream: Unnamed tributary to West Fork Locust Creek (U)
First Classified Stream and ID: West Fork Locust Creek (C) 00613
USGS Basin & Sub-watershed No: 10280103-090007

Outfall #011 – Fresh Water Lake Monitoring
This is a private owned lake located on permittee property that is used as a water source for livestock. The sample location is from the discharge pipe or from a location near the inlet of discharge pipe during a discharge.
Legal Description: NE ¼, SE ¼, SW, Sec. 20, T64N, R21W, Sullivan County
Lat/Long: +4019458/-09316585
First Classified Stream and ID: West Fork Locust Creek (C) 00613
USGS Basin & Sub-watershed No: 10280103-090005
Lake discharge is to Unnamed Tributary to West Locust Creek.

Outfall #012 – Deleted – Fresh Water Lake Monitoring

Outfall #013 – Fresh Water Lake Monitoring
This is a private owned lake located on permittee property that is used as a water source for livestock. The sample location is from the discharge pipe or from a location near the inlet of discharge pipe during a discharge.
Legal Description: NW ¼, SE ¼, NE, Sec. 36, T64N, R22W, Sullivan County
Lat/Long: +4018232/-09318466
First Classified Stream and ID: East Fork Medicine Creek (P) 00619
USGS Basin & Sub-watershed No: 10280103-040004
Lake discharge is to Unnamed Tributary to Medicine Creek.

Outfall #014 – deleted - Stream Monitoring

Outfall #015 – deleted - Stream Monitoring

Outfall #016 – deleted - Stream Monitoring

Outfall #017 – Deleted - Storm Water

Outfall #018 – Deleted - Storm Water

Outfall #019 – Deleted - Storm Water

Outfall #S01 – Stream Monitoring
Legal Description: SW ¼, SW ¼, Sec. 29, T64N, R21W, Sullivan County
Lat/Long: + 401845.5/-931712.0
First Classified Stream and ID: West Fork Locust Creek (P) 00613
USGS Basin & Sub-watershed No: 10280103-090007

FACILITY DESCRIPTION (continued)

Outfall #038 – "AND" Nitrogen Reduction Wastewater System (proposed)
Legal Description: SW ¼, NE ¼, Sec. 30, T64N, R21W, Sullivan County
Lat/Long +4019110/-9317550
First Classified Stream and ID: West Fork Locust Creek (C) 0613
USGS Basin & Sub-watershed No: 10280103-090007
Equalization basin
Basin Operating Level: 2.0 feet below top of berm
Design Berm Runoff & Surface R-E: 208,580 gallons per year.
Anoxic basin
Basin Operating Level (constant): 2.0 feet below top of berm
Design Berm Runoff & Surface R-E: 160,730 gallons per year.
Aerated basin
Basin Operating Level (constant): 2.0 feet below spillway
Design Berm Runoff & Surface R-E: 338,584 gallons per year.
Solids storage basin
Basin Operating Level (constant): 2.0 feet below spillway
Design Berm Runoff & Surface R-E: 522,377 gallons per year.
Irrigation storage basin
Basin Operating Level: 2.0 foot below spillway
Design Berm Runoff & Surface R-E: 2,859,971gallons per year.

Total Design Berm Runoff & Surface Rainfall-Evaporation for Nitrogen Reduction Facility: 4,090,242 gallons per year.

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

OUTFALL NUMBER AND EFFLUENT PARAMETER(S)	UNITS	MONITORING REQUIREMENTS		
		REQUIREMENTS	MEASUREMENT FREQUENCY	SAMPLE TYPE
<u>Outfalls #001 - #009, # 037 and Land Application Fields</u> - Emergency and/or Unauthorized Discharge Monitoring				
Flow	mgd		once/day during discharge	24 hr. estimate
Dissolved Oxygen	mg/L		once/day during discharge	grab
Ammonia Nitrogen as N	mg/L		once/day during discharge	grab
Biochemical Oxygen Demand$_5$	mg/L		once/day during discharge	grab
pH – Units	SU		once/day during discharge	grab
Temperature	^oC		once/day during discharge	grab
Duration	hours		once/day during discharge	grab

Samples shall be collected of the discharge at the down gradient property boundary. Samples shall also be collected from the receiving waters above and below the discharge point. If the receiving drainage is dry above the discharge point, report as no stream flow above the discharge point.

<u>Outfalls #011 & #013</u> – Fresh Water Lake Discharge Monitoring				
Flow	mgd	Sample 2 times per year, once during April and once during October from the discharge pipe, or from a location near the discharge inlet, during a discharge.	2/year	24 hr. estimate
pH – Units	SU		2/year	grab
Ammonia Nitrogen as N	mg/L		2/year	grab
Total N	mg/L		2/year	grab
Total Phosphorus as P	mg/L		2/year	grab
Temperature	°C		2/year	grab

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

OUTFALL NUMBER AND EFFLUENT PARAMETER(S)	UNITS	MONITORING REQUIREMENTS		
		REQUIREMENTS	MEASUREMENT FREQUENCY	SAMPLE TYPE
Outfalls #S1 - Stream Monitoring				
Flow	mgd	Samples shall be collected on a pre-determined sampling date. Collect 2 samples per year, once during April, and October on the first Friday of the month. Samples shall be only collected from flowing water. Samples from riffles are preferred. Do not collect a sample from pools that do not have water flowing into or out of the pool. If there is no flow on the first Friday of the month, alternate date(s) shall be chosen. Monitoring requirement only.	2/year	24 hr estimate
pH - Units	SU		2/year	grab
Ammonia Nitrogen as N	mg/L		2/year	grab
Total N	mg/L		2/year	grab
Total Phosphorus as P	mg/L		2/year	grab
Temperature	°C		2/year	grab
Outfalls #001-008 – Secondary Containment Monitoring				
Process waste or storm water in the secondary containment	Gallons	See Special Condition #5	Each proposed release or pumping*	estimate
Ammonia Nitrogen as N	mg/L	Storm water may be released at <2.5 mg/L *Every test shall be recorded. Report the suspected reason for tests above 2.5mg/L. Report the fate of the water: whether it was released, pumped to a lagoon or land applied.	Each proposed release or pumping*	grab

B. GENERAL CONDITIONS

1. Standard Conditions

In addition to other conditions stated herein, this permit is subject to the attached Part I STANDARD CONDITIONS dated October 1, 1980, and hereby incorporated as though fully set forth herein.

2. Definitions

Definitions are as listed in the "Missouri Concentrated Animal Feeding Operation Nutrient Management Technical Standard" and in State Regulations under 10 CSR 20 Chapter 2 and Chapter 6.300.

3. Permit Exemptions

(a) All wastewater systems and major system modifications shall be constructed in accordance with a construction permit. As allowed in state regulations under 10 CSR 20-6.300 (2)(B), certain minor modifications and piping changes are exempted from the requirement for a construction permit. Minor modifications would include small sections of buried pipelines, normal repair or replacement of existing wastewater lines, installation of manholes, wet wells, and any other minor change that does not significantly impact the normal operation of the waste management system.
(b) In accordance with 10 CSR 20-6.300(2)(B)4, permits are not required for storage buildings for dry litter, compost, or similar materials, if the storage structure is roofed and has impermeable floors.

4. Effluent Limitations

The permittee is authorized to discharge process wastewater and storm water in accordance with the effluent limitations in this permit. The effluent limitations shall become effective upon issuance and remain in effect until such time this permit is no longer effective. Such discharges shall be managed, controlled, limited and monitored by the permittee as specified below.

(a) CAFO Production Area

(1) Requirements applicable to all CAFO production area(s):

The Production Area is that part of an operation which includes the animal confinement area, the manure storage area, the raw materials storage area, and the waste containment areas. Also included is any area used in the storage or treatment of animal mortalities or material containing mortality products.

There shall be no discharge of manure, litter, or process wastewater into waters of the state from production area point sources except as provided below in subsection (2) *Additional Requirements for Uncovered Liquid Storage Structures*.

A chronic weather event is a series of wet weather conditions that can delay planting, harvesting, and prevent land application and dewatering practices at wastewater storage structures. When wastewater storage structures are in danger of an overflow due to a chronic weather event, CAFO owners shall take reasonable steps to lower the liquid level in the structure through land application, or other suitable means, to prevent overflow from the storage structure. Reasonable steps may include, but are not limited to, following the department's current guidance on "Wet Weather Management Practices for CAFOs". These practices shall be designed by the department to specifically help minimize or eliminate water quality impacts from CAFOs during extreme wet weather periods. The University of Missouri's Missouri Climate Center will determine, within a reasonable timeframe, when a chronic weather event is occurring for any given county in Missouri. The Climate Center's determination will be based upon an evaluation of the 1 in 10 year return rainfall frequency over a 10-day, 180-day and 365-day operating period.

B. GENERAL CONDITIONS (continued)

Manure, litter or wastewater management activities occurring outside of the discrete point sources structures, barns or areas but upon land controlled by the permittee shall be addressed in the permittee's Nutrient Management Plan (NMP). Activities that should be addressed include, but are not limited to, winter feeding areas, stockpiling of raw materials, manure, or litter or other animal feeding related items that have the potential to contribute pollutants to waters of the state. As necessary, the NMP shall identify controls, measures or BMPs to manage stormwater runoff and meet applicable water quality standards. This paragraph applies only to activities on land that is under the control of the CAFO owner or operator, whether it is owned, rented, or leased.

(2) Additional Requirements for Uncovered Liquid Storage Structures:

Whenever a precipitation related event causes an overflow of manure, litter, or process wastewater; pollutants may be discharged through the emergency spillway of the lagoon or uncovered storage structure provided:

(a) The storage structure is properly designed, constructed, operated and maintained to contain all manure, litter, process wastewater plus the runoff and direct precipitation from the 25-year, 24-hour design storm event for the location of the CAFO.

(b) The design storage volume is adequate to contain all manure, litter, and process wastewater accumulated during the storage period including the following:
   (1) The volume of manure, litter, process wastewater, and other wastes accumulated during the storage period;
   (2) 1 in 10 year 365 day annual rainfall minus evaporation during the storage period;
   (3) 1 in 10 year 365 day normal runoff during the storage period;
   (4) The direct precipitation from the 25-year, 24-hour storm;
   (5) The runoff from the 25-year, 24-hour storm event;
   (6) A minimum treatment volume for treatment lagoons.

(c) Discharge is allowed via overflow through the emergency spillway of the lagoon or uncovered storage structure when caused by a storm event that exceeds the design storm event(s). Only that portion of storm water flow, which exceeds the design storm event(s) may be discharged. Process wastewater discharge is not allowed by pumping, siphoning, cutting of berms, or by any other method, except as authorized herein, unless prior approval is obtained from the department.

(d) Upper and Lower Storage Operating Levels:
   (1) During normal weather conditions, the liquid level in the storage structure shall be maintained below the upper operating level, as identified in the FACILITY DESCRIPTION, so that adequate storage capacity is available for use during adverse weather periods when conditions are not suitable for proper land application. The lower operating level shall be used as an operational guideline; however, under normal operating conditions the level should not be lower than two feet above the lagoon floor.
   (2) The liquid level in the storage structure should be lowered on a routine schedule based on the design storage period and Nutrient Management Plan. Typically this should be accomplished prior to expected seasonal wet and winter climate periods.
   (3) The upper operating level for uncovered storage structures is one foot below the emergency overflow level unless specified otherwise in the FACILITY DESCRIPTION.
   (4) The operation shall be managed so that the level of liquids in the storage structure does not exceed the upper operating level except when a 25-year, 24-hour storm or a 1 in 10-year chronic storm occurs, in accordance with General Conditions4.(a)(2)(e)(1), below.

(e) Storage Safety Volume:
   (1) When a chronic or catastrophic design storm event occurs, the "safety volume" may be used to contain the stormwater until conditions are suitable for land application.
   (2) The required safety volume shall be maintained between the overflow level and the upper operating level.

B. GENERAL CONDITIONS (continued)

(b) CAFO Land Application Areas

The Land Application Area is agricultural land which is under the control of the CAFO owner or operator, whether it is owned, rented, or leased, to which manure, litter or process wastewater from the production area is or may be applied.

There shall be no discharge of manure, litter, or process wastewater to waters of the state from a CAFO as a result of the land application of manure, litter or process wastewater to land application areas under the direct control of the CAFO, except where it is an agricultural storm water discharge. When manure, litter, or process wastewater has been land applied in accordance with this permit, a precipitation related discharge of manure, litter or process wastewater from land areas under the control of the CAFO is considered to be an agricultural storm water discharge.

5. Nutrient Management Plan

In accordance with 10 CSR 20-6.300(3)(G), the permittee shall implement a Nutrient Management Plan that at a minimum addresses the following.

(a) Ensures adequate storage of manure, litter and process wastewater, including procedures to ensure proper operation and maintenance of the storage facilities.
(b) Ensures proper management of mortalities.
(c) Ensures that clean water is diverted from the production area.
(d) Prevents direct contact of confined animals with waters of the state.
(e) Ensures that chemicals and other contaminants handled on site are not disposed of in any manure, litter, process wastewater, or storm water storage or treatment system unless specifically designed to treat such chemicals and other contaminants.
(f) Identifies appropriate site specific conservation practices to be implemented, including as appropriate buffers or equivalent practices, to control runoff of pollutants to waters of the state.
(g) Identifies protocols for appropriate testing of manure, litter, process wastewater, and soil.
(h) Establishes protocols to land apply manure, litter, or process wastewater in accordance with site specific nutrient management practices that ensure appropriate agricultural utilization of the nutrients in the manure, litter, or process wastewater.
(i) Identifies specific records that will be maintained.

6. Nutrient Management Technical Standard

The permittee shall follow Attachment A - “Missouri Concentrated Animal Feeding Operation Nutrient Management Technical Standard” (NMTS), except where otherwise stipulated in this permit. The NMTS, dated March 4, 2009, is hereby incorporated as though fully set forth herein.

7. Transfer of Manure, Litter, and Process Wastewater to Other Persons

In cases where CAFO-generated manure, litter, or process wastewater is sold, given away, or applied on land not under the direct control of the CAFO, the permittee must comply with the following conditions:

(a) Maintain records showing the date and amount of manure, litter, and/or process wastewater that leaves the permitted operation.
(b) Record the name and address of the recipient. (The recipient is the broker or end user, not merely the truck driver.)
(c) Provide the recipient(s) with representative information on the nutrient content of the manure, litter, and/or process wastewater.
(d) These records must be retained on-site, for a period of five (5) years.
(e) Provide the recipient with a copy of the NMTS.

B. GENERAL CONDITIONS (continued)

8. Mortality Management

Mortalities must not be disposed of in any liquid manure or process wastewater system that is not designed to treat animal mortalities. Animals shall be disposed of in a manner to prevent contamination of waters of the state or creation of a public health hazard.

9. Water Quality Standards

Any discharges to waters of the state, including those discharges allowed for within this permit, shall not cause a violation of the state water quality standards rule under 10 CSR 20-7.031, including both specific and general criteria.

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:

(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;
(b) Waters shall be free from oil, scum and floating debris in sufficient amounts to be unsightly or prevent full maintenance of beneficial uses;
(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;
(d) Waters shall be free from substances or conditions in sufficient amounts to result in toxicity to human, animal or aquatic life;
(e) There shall be no significant human health hazard from incidental contact with the water;
(f) There shall be no acute toxicity to livestock or wildlife watering;
(g) Waters shall be free from physical, chemical or hydrologic changes that would impair the natural biological community;
(h) Waters shall be free from scrap 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.

10. Closure of Waste Storage Structures

CAFOs that plan to close a lagoon or other liquid waste storage structure shall submit for department review and approval a closure plan that complies with the following minimum closure requirements:

(a) Lagoons and waste storage structures shall be closed by removal and land application of wastewater and sludge.
(b) The removed wastewater and sludge shall be transferred or land applied in accordance with the terms of this permit.
(c) After removal and proper land application of wastewater and sludge, the earthen basins may be demolished by removing the berms, grading, and revegetating the site; or the basin may be left in place for future use as a farm pond or similar uses when water quality monitoring shows such uses are attainable.

B. GENERAL CONDITIONS (continued)

11. Reopener Clause

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 State of Missouri Statutes or Regulations.

(c) 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.

(d) 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

1. Nutrient Management Plan

The permittee shall submit an updated nutrient management plan (NMP) that complies with the requirements listed in this permit within three months of the effective date of this permit. The NMP shall include operation and maintenance procedures for wastewater handling systems as necessary to maintain compliance with the terms and conditions of this permit. When the proposed AND system is constructed and placed into operation at this site, the permittee shall amend applicable portions of the site's NMP, including the operation and maintenance procedures, within three months after receiving operational approval from the department. As other operational changes are made to site's wastewater handling systems, the permittee shall amend applicable portions of the NMP within three months of said changes. Upon receipt of the plan, the department will conduct a review and, if needed, will submit a comment letter regarding any deficiencies within the nutrient management plan. All comments shall be responded to within 30 days of receipt of a letter. The updated NMP shall be followed beginning on the effective date, or revision date, of the permit and for each year thereafter.

2. Inspections

The following minimum visual inspections shall be conducted by the CAFO operator.

(a) Confinement barns which regularly utilize a liquid flush/recycle system shall include a visual inspection of the flush and recycle waste management system. Visual inspections shall be made at least once every twelve (12) hours, plus or minus three (3) hours.

(b) Daily inspections must be conducted of water lines including wastewater, drinking water, and cooling water lines that can be visually observed within the production area. The inspection of the drinking water and cooling water lines shall be limited to the lines that possess the ability to leak or drain to wastewater storage structures or may come in contact with any process waste.

(c) Daily inspections of the collection or holding areas for dead animals.

(d) Weekly inspections of all storm water diversion devices, runoff diversion structures, and devices channeling contaminated storm water to the process wastewater storage.

(e) Weekly inspections of the manure, litter, and process wastewater impoundments. The inspection will note the level in liquid impoundments as indicated by the depth marker.

(f) Quarterly inspections, prior to use, of equipment used for land application of manure or process wastewater.

(g) Inspections during land application as follows:

(1) Monitor the perimeter of the application fields to insure that applied wastewater does not run off the fields where applied.

(2) Monitor for drifting from spray irrigation.

(3) Hourly inspections of aboveground irrigation pipelines not contained.

(4) Twice daily inspections of pressurized underground lines including one inspection that should be completed immediately following startup.

Any deficiencies found as a result of inspections shall be documented and corrected as soon as practicable.

3. Record Keeping

The following records shall be maintained by the CAFO operator for a period of five (5) years from the date they are created and be made available to the department upon request:

(a) A copy of this permit including a current copy of the facility's Nutrient Management Plan and documentation of changes/modifications made to the Nutrient Management Plan.

(b) The daily visual inspections required in Special Condition #2, shall be logged/recorded once per week. This includes a once per week record of the depth of the process wastewater in the liquid impoundments as indicated by the depth marker. Report the liquid level as feet below the emergency overflow level.

(c) Records documenting any actions taken to correct deficiencies. Deficiencies not corrected within thirty (30) days shall be accompanied by an explanation of the factors preventing immediate correction.

(d) Records of mortalities management used by the operation.

(e) Records of the date, time, location, duration and estimated volume of any emergency or unauthorized process waste overflow from a lagoon or any spill exceeding 1000 gallons. Note: Monitor the discharge at the point immediately prior to the receiving stream or at the property boundary, whichever occurs first. Report flow as cubic feet per second (CFS) based on an instantaneous estimate of the flow at the time of sampling. CFS = flow width in feet x flow depth in feet x flow velocity in feet per second. Estimates of stream channel width and depth may be used and flow velocity can be measured by timing how many feet a floating object moves within a one-second interval. Small flows may also be estimated based on gallons per minute (GPM) measurement using a container and stop watch; 450 gpm = 1.0 CFS. Other similar means of estimating may also be used.

(f) Additional record keeping requirements are found in Attachment B, "Nutrient Management Technical Standard" that document implementation of appropriate Nutrient Management Plan protocols. In addition to the requirements found in the Nutrient Management Technical Standard, the CAFO shall also test and record the potassium levels in the soils while testing nitrogen and phosphorus.

(g) The inches of precipitation received at the production site, recorded daily and reported for daily amounts, monthly totals, and cumulative total.

4. Reporting Requirements

(a) Any wastewater discharge into waters of the state shall be reported to the Department as soon as practicable but no later than 24 hours after the start of the discharge.

(b) Spills or leaks that are contained on the property shall also be reported to the Department within 24 hours, if the spill or leak exceeds 1,000 gallons per day. This includes leaks from sewer lines, recycle lines, flushing systems, lagoons, irrigation systems etc.

(c) Within seven (7) days of the date that a lagoon's level comes within four (4) inches of the upper operating level, the permittee shall notify the department with information that identifies the lagoon(s), the lagoon level in inches below the emergency spillway and actions taken to reduce the lagoon levels.

(d) The permittee shall notify the Water Protection Program as soon as practicable but no less than 24 hours in advance of implementing the department's "Wet Weather Management Practices for CAFOs" during a chronic weather event

(e) An Annual Report shall be submitted by January 28 of each year for the previous growing season from October 1 through September 30 or an alternate 12 month period approved by the Department. The report shall include:

(1) The number and type of animals confined at the operation.

(2) The estimated amount of manure, litter, and process wastewater generated in the previous twelve months.

(3) The estimated amount of manure, litter, and process wastewater transferred to other persons in the previous twelve months.

(4) The total number of acres for land application covered by the Nutrient Management Plan.

(5) The total number of acres under control of the operation that were used for land application of manure, litter and process wastewater in the previous twelve months.

(6) A summary of all manure, litter, and process wastewater discharges from the production area that have occurred in the previous twelve months, including date, time, and approximate volume. Report as no-discharge, if a discharge did not occur during the monitoring period.

(7) A statement indicating whether the current Nutrient Management Plan was developed or approved by a certified nutrient management planner.

(8) The crops planted and expected yields, the amount and nutrient content of the manure, litter, and process wastewater applied to the land application area(s) and the results of any soil testing from the previous twelve months.

(9) The weekly records of the wastewater depth in the liquid impoundments as required in section C.3.b. above.

(10) The actual operation numbers compared to the permitted design parameters described in Special Condition #6.

(11) All monitoring results from Section A. Effluent Limitations and Monitoring Requirements.

(f) The reports shall include a cover sheet with an original signature of a company representative. The reports may be printed or alternatively, may be saved as pdf files or locked spreadsheets and burned onto two compact discs (CDs). The CDs may be sent via mail with the coversheet to the Northeast Regional and the Jefferson City offices.

5. Secondary Containment Structures

(a) Containment structures or earthen dams shall be maintained down gradient of all confinement buildings and sewer lines, gravity outfall lines, recycle pump stations and recycle force mains in order to collect and retain wastewater discharges from spills or pipeline breaks. The containment structure shall be able to collect a minimum volume equal to the maximum pumping capacity of the recycle pump for the wastewater flushing system in any 24-hour period. Though not required, containment structures may also be located below underground tile outlets from irrigation sites or other areas not already protected by secondary containment.

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(b) There shall be no release of process wastewater from secondary containment structures. Any wastewater spills or leaks collected in the containment structures shall be pumped into the lagoon or directly land applied so that there is no discharge of process waste. Before release of any accumulated storm water from the containment structures the water shall be tested for ammonia

(c) Storm water may be released from the containment structure when the ammonia-N content is less than 2.5 mg/L. Storm water that exceeds these limits shall be pumped into the lagoon or properly land applied.

(d) In-field testing for ammonia nitrogen using colorimetric testing or other approved testing methods may be used for sampling of storm water in the containment structures. Testing and release procedures shall be described in the Nutrient Management Plan.

(e) Existing storm water flows shall not be diverted around or allowed to bypass the secondary containment structure, even when the flush system is not in use, without the prior approval of the Water Protection Program. Additional storm water may be directed to the secondary containment if desired by the permittee.

6. Design Parameters

The facility's design flow in the Facility Description is an estimated parameter that is used to help predict nutrient generation and storage periods. The design flow is based on the maximum annual flows including storm water flows during the one-in-ten year return frequency for annual or 365 day rainfall minus evaporation. The design flow is based on the time period when the flows are generated at the production site and not when flows are land applied. Permittee may exceed the design flow when precipitation in any 365 day period exceeds the one-in-ten year annual precipitation amount. Any proposed increases may require a permit modification prior to the proposed change. Portions of the design flow may be stored and carried over into the following year for land application, as necessary.

7. Land Application Site Locations

The permittee is responsible for all land application area(s) that are owned, rented, leased, or otherwise directly controlled by the permittee. All land application area(s), that fall under the definition of "land application area" as defined in 10 CSR 20-6.300, must be included in the facility's nutrient management plan. The addition of land application area(s) into the facility's nutrient management plan (except for those already in a nutrient management plan) must follow permit modification procedures prior to land application unless otherwise approved by the department. When the permittee applies process wastewater to agricultural lands that are not owned, rented, leased or directly controlled, the permittee shall do so, and maintain records, in accordance with the Missouri Concentrated Animal Feeding Operation Nutrient Management Technical Standard (NMTS).

8. Land Application Limitations

(a) Process wastes should be land applied as close as practicable to when plants will utilize nutrients. Fall application for the spring crop season may be used where appropriate, but should not be the primary application period. Land application of process wastes shall be utilized as a nutrient resource.

(b) Avoid surface application when there is a local, applicable weather forecast or observation by permittee of an imminent or impending storm event that is likely to produce runoff.

(c) Land application equipment shall be operated in such a manner that wastes do not reach an adjoining property line, public use area or into waters of the state. There shall be no visual spray drifts across public roads or property boundaries or into waters of the state. If the employee detects wind blown mist within 100 feet of an adjoining property line or public use area or waters of the state the application equipment shall be either moved farther away or shut down.

(d) The NMP shall include appropriate site specific conservation practices, including as appropriate buffers or equivalent practices, to control runoff of pollutants to waters of the state.

(e) Spray irrigation systems (travelling guns, center pivot, fixed spray nozzles, etc) shall have automatic shut-off devices at the pump in the case of pressure loss.

(f) Land application rate shall be calculated during start up of spray irrigation equipment each day of operation by confirming operational parameters such as pressure, nozzle size, speed and other parameters. Calibration of traveling gun irrigation systems shall be verified at least once/month during the land application season using rain gauges or collection pans within the spray pattern of the equipment to determine application rates.

(g) Implementation procedures for these limitations shall be detailed in the Nutrient Management Plan.

(h) Domestic sludge shall be removed as needed and land applied in accordance with 40 CFR 503 sludge standards for septage and University of Missouri Water Quality Guide publication #WQ422.

C. SPECIAL CONDITIONS (continued)

9. Hydraulic Application Rate Limitations

(a) Hydraulic application rates in inches/application pass and inches/day shall not exceed the soil infiltration capacity and soil moisture holding capacity (saturation capacity) of the soil. In no case shall the application result in the runoff of applied waste during or immediately following application.
(b) For field slopes less than or equal to ten percent (0-10%), surface application rates other than tool bar application shall not exceed 0.5 inches/application pass and 1.0 inch/day depending on soil condition, except for short periods when initial soil moisture is significantly below field capacity in accordance with 10 CSR 20-8.020(15)(F)6. For tool bar application, the rate shall not exceed 1.0 inch/day.
(c) For field slopes greater than ten percent (10%), but less than or equal to twenty percent (20%), surface application rates shall be reduced to one-half the rate for slopes of ten percent (10%) or less. The Nutrient Management Plan shall include a topographic map showing slopes and drainage patterns. The number of acres approved for various slope conditions are listed in the operation description section of this permit.
(d) For subsurface injection, application rates shall be based on soil absorption capacity during land application so that there are no puddles of wastewater on the soil surface. In no case shall the application rate exceed 1.0 inch/day (27,154 gallons/acre). The subsurface application rate and procedures for adjusting the rate to match soil moisture and field slope conditions shall be listed in the Nutrient Management Plan.

10. Operating Capacity

This permit authorizes operation of the CAFO waste management system as described in the "FACILITY DESCRIPTION" along with the permit application and associated engineering plans. The Facility Description describes a design animal unit operating capacity (i.e., number of animals) for this facility. For purposes of this permit, the animal unit operating level at any given time shall be based on averaging the weekly facility wide inventory on a rolling 12 month average (i.e., the animal unit operating level will be determined using a "rolling 12 month average" of the "weekly facility-wide average inventory"). The rolling 12 month average should not exceed, the listed facility-wide design animal unit capacity in the Facility Description. The CAFO may change animal numbers and weights as necessary; however, such changes must not adversely impact the storage and handling capacities of the waste management system.

11. Underground Tile Outlets at Land Application Sites

(a) Any underground tile outlets from field terraces or subsurface field drainage tiles shall be shown on the site maps for all land application sites.
(b) To prevent potential discharge of wastewater during irrigation of fields with underground tile the permittee shall either:
(1) Cap, plug, or otherwise prevent wastewater from entering the inlets during irrigation;
(2) Provide a 35 foot permanently vegetated buffer area between the inlets and wetted irrigation area;
(3) Provide a 100 foot separation between the inlets and wetted irrigation area;
(4) Use subsurface injection type application equipment and a 50 foot separation from the tile inlet; or
(5) Install secondary containment structures below the tile outlets and follow the testing and reporting procedures for secondary containment described in this permit.

12. Sample Collection, Preservation and Testing Methods

In field testing methods or other approved methods may be used for secondary containment monitoring. Other testing shall be in accordance with the most current version of *Standard Methods for the Examination of Waters and Wastewaters* or other approved methods listed in 10 CSR 20-7.015(9)(A).

13. Dead Animal Disposal

There shall be no-discharge from dead animal collection areas or holding areas (dumpsters, holding tanks, stockpiles within livestock production buildings, refrigeration units, etc). Any liquid drainage or wash water shall be collected and placed into the animal waste lagoon or hauled off-site to a permitted treatment/disposal facility. There shall not be any leakage from the collection or holding areas to the soil surface or subsurface. Dead animals shall be collected and hauled off site for rendering or disposal in accordance with the Dead Animal Disposal Law under Chapter 269 RSMo. Other methods of mortality disposal will require prior approval of from the Water Protection Program.

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. Permits in Missouri are issued by the Missouri Department of Natural Resources (department), as the administrative agent for the Missouri Clean Water Commission, 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). NPDES operating permits are issued for a period of five (5) years unless otherwise specified.

A Factsheet gives pertinent information regarding the applicable regulations, rational for the development of the NPDES Missouri State Operating Permit (operating permit), and the public participation process for operating permit listed below.

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

This Factsheet is for a Permit Renewal ☒; Permit Modification ☒; and/or permit with widespread public interest ☐.

Facility Information

NPDES Permit No.:	MO-0118494
Owner:	Premium Standard Farms LLC
Owner Address:	RR 2, Box 194, Highway 64N, Princeton, MO
Facility Name:	Locust Ridge Finishing Site
Facility Address:	Hwy E at Hwy KK, Harris, MO
MDNR Region:	Northeast Regional Office
Facility County:	Sullivan
Facility Type:	Class 1A-Concentrated Animal Feeding Operation (CAFO)
Facility SIC Code(s):	0213
Facility Description:	A swine finishing operation with 70,656 swine over 55 lbs. Wastes are flushed using recycle flush water in to a lagoon and then pumped through an Advanced Nitrification/Denitrification waste water treatment system. Swine mortalities are rendered off site.

Effected Outfalls and other Modifications

Note: All outfalls are detailed in the operating permit starting on page 2.

Since this permit is intended to protect water quality, please limit your comments to those issues pertaining to water quality.

This permit does not include an increase in animal numbers or animal capacity at this site. The farm, however, is proposing to construct an anaerobic digester, which has been added to this permit. More details on the digester can be found below.

The department has renewed, with changes, a Missouri State Operating Permit for the Locust Ridge Finishing Site located in Sullivan County. This facility is a Missouri Class IA Concentrated Animal Feeding Operation (CAFO) which, due to its classification and size has been required by the department to retain a site-specific operating permit.

As part of the program's review process, a site visit was conducted on December 4, 2009 to evaluate existing and select new stream monitoring sites.

Proposed addition of an "AND"Advanced Nitrification/Denitrification waste water treatment system

Though no increase in the overall capacity is proposed, the permit has been revised to include a "future" "AND"Advanced Nitrification/Denitrification waste water treatment system. A construction permit will authorize the construction of the "AND" system, which will be issued pending completion of the public notice process for this permit. The environmental benefits of the proposed "AND" system include advanced treatment of the waste which will aid in reducing overall odors at the site. Outfall #038 is currently shown as "proposed" within this permit, however, when construction is certified complete in accordance with construction permit approval the permit will be revised to show the "AND" system as an active outfall.

Outfall #038 – "AND" Nitrogen Reduction Wastewater Facility
Legal Description: SW ¼, NE ¼, Sec. 30, T64N, R21W, Sullivan County
Latitude: 40°19'11" Longitude: -93 °17'55"
First Classified Stream and ID: West Fork Locust Creek (C) 0613
USGS Basin & Sub-watershed No: 10280103-090007
Equalization basin
Basin Operating Level: 18.5 feet below top of berm
Design Berm Runoff & Surface R-E: 208,580 gallons per year.
Anoxic basin
Basin Operating Level (constant): 2.0 feet below top of berm
Design Berm Runoff & Surface R-E: 160,730 gallons per year.
Aerated basin
Basin Operating Level (constant): 2.0 feet below spillway
Design Berm Runoff & Surface R-E: 338,584 gallons per year.
Solids storage basin
Basin Operating Level (constant): 2.0 feet below spillway
Design Berm Runoff & Surface R-E: 522,377 gallons per year.
Irrigation storage basin
Basin Operating Level: 12.5 foot below spillway
Design Berm Runoff & Surface R-E: 2,859,971gallons per year.

Water Quality Monitoring –

The Locust Ridge permit has, in previous permit cycles, required varying amounts of water quality monitoring. The monitoring requirements in previous permits at this site have included as many as twenty-five individual sampling locations for storm water, in-stream and fresh water lake monitoring with sampling frequencies of quarterly, monthly, and monthly, respectively. The purpose behind the department's monitoring requirements was to help aid in ascertaining any water quality related impacts from the CAFO's operation and land application of manure. Technical staff in both the Permits and Water Quality Monitoring Section have reviewed the results of the past monitoring and generally conclude that further extensive monitoring is unnecessary as there is no indication from past water quality data that a reasonable potential exists for the Locust Ridge CAFOs to violate water quality standards when it is managed and operated in accordance with permit requirements.

With this in mind, the department has reduced some of the complexity of the monitoring requirements within the Locust Ridge permit. Storm water monitoring will be addressed by requiring sampling of the fresh water lake that receives much of the stormwater runoff from land application areas. The fresh water lake on this farm includes land application areas as a significant portion of its watershed. Regular sampling of the impounded water within secondary containment structures will also be required to account for stormwater impacts from the production area. The secondary containment structures are designed to collect and retain stormwater runoff from that portion of the production area that presents the most risk from spills, leaks or other piping system malfunctions. In previous permits, when the ammonia-nitrogen level in the containment water was greater than 2.5 mg/l, the permit required the collected stormwater to either be land applied or pumped back into the lagoon. This permit requires reporting of all testing results at secondary containments, not just when this storm water is released to the environment. In addition, we are proposing the permittee report the actual measured value, rather than just reporting <2.5mg/l. In-stream monitoring requirements have been retained and will include one monitoring point on the primary receiving stream for this site and will be sampled two times per year during times that likely coincide with land application.

Secondary Containment Structures -
Secondary containment structures collect storm water runoff from the site as well as accidental spills. As such, they are used in this permit, together with fresh water lake discharge monitoring, to meet the requirements of 10 CSR 20-6.300((3)(H)3.F.(III).

State statutes and regulation only require production sites with flush systems to have secondary containments for the production area. Though the department highly advises the use of secondary containments at Class IA production sites, if the flush system(s) are replaced and no longer utilized, the permittee may submit a request to remove them from this permit. As long as a secondary containment structures are in place, its operational requirements within the permit will remain in effect.

Inspections, Record Keeping, and Reporting Requirements -
On February 28, 2009, the department finalized changes to department's CAFO regulation at 10 CSR 20-6.300. In response to the new regulations, the department made several additions and changes to the inspections, record keeping, and reporting requirements to address the new state requirements.

Prior permits have included submittal of a quarterly report and an annual report in paper format. The annual report contained essentially the same information that was found in the quarterly report. Department staff rarely has the time or the need to regularly review the quarterly reports and the sheer volumes of documents and paper generated by the submittal of these reports fill up file room space in both the regional and central offices. The department plans to reduce the reporting requirement down to an annual report only and will provide PSF an option of submitting the annual reports electronically on a CD-ROM. This permit requires that all records required by the permit be made available, upon request, for department review and if deemed necessary can be reviewed by the department during quarterly inspections.

The department also notes that state statutes and regulation identifies the utilization of a "flush wet handling system" as a precondition for the specific visual inspection requirement found at 10 CSR 20-6.300(3)(H)1. This specific requirement requires visual inspections be conducted of the waste management system at least once every twelve (12) hours at production sites. The department recognizes that flush systems may go un-utilized for short durations (e.g. several weeks) during barn cleanout or during other maintenance related activities and in these circumstances, suspension of this inspection requirement is not authorized. If the flush systems are removed then the 12 hour inspection requirement and associated recordkeeping are no longer a permit requirement at said production site.

Based upon staff site visits, it is our understanding that the farm collects/holds daily mortalities in the production barn(s). At some point during the day, mortalities are transferred from the barn(s) to some type of box truck or trailer for delivery and proper management off-site. Mortalities are loaded into a truck on a flat pad, or by use of the old "tower" structures that act as loading device. Neither of these two handling methods or areas represent a "holding" or "collection" area, and therefore the truck pad and tower device "areas" do not fall under the permit's daily mortality inspection requirement as found in Special Conditions 2.c.

Nutrient Management -
Proper management and utilization of farm generated manure nutrients at a CAFO is key to its ability to operate in a safe and protective manner. State regulations pertaining to nutrient management at CAFOs have significantly changed since the last permit cycle. In particular, the requirements pertaining to development of application rates, including soil test phosphorus limitations, have become more prescriptive. The following are additions and/or changes that have been made within this permit which are a direct result from recent updates in the state regulation.

This permit has been updated to reflect new nutrient management requirements. Most notably, new permit conditions have been included that require the CAFO to develop and implement a site-specific Nutrient Management Plan (NMP) that complies with nine specific criteria. The permit stipulates a 3 month compliance schedule, which will begin on the date of issuance, for the development and submittal of this NMP. One of the key reasons the department is allowing the three month compliance date is that the CAFO must have the final permit requirements in order to fully develop a site specific NMP for this site. The permit also now requires PSF to complete a phosphorus risk assessment on the land application fields that they own or control. This assessment will identify fields that have a high susceptibility to phosphorus loss and will place application rate restrictions on high risk fields. This protocol provides for a more predictable and systematic approach to phosphorus management as compared to the phosphorus assessments and limitations used in previous permits.

This permit now incorporates by reference the department's "Nutrient Management Technical Standards" (NMTS). This standard was developed to provide a framework for the protocol(s) and method(s) that CAFOs should utilize when determining the form, source, amount, timing, and method of application on individual land application fields. The NMTS represents the department's best professional judgment regarding how to satisfy and/or implement the specific NMP criteria G, H and I within 10 CSR 20-6.300(5)(A). The framework seeks to achieve realistic production goals while ensuring appropriate agricultural utilization of the nutrients in the manure, litter, or process wastewater while also minimizing movement of nitrogen, phosphorus, and other potential water contaminants into surface and/or ground water.

Land Application Areas -
The permit requires the permittee be responsible for all land application area(s) that are owned, rented, leased, or otherwise directly controlled by the permittee. All lands that fall under the definition of "land application area" as defined in 10 CSR 20-6.300, must be included in the facility's nutrient management plan.

When the permittee proposes to include additional land application area into the facility's nutrient management plan (except when such land is already in a nutrient management plan), the permittee must follow permit modification procedures prior to land application unless otherwise approved by the department.

When the permittee conducts land application activities to agricultural lands that are not owned, rented, leased or directly controlled, the permit requires the permittee to conduct those activities, and maintain records, in accordance with the Missouri Concentrated Animal Feeding Operation Nutrient Management Technical Standard (NMTS).

When the permittee sells or gives away CAFO-generated manure the permit requires the CAFO maintain certain records documenting the name of recipient, the date and amount of manure, litter, and process wastewater that leaves the permitted operation. It also requires the permittee provide the recipient with representative information on the nutrient content of the manure, litter, and/or process wastewater along with a copy of the Department's Nutrient Management Technical Standard.

Chronic Wet Weather –
The department will be working with PSF in the coming year to identify long-term solutions or measures that will minimize chronic precipitation related impacts that can adversely affect the wastewater treatment and land application systems at this site. Sustainable solutions that address chronic rainfall issues at PSF sites are unlikely to be developed and implemented in the short term, however, with proper planning PSF can find solutions that address and minimize long term impacts without relying solely on emergency wet weather practices. Established protective wet weather practices that PSF and other CAFOs can follow during times of chronic weather is an appropriate interim solution.

Land application on frozen and saturated soil conditions should be reserved only for instances when lagoon systems are truly in danger of overflow, and the permit reflects this concept. Unfortunately, making that determination is more complex than just setting static quantitative limits within the permit. Long term weather forecasts, expected dry weather days, storage periods, soil moisture levels and the time of year are all factors that will determine the true "danger" or likelihood of an overflow during a chronic weather pattern. Because of this, the department formulated a narrative condition that relies partially on professional judgment to capture the true intent of the wet weather provision.

Please note that the permit allows the CAFO to discharge only under certain specified conditions as found in B.4(a)(2). A CAFO that is following the wet weather management practices due to chronic weather conditions must not have a discharge unless they can meet these specific discharge limitations. Otherwise, a discharge would be a violation of the permit.

Receiving Stream Information

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

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

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

Receiving Stream Monitoring Requirements:

Over ten years of water quality stream data has been collected by PSF in order to analyze stream impacts from the Locust Ridge facility. In analyzing data from both the monitoring required previously by this permit along with USGS monitoring locations, the department has found no obvious problems or differences in watersheds that house large CAFOs compared to those that do not. Water quality data generally show that the effects on water quality from agricultural non-point source activities, like unconfined livestock and commercial fertilizer use, appears to be similar to that of CAFOs that are reasonably well managed. With that said, the department has included one stream monitoring location with a monitoring frequency of two times per year.

RATIONALE AND DERIVATION OF EFFLUENT LIMITATIONS & PERMIT CONDITIONS

PERMIT APPLICABILITY:

National Pollutant Discharge Elimination System (NPDES) permits are required for operations defined in 10 CSR 20-6.300 as a Concentrated Animal Feeding Operation (CAFO). Site-specific permits are required for CAFO operations that fall within the class IA category. Operations that fall under this category confine 7,000 or more animal units. The department, however, can require site specific permits to other class I operations if it is determined that the quality of the waters of the state would be better protected with one.

PERMIT COVERAGE

This site specific permit will cover all production areas, which include the confinement, storage, and handling areas, as well as the land application activities at sites that are under the ownership or control of the permitted CAFO owner/operator. This permit applies only to requirements of, and regulations promulgated under, the Missouri Clean Water Law and Federal Clean Water Act and does not apply to other environmental laws and regulations. This permit does not recognize, supersede nor remove liability from compliance with county and other local ordinances.

WHAT CONSTITUTES A DISCHARGE FROM A CAFO:

A discharge of process waste is the discharge of pollutants into surface or subsurface waters of the state from the animal confinement or storage and handling areas of a CAFO including in some circumstances the land application area(s) under the ownership or control of the CAFO operator.

Discharges prohibited by this permit include, but are not limited to, the following:

- Discharge from manure storage structures (lagoons, basins, pits, etc.), unless discharge was due to storm events exceeding the chronic or catastrophic storm events for the design storage period.*
- Discharge of contaminated runoff from non-vegetated feedlots, stockpiled manure, and other feedstock storage;
- Discharges associated with improper land application of manure and/or wastewater activities under the control of the CAFO operator;
- Discharges of manure and/or wastewater due to pipe breakage or equipment failure.

*Discharge is allowed due to overflow through the emergency spillway of the lagoon or other uncovered storage structure when the overflow is caused by storm events that exceed the defined design storm event. Only that portion of storm water flow, which exceeds the design storm event may be discharged.

Stormwater discharges from land application areas that have received manure as fertilizer are authorized under this permit. Storm water that comes from land application sites is exempt from effluent limits. The reason storm water discharges are not subject to discharge limits is because the federal definition of a point source contains a specific exclusion for agricultural storm water. This exclusion was further clarified when the U.S. Environmental Protection Agency (USEPA) promulgated the revised CAFO Regulations on February 12, 2003. The clarification stated that if the process waste is applied at agronomic rates, the storm water runoff from land application sites is not subject to effluent limitations. This determination by the USEPA was later upheld by the Second Circuit Court's ruling in *Waterkeeper Alliance, Inc. et. al. v. U.S. Environmental Protection Agency*, 399 F.3d 486 (2nd Cir. 2005). Since the State of Missouri has not enacted any laws that would differ from the EPA's determination or the subsequent court ruling, the storm water runoff from land application sites is exempt from effluent limitations and is considered a non-point source not subject to permit requirements.

PROPOSED DISCHARGE LIMITATIONS, MONITORING, AND TREATMENT REQUIREMENTS

Please see Section A & B of this draft Permit attached to this fact sheet

RATIONALE FOR PROPOSED DISCHARGE LIMITATIONS, MONITORING AND TREATMENT REQUIREMENTS:

Effluent parameters and limitations contained in this Missouri State Operating Permits are obtained from Technology Based Effluent Limits (TBEL), Missouri's Effluent Regulations [10 CSR 20-7.015], Missouri's Water Quality Standards [10 CSR 20-7.031], previous Missouri State Operating Permits, and from Permit Applications. When CAFOs actively operate and maintain properly designed manure and wastewater storage structures they will prevent most, if not all overflows and discharges. Because of this, the department has established Best Management Practices (BMPs) to insure proper operation and maintenance of the production area and to prevent unauthorized discharges. Because of the uncertainty that is involved in determining if runoff or overflow of process waste has led to a discharge, as well as the substantial variation of the volume and nature of the pollutants of the discharge, numeric effluent limitation guidelines to control discharges are considered infeasible. Conversely, effluent limitations in the form of BMPs are particularly suited for the regulation of CAFOs. Controlling discharges to surface water is largely associated with controlling runoff and controlling overflows from manure storage structures. Runoff from CAFOs can be highly intermittent and is usually characterized by very high flows, due to precipitation, occurring over relatively short time intervals.

Along with BMPs, proper nutrient management planning and mandated recordkeeping requirements in dealing with the CAFOs manure storage structures and land application is required under this permit. These requirements will ensure that CAFOs apply manure, litter, and other process wastewaters at rates, and in a manner consistent with appropriate agricultural utilization of nutrients. Limits on the rate at which manure or litter can be applied and certain other constraints on application practices, such as setbacks, and application methods are widely demonstrated as achievable and are being imposed through this permit.

ANTIDEGRADATION ISSUES:
As there shall be no-discharge of process wastewater during dry weather conditions the terms and conditions in this permit will maintain and protect the designated uses of the various receiving stream(s) as well as the level of water quality necessary to protect said water uses. With proper implementation of Best Management Practices (BMPs) and the NMTS at both the CAFO production area(s) and land application site(s) as well as other minimum standards, protection of water quality will be provided for a particular water body where the water quality exceeds levels necessary to protect fish and wildlife propagation and recreation on and in the water. This also includes special protection of waters designated as outstanding natural resource waters. Antidegradation plans are adopted by each State to minimize adverse effects on water.

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

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

☐ - Backsliding proposed in this Factsheet for the reissuance of this permit conform to the anti-backsliding provisions of Section 402(o) of the Clean Water Act, and 40 § CFR 122.44.

COMPLIANCE AND ENFORCEMENT:
Action taken by the department to resolve violations of the Missouri Clean Water Law, its implementing regulations, and/or any terms and condition of an operating permit.

Applicable ☐;

Not Applicable ☒; The permittee/facility is not under enforcement action and is considered to be in compliance with the Missouri Clean Water Law, its implementing regulations, and/or any terms and condition of an operating permit.

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 or within the operating permit. The proposed determinations are tentative pending public comment.

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

The Public Notice period for this operating permit ended on April 26, 2010.

Date of Factsheet: September 13, 2010