

STATE OF MISSOURI  
**DEPARTMENT OF NATURAL RESOURCES**

MISSOURI CLEAN WATER COMMISSION



**MISSOURI STATE OPERATING PERMIT**

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

Permit No. MO-0002828

Owner: Dairy Farmers of America, Inc.  
Address: 800 West Tampa Street, Springfield, MO 65802

Continuing Authority: Dairy Farmers of America, Inc.  
Address: 10220 North Ambassador Drive, Kansas City, MO 64153

Facility Name: Dairy Farmers of America, Inc. Cabool Facility  
Facility Address: 950 Metrecal Trace, Cabool, MO 65689

Legal Description: NW ¼, SW ¼, Sec. 12, T28N, R11W, Texas County  
UTM Coordinates: X=579726, Y=4108564

Receiving Stream: Big Piney River (U)  
First Classified Stream and ID: Big Piney River (P) (1578)  
USGS Basin & Sub-watershed No.: (10290202-0101)

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

**FACILITY DESCRIPTION**

See page 2 and 3

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.

August 4, 2011                      August 22, 2012  
Effective Date                      Revised

  
Sara Parker Pauley, Director, Department of Natural Resources

August 3, 2016  
Expiration Date

  
John Madros, Director, Water Protection Program

**FACILITY DESCRIPTION (continued)**

**Storage Basins**

Two steel storage basins.

**Storage Basin #1:**

Freeboard for basin: 8 inches  
Storage basin volume (min. to max. water levels) 83,000 gallons

**Storage Basin #2:**

Freeboard for basin: 8 inches  
Storage basin volume (min. to max. water levels) 132,000 gallons

Storage Basin Design Capacity:

**Basin #1:** 20 days

**Basin #2:** 33 days

**Land Application**

Actual Annual Sludge Production:	1,172,500 gallons per year	141 dry tons per year	
Land Application rates/acre:	0.28 dry ton/year	0.003 dry ton/application	91 applications/year
Total Amount Land applied each year (total all sites):		141 dry ton/year	
Land Application Rate based on:	PAN		
Equipment Type:	Tank Truck		
Equipment Capacity:	3,500 gallons per hour; 410 total hours of operation per year		
Vegetation:	Pasture		

**Outfall #001** – Outfall removed from this permit; permitted under MOR130154

**Outfall #002** – eliminated (February 14, 1989)

**Outfall #003** – outfall removed from this permit; permitted under MOR130154

**Outfall #004** – outfall removed from this permit; permitted under MOR130154

**Outfall #005** – Industrial Sludge – SIC #2023 & NAICS # 311514; SIC #2026 & NAICS #311511; SIC #2032 & NAICS #311422 Dairy Farmers of America’s wastewater passes through a trickling filter, a clarifier, an oxidation ditch, a final clarifier, and to Cabool Wastewater Treatment Plant (MO-0026301). The industrial sludge generated from the intermediate clarifier passes through a waste clarifier, two sludge holding tanks, and then sludge is land applied into ten (10) application sites listed below. Sludge is lime stabilized.

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UTM Coordinates: X=579726, Y=4108564  
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First Classified Stream and ID: Big Piney River (P) (1578)  
USGS Basin & Sub-watershed No.: (10290202-0101)

**Land Application Site GWA, 100 acres**

Legal Description: SW ¼, SW ¼, Sec 11, T28N, R11W, Texas County

**Land Application Site BWB; 160 acres**

Legal Description: NE ¼, NE ¼, Sec 14, T28N, R11W, Texas County

**Land Application Site BWC, 160 acres**

Legal Description: NE ¼, NE ¼, Sec 23, T28N, R11W, Texas County

**Land Application Site JBA, 27 acres**

Legal Description: SW ¼, SW ¼, Sec 26, T28N, R11W, Texas County

**Land Application Site JBB, 160 acres**

Legal Description: SW ¼, SW ¼, Sec 25, T28N, R11W, Texas County

**FACILITY DESCRIPTION (continued)**

Land Application Site JWA, 40 acres

Legal Description: NW ¼, NW ¼, Sec 20, T29N, R10W, Texas County

Land Application Site JWB, 40 acres

Legal Description: SE ¼, SE ¼, Sec 17, T29N, R10W, Texas County

Land Application Site JWD, 100 acres

Legal Description: SW ¼, SW ¼, Sec 17, T29N, R10W, Texas County

Land Application Site JWE, 200 acres

Legal Description: SW ¼, SW ¼, Sec 9, T29N, R10W, Texas County

Land Application Site LTA, 27 acres

Legal Description: NE ¼, NW ¼, Sec 32, T29N, R10W, Texas County

<b>A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS</b>					PERMIT NUMBER MO-0002828	
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 #005- Land Application Operational Monitoring (Notes 1 and 2)						
Precipitation	Inches	*			daily	total
Volume Applied	Gallons	*			daily	total
Application Area	Acres	*			daily	total
Application Rate	Inches/acre	*			daily	total
MONITORING REPORTS SHALL BE SUBMITTED <b>QUARTERLY</b> ; THE FIRST REPORT IS DUE <b>October 28, 2012</b> .						
<b>B. STANDARD CONDITIONS</b>						
IN ADDITION TO SPECIFIED CONDITIONS STATED HEREIN, THIS PERMIT IS SUBJECT TO THE ATTACHED <u>Parts I &amp; III</u> STANDARD CONDITIONS DATED <u>October 1, 1980 &amp; August 15, 1994</u> AND HEREBY INCORPORATED AS THOUGH FULLY SET FORTH HEREIN.						

\* Monitoring requirement only.

Note 1 – See Special Condition #9v.

Note 2 – Storage basin freeboard shall be reported as basin water level in feet below the overflow level. See Special Conditions for Sludge Land Application System – Industrial Sludge.

### C. SPECIAL CONDITIONS

1. This permit may be reopened and modified, or alternatively revoked and reissued, to:
  - (a) Comply with any applicable effluent standard or limitation issued or approved under Sections 301(b)(2)(C) and (D), 304(b)(2), and 307(a) (2) of the Clean Water Act, if the effluent standard or limitation so issued or approved:
    - (1) contains different conditions or is otherwise more stringent than any effluent limitation in the permit; or
    - (2) controls any pollutant not limited in the permit.
  - (b) Incorporate new or modified effluent limitations or other conditions, if the result of a waste load allocation study, toxicity test or other information indicates changes are necessary to assure compliance with Missouri's Water Quality Standards.
  - (c) Incorporate new or modified effluent limitations or other conditions if, as the result of a watershed analysis, a Total Maximum Daily Load (TMDL) limitation is developed for the receiving waters which are currently included in Missouri's list of waters of the state not fully achieving the state's water quality standards, also called the 303(d) list.

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

2. All outfalls must be clearly marked in the field.
3. Permittee will cease discharge by connection to a facility with an area-wide management plan per 10 CSR 20-6.010(3)(B) within 90 days of notice of its availability.
4. The permittee shall comply with any applicable requirements listed in 10 CSR 20-9, unless the facility has received written notification that the Department has approved a modification to the requirements. The monitoring frequencies contained in this permit shall not be construed by the permittee as a modification of the monitoring frequencies listed in 10 CSR 20-9. If a modification of the monitoring frequencies listed in 10 CSR 20-9 is needed, the permittee shall submit a written request to the department for review and, if deemed necessary, approval.

#### 5. 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.

#### 6. 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 cont.**

7. Report as no-discharge when a discharge does not occur during the report period.
8. It is a violation of the Missouri Clean Water Law to fail to pay fees associated with this permit (644.055 RSMo).
9. Land Application of Industrial Sludge (Outfall #005)
  - a. This special condition does not apply to fertilizer products that are exempted under the Missouri Clean Water Law and regulations, 10 CSR 20-6.015(3)(B)8.
  - b. Land Application of Sludge. The term "sludge" used herein means sludge, biosolids, by-products and residuals from industrial waste sources. It does not include licensed fertilizer products.
  - c. Permitted Sites. This permit authorizes land application of sludge to those sites that have been public noticed and listed in the permit facility description. Permittee requests for additional sites including non-owned property must follow permit modification procedures prior to land application. To request additional sites, the permittee shall submit a revised permit application Forms A and R; names and mailing addresses for the landowners and the adjacent property owners for each application site, topographic maps of each site and other pertinent information.
  - d. Public Access Restrictions. Sludge that is applied to potential public access sites must meet the Class A pathogen stabilization criteria listed in 40 CFR 503 regulations such as composting, heat treatment, etc. Sludge that does not meet Class A requirements must be either: (a) applied to agricultural cropland sites; or (b) site must be fenced and posted to restrict public access for at least 12 months; or (c) sludge must be subsurface injected and site restricted for 30 days.
  - e. No-Discharge Requirement. Sludge shall be stored and land applied during suitable conditions so that there is no-discharge of process wastes from the storage site or land application site. Uncontaminated storm water runoff from land application sites may be discharged when land application was conducted in accordance with permit requirements. In no case, shall the permittee cause violation of the Water Quality Standards rules for general criteria and specific criteria under 10 CSR 20-7.031.
  - f. Technical Standards. Sludge storage, handling and land application systems shall be designed and operated in accordance with 10 CSR 20-8.020(15). Where minimum storage capacity is not provided, alternate sludge disposal shall be provided such as hauling to a landfill or other permitted treatment system. Hazardous waste regulated under the Missouri Hazardous Waste Law and regulations shall not be land applied under this permit.
  - g. Sludge Characteristics. Sludge that meets the characteristics listed in the permit application Form R is authorized for land application. Only those pollutants listed in the permit application may be land applied. If new pollutants are identified or if the sludge characteristics or pollutant levels are found to be significantly higher than the permit application values, the department shall be notified within 30 days and a revised permit application submitted prior to any further sludge application.
  - h. Sludge Monitoring.

Sample and test each storage structure separately. Each test shall be conducted on a composite sample consisting of at least seven sub-samples collected at representative locations of the sludge to be land applied.

- (1) Test once/day during land application for percent moisture or total suspended solids.
  - (2) Test once/100 dry tons for: organic nitrogen, ammonia nitrogen, nitrate nitrogen, total phosphorus, total potassium and percent moisture.
  - (3) Test once/500 dry tons for: total sodium, total calcium, total magnesium, Sodium Adsorption Ratio, total chlorides, oil & grease, C:N Ratio, pH, and total solids.
  - (4) Test once/1000 dry tons for: aluminum, arsenic, beryllium, boron, cadmium, chromium, beryllium, copper, fluoride, lead, manganese, mercury, molybdenum, nickel, selenium, silver, tin, zinc and total solids. Metals shall be tested as "total" metal and reported on dry weight basis.
  - (6) Test once/year for any other pollutants detected in the sludge as reported in permit application Form R.
  - (7) Testing under paragraphs (4) through (6) above, may be reduced to once/5 years for any pollutants that are not detected in the initial testing results.
- i. Soil Monitoring
    - (1) Composite soil samples shall be collected for all sites where land application has occurred within the last 12 months; or where land application will occur within the next 12 months.
      - (a) Nitrate nitrogen as N shall be tested twice per year in spring and fall. Soil samples shall be collected for the top 0-12 or 0-24 inches or more.
      - (b) Soil pH, percent organic matter, cation exchange capacity, exchangeable sodium percentage and available phosphorus as P (Bray P-1 test method) shall be sampled prior to land application and once every three (3) years thereafter, unless no additional land application has occurred at the site. Soil samples shall be collected for the surface 6 inches of soil (0-6 inch depth)

**C. SPECIAL CONDITIONS (continued)**

- (2) Soil sampling shall be in accordance with University of Missouri (MU) publication G9110, Sampling Your Soil For Testing or other methods approved by the department.
  - (3) Soil testing methods shall be in accordance with North Dakota Agricultural Experiment Bulletin 499-Revised, Recommended Chemical Soil Test Procedures for the North Central Region or other test methods approved by the department. Soil textural classes shall be based on USDA Soil Taxonomy.
  - (4) The annual report shall include a summary of the soil test results for each field.
- j. **Subsurface Injection Requirement.** Subsurface Injection or immediate incorporation after surface application should be considered where feasible and practicable to reduce exposure to wash off by storm water runoff and to retain nutrients in the soil for crop requirements. Dissolved Air Flotation (DAF) sludge from meat and poultry slaughter and processing facilities or other similar sludge with high oil and grease content shall be subsurface injected or immediately incorporated.
- k. **Saturated/Frozen Conditions.** There shall be no land application during frozen, snow covered, or saturated soil conditions. There shall be no application on days when there is observation by operator of an imminent or impending rainfall event. An on-site visual investigation of the field's soil moisture condition, followed by testing of the soils, will be made to determine whether land application can occur. The visual and soil test procedures will be reviewed and approved by the department as part of the Operation and Maintenance (O&M) Manual.
- l. **Slope and Runoff Restrictions.**
- (1) Do not place sludge in a location where it is reasonably certain that pollutants will be transported into waters or the state during storm water runoff.
  - (2) All application sites shall have a Soil and Water Conservation Plan to minimize soil erosion and storm water runoff. The plan shall be developed in accordance with standards of the USDA, Natural Resources Conservation Service (NRCS). The plan shall be developed by a "certified" soil & water conservation planner and shall be included in the O&M Manual.
  - (3) Subsurface injection should be applied along the contour of the slope to minimize surfacing of liquids at the down gradient end of the injection trench.
  - (4) Sludge shall not be applied to slopes exceeding ten (10%) percent.
- m. **Buffer Zones.** There shall be no land application within 300 feet of any down gradient pond, lake, sinkhole, losing stream or water supply withdrawal and within 150 feet of dwelling. For surface application, there shall be no land application within 100 feet of gaining streams (Class P and C classified streams listed in Water Quality Standard rule under 10 CSR 20-7.031); 50 feet of wet weather gaining streams and tributaries (unclassified streams); or 50 feet of the property line. For subsurface injection, buffer zones may be reduced to 25 feet from gaining streams (classified and unclassified) and property lines.
- n. **Application Equipment.** The application system shall be operated so as to provide uniform distribution of wastes over the entire land application site. Land application shall occur only during daylight hours. The application system shall be capable of applying the annual design flow during an application period of less than 100 days or 800 hours per year. A list of application equipment and manufacturers specifications shall be included in the O&M Manual.
- o. **Nutrient Management**
- Sludge that is land applied shall be applied at nutrient application rates for beneficial use in agricultural crop production.
- (1) **Nitrogen.** The permittee shall not exceed the plant available nitrogen management approach as listed in this permit.
  - (2) **Phosphorus.** When soil test phosphorus (P) levels are above 120 pounds per acre using Bray P-1 test method, the sludge shall be applied according to state NRCS guidelines and standards for phosphorus based on one of the following methods: Soil Test Phosphorus-Crop Removal Method, Soil Phosphorus Threshold Method or Phosphorus Index Method.
  - (3) The actual application rates for a given year or growing season must be adjusted based on the approved management approach and the actual sludge and soil testing results and crop requirement. If crop yields are less than predicted, the application rates and management practices must be evaluated and adjusted as appropriate.
  - (4) This permit will be modified to require a Nutrient Management Plan (NMP) after promulgation of applicable state and EPA rules and guidelines. The NMP will replace the current PAN and phosphorus methods.

**C. SPECIAL CONDITIONS (continued)**

p. Plant Available Nitrogen (PAN) Procedure

- (1) Wastewater, sludge and fertilizer nitrogen applications shall not exceed the crop nitrogen requirements based on realistic crop yield goals and the Plant Available Nitrogen (PAN) method. The application rate shall be calculated as follows:  

$$\text{PAN} = \text{CNR} - \text{SRN} - \text{CFN}$$

WHERE: **CFN** = Commercial Fertilizer & other nitrogen sources applied in pounds N/acre.  
**CNR** = Crop Nitrogen Requirement in pounds N/acre  
**PAN** = Plant Available Nitrogen in wastewater and sludge expressed as annual pounds N/acre.  
**SRN** = Soil Residual Nitrogen in pounds N/acre.

(2) Crop Nitrogen Requirements (CNR)

- (a) CNR shall be based on realistic crop yield goals based on actual on-site yields or county average yields listed in the county soil survey report. To predict the yield goal, use the on-site yields for the last ten years; throw out the highest and lowest yields; then average the remaining 8 years and add 10-20%.
- (b) Supplemental nitrogen may be added to row crops when determined necessary for proper plant growth based on testing of plant vegetation or soil nitrate testing during the growing season. Procedures will be reviewed and approved by the department as part of the Operation and Maintenance Manual.
- (c) If a crop is not harvested, the CNR rate shall not exceed 40 lbs/acre/year and grass vegetation must be maintained on the site.
- (d) For nutrient requirements of specific crops and yields, refer to reference publications listed in this permit.

- (3) Commercial Fertilizer Nitrogen (CFN) Planned or previous applications of nitrogen from commercial fertilizer, sludge, biosolids and manure must be evaluated to determine nitrogen availability from these sources. Part of the organic nitrogen applied in the previous 2 years will be available in this year's growing season. This nitrogen contribution from other nitrogen sources is not included in the soil residual nitrogen (SRN) calculations and must be calculated separately using the PAN methods listed herein.

(4) Soil Residual Nitrogen (SRN)

- (a) For Annual Crops, the nitrogen availability from soil organic matter must be included based on soil CEC and crop season as follows:

$$\text{SRN in pound N/acre}^* = [\text{percent organic matter}] \times [\text{Soil Availability Factor}]$$

<b>Soil Availability Factor</b>				
<b>By Soil CEC Ranges and Organic Matter</b>				
<b>Growing Season</b>	<b>Organic Matter</b>	<b>CEC &lt; 10</b>	<b>CEC 10-18</b>	<b>CEC &gt; 18</b>
<b>Summer</b>	1%	40*	20	10
<b>Winter</b>	1%	20*	10	5

**\*Note:** If CEC is less than 10 and organic matter is 1.5% or greater, the total SRN is constant at 60 pounds nitrogen for summer and 30 pounds for winter.

- (b) For Perennial Crops the SRN is considered zero (0) for purposes of these calculations because the SRN has already been considered in the crop fertilization recommendations in the referenced publications.
- (c) For Perennial Crops the SRN is considered zero (0) for purposes of these calculations because the SRN has already been considered in the crop fertilization recommendations in the referenced publications.

(5) Plant Available Nitrogen (PAN) Factors for Industrial Sludge.

- (a) PAN Factors for Surface Application:

i. Sludge applied each year or once every 2 years:  

$$\text{PAN} = [\text{total Kjeldahl nitrogen} \times 0.6] + [\text{nitrate N} \times 0.9]$$

ii. Sludge applied once every 3 years or less frequent:  

$$\text{PAN} = [\text{organic N} \times 0.4] + [\text{ammonia N} \times 0.6] + [\text{nitrate N} \times 0.9]$$

**C. SPECIAL CONDITIONS (continued)**

- (b) PAN Factors for Subsurface Injection or immediate incorporation:
  - i. Sludge applied each year or once every 2 years:  
 $PAN = [\text{organic N} \times 0.6] + [\text{ammonia N} \times 0.9] + [\text{nitrate N} \times 0.9]$
  - ii. Sludge applied once every 3 years or less frequent:  
 $PAN = [\text{organic N} \times 0.4] + [\text{ammonia N} \times 0.9] + [\text{nitrate N} \times 0.9]$
- (c) Sludge, biosolids and manure from sources other than the permittee must be included and should be calculated separately.
- (d) The above factors for organic N are based on typical sludge production and storage conditions. If sludge receives additional treatment, use the following table:

<u>Sludge Treatment Methods</u>	<b>Organic Nitrogen</b>			
	Availability Factor by Time Period			
	Year 1	Year 2	Year 3	Cumulative Year 3+
Sludge storage	0.40	0.20	0.10	0.70
Lime Stabilized Sludge	0.40	0.20	0.10	0.70
Aerobic Sludge Digester	0.30	0.15	0.08	0.53
Anaerobic Sludge Digester	0.20	0.10	0.05	0.35
Wastewater treatment lagoon sludge (35 lbs BOD/acre loading and >15 years sludge retention)	0.20	0.10	0.05	0.35
Composted Sludge (Class A)	0.10	0.05	0.05	0.20

NOTES: Year 1 is the current year of waste application; year 2 is the previous year of waste application; and year 3 is waste application two years ago. Nitrogen availability for years 1, 2 and 3 must be added when waste is applied in consecutive years. The cumulative factor is used when waste is applied at about the same rate for 3 consecutive years or longer.

(e) Field Specific Availability Factors for Inorganic Nitrogen.

Average availability factors for inorganic nitrogen (ammonia and nitrate) are given in paragraph (a) and (b) above. You may also choose to use the field specific availability factors listed in the following tables. The approved factors for each field will be included in the O&M Manual.

<b>Table A. Alternate Field Specific Availability Factors for Surface Application</b>					
% of inorganic N (manure., precip.) available					
Soil Organic Matter %	Excessively well drained	Well drained	Moderately well drained	Somewhat poorly drained	Poorly drained
< 2	71	66	62	56	45
2-5	66	60	56	49	30
> 5	63	56	49	38	19

Adapted from USDA-NRCS, National Engineering Handbook, Part 651, Animal Waste Management Field Handbook (AWMFH), April 1992, Tables 11-6 & 11-8.

**C. SPECIAL CONDITIONS (continued)**

<b>Table B. Alternate Field Specific Availability Factors for Sub-Surface Injection or Immediate Incorporation.</b>					
% of inorganic N (manure., precip.) available					
Soil Organic Matter %	Excessively well drained	Well drained	Moderately well drained	Somewhat poorly drained	Poorly drained
< 2	89	84	78	70	57
2-5	84	76	70	62	38
> 5	80	70	62	48	24

Adapted from USDA-NRCS, National Engineering Handbook, Part 651, Animal Waste Management Field Handbook (AWMFH), April 1992, Tables 11-6 & 11-8.

(6) Primary reference publications used herein

- (a) National Engineering Handbook, Part 651, Agricultural Waste Management Field Book, USDA, Natural Resources Conservation Service (NRCS), April 1992 and current supplements.
- (b) Soil Test Interpretations and Recommendations Handbook, University of Missouri, Department of Agronomy, December, 1992.
- (c) Managing Nitrogen for Groundwater Quality and Farm Profitability, Soil Science Society of America, Inc., 1991.
- (d) Land Application of Sewage Sludge, EPA/831-B-93-002b, U.S. Environmental Protection Agency, December, 1994.

(7) Conversion Factors for laboratory testing results

$$[\text{mg/L or mg/kg or ppm}] \times [\text{conversion factor}] = [\text{pounds per Unit Volume}]$$

<u>Unit Volume</u>	<u>Conversion Factors</u>
lbs/acre inch	0.226
lbs/1,000 gallons	0.0083
lbs/100 cubic feet	0.0062
lbs/ton (wet wt)	0.002

q. Other Pollutant Limitations and Loading Rates

- (1) Oil and grease application shall not exceed 0.5% of soil weight or 10,000 pounds oil/acre/year for subsurface injection or soil incorporation. For surface application to growing vegetation, the sludge shall not exceed 15% oil & grease content and shall not exceed 1,000 pounds oil/acre. Avoid heavy application of oil and grease within 30 days before planting of row crops. Oil and grease sludge with low nitrogen content, more than 20:1 Carbon to Nitrogen ratio, may require supplemental nitrogen application to provide proper decomposition of the oil content and prevent nitrogen deficiencies for the crop.
- (2) Metals content in the sludge shall not exceed the concentrations and cumulative loading limits listed in University of Missouri, Water Quality Guide number WQ-425. If metals exceed the concentrations in Table 2, the cumulative pounds per acre of that metal shall be reported in the annual report.
- (3) Soil content of sodium shall not exceed 10% Exchangeable Sodium Percentage.
- (4) Application of chlorides shall not exceed 500 pounds/acre/year. Chlorides are extremely mobile and will be leached into the soil with percolating water. Permittee shall not cause groundwater concentrations exceeding 250 mg/L of chlorides in subsurface waters of the state in accordance with the water quality standard rule under 10 CSR 20-7.031.
- (5) Application of boron shall not exceed a cumulative total of 600 pounds/acre.
- (6) Toxic organic chemicals shall not exceed background levels found in soils or concentrations listed in 40 CFR 268.40 unless alternate pollutant limits are listed in this permit. Consideration of alternate limits will be based on review of detailed environmental assessment submitted in accordance with 10 CSR 20-8.020(3)(D).

**C. SPECIAL CONDITIONS (continued)**

r. 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. The O&M Manual shall be written as a detailed step by step guide to operators and managers on how to properly operate the land application program. It shall explain how to comply with permit requirements and include copies of example record keeping and report forms, site information sheets and other reference documents. Include a list of employee contacts and notification procedures for reporting and response to spills and other emergency conditions. It shall include a Soil & Water Conservation Plan, a Nutrient Management Plan and other pertinent information.

s. Lagoon Closure Requirements. Prior to taking the lagoon out of service, a lagoon closure plan shall be submitted for department review and approval in accordance with 10 CSR 20-6.015(5). The lagoon must be closed within two years after ceasing to be used for wastewater treatment. All sludge shall be removed from the lagoon prior to lagoon closure.

t. Training and Performance Audits

The permittee shall provide an employee training program with at least annual refresher courses in proper land application practices and permit requirements.

u. Record Keeping & Reporting Requirements

- (1) 24-hour Reporting. Any unauthorized discharge from storage, treatment or land application system shall be reported to the department as soon as possible but always within 24 hours. Discharge is allowed only as described in the Effluent Limitations and Special Conditions sections of this permit.
- (2) Daily log sheets shall be prepared and kept on file at the permittee office location for each application site showing amounts of sludge applied per acre, dates of application, nutrients applied, crop yields and other information required by the permit.
- (3) Site Information Sheets. "Information Sheets" shall be prepared and updated each year for each application site giving the following information: land owners name, address, telephone number, acreage, designation of buffer zones around limiting features, nutrient content of biosolids, previous nutrients applied, and planned application rates for the year. A copy of the current "Information Sheet" shall be supplied to the landowner prior to land application.
- (4) Climatic Observations. Permittee shall collect and record on-site measurements at the sludge production site for daily, monthly and annual precipitation totals. Permittee shall record daily minimum and maximum air temperatures, time of the measurements and soil moisture conditions at the land application site during land application periods.
- (5) Storage Structure Observations. Sludge storage structures shall be checked visually at least once/month for structural integrity, visible leaks and measurement of liquid sludge depth. Liquid depth shall be measured and reported as feet below the top or overflow level of the structure. This paragraph does not apply to wastewater treatment lagoons with sludge retained in the lagoon.
- (6) Equipment Checks during Land Application. The application system and application site shall be visually inspected continuously during land application to check for equipment malfunctions and runoff from the application site.
- (7) All records and monitoring results shall be maintained for at least five years and shall be made available to the department upon request.

v. Annual Report on Land Application.

An annual report is required in addition to other reporting requirements under Section A of this permit. The 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 and listed in the Operation and Maintenance Manual. This report shall be submitted using report forms approved by the Department and shall include a summary of the monitoring and record keeping required by the Special Conditions and Standard Conditions of this permit. The report shall include, but is not limited to, a summary of the following:

- (1) Storage basin freeboard at the start and end of the application season, the number of days of land application for each month, the total gallons dry tons applied, and the total acres used. The monthly and annual precipitation received at the facility.
- (2) A tabular summary of monitoring results including any testing conducted in addition to permit requirements.
- (3) Location map of application sites and number of acres in each field. A tabular summary for each field showing crops grown, crop yields per acre, total nutrients applied per acre from all sources, application rate in gallons/acre per day, gallons/acre/year and dry tons/acre/year.
- (4) The permittee shall certify that information was obtained from the land owner on all other nutrients applied to each site prior to land application of sludge under this permit.

**C. SPECIAL CONDITIONS (continued)**

- (5) Example PAN and phosphorus calculations, documentation for projected yield goals and table of crop nutrient removal rates.
- (6) Narrative summary of any problems or deficiencies identified, permit violations, corrective action taken and improvements planned. Include such items as over application of sludge or nutrients, lower yields than predicted, spills, runoff during land application, citizen complaints, odors, nuisance conditions, improper field storage, improper spreading practices, failure to follow buffer zones, etc.
- (7) Submit a report on employee training programs conducted and a copy of the Annual Performance Audit report.
- (8) Copies of site Information Sheets and certification that copies were supplied to each landowner for sites used during the reporting period.

10. The permittee shall develop and implement a Storm Water Pollution Prevention Plan (SWPPP). The SWPPP must be kept on-site and should not be sent to DNR unless specifically requested. The permittee shall select, install, use, operate, and maintain the Best Management Practices prescribed in the SWPPP in accordance with the concepts and methods described in the following document:

Developing Your Stormwater Pollution Prevention Plan, A Guide for Industrial Operators, (Document number EPA 833-B-09-002) published by the United States Environmental Protection Agency (USEPA) in February 2009.

The SWPPP must include the following:

- (a) An assessment of all storm water discharges associated with this facility. This must include a list of potential contaminants and an annual estimate of amounts that will be used in the described activities.
  - (b) A listing of specific Best Management Practices (BMPs) and a narrative explaining how BMPs will be implemented to control and minimize the amount of potential contaminants that may enter storm water.
  - (c) The SWPPP must include a schedule for monthly site inspections and a brief written report. The inspections must include observation and evaluation of BMP effectiveness, deficiencies, and corrective measures that will be taken. The Department must be notified within fifteen (15) days by letter of any corrections of deficiencies. Deficiencies that consist of minor repairs or maintenance must be corrected within seven (7) days. Deficiencies that require additional time or installation of a treatment device to correct should be detailed in the written notification. Installation of a treatment device, such as an oil water separator, may require a construction permit. Inspection reports must be kept on site with the SWPPP. These must be made available to DNR personnel upon request.
  - (d) A provision for designating an individual to be responsible for environmental matters.
  - (e) A provision for providing training to all personnel involved in material handling and storage, and housekeeping of maintenance and cleaning areas. Proof of training shall be submitted on request of DNR.
11. The purpose of the SWPPP and the BMPs listed therein is to prevent pollutants from entering waters of the state. A deficiency of a BMP means it was not effective in preventing pollution [10 CSR20-2.010(56)] of waters of the state, or failed to achieve compliance with benchmarks. Corrective action means the facility took steps to eliminate the deficiency.
12. All spills must be **cleaned up** within 24 hours or as soon as possible, and a written report of the incident supplied with the facility's Discharge Monitoring Report. The following spills must be **reported** to the department at the earliest practicable moment, but no greater than 24 hours after the spill occurs:
- (a) Any spill, of any material, that leaves the property of the facility;
  - (b) Any spill, of any material outside of secondary containment and exposed to precipitation, greater than 25 gallons or equivalent volume of solid material.

The department may require the submittal of a written report detailing measures taken to clean up the spill within 5 days of the spill. Whether the written report is submitted with the Discharge Monitoring Report or required to be submitted within 5 days, it must include the type of material spilled, volume, date of spill, date clean-up completed, clean-up method, and final disposal method. If the spill occurs outside of normal business hours, or if the permit holder cannot reach regional office staff for any reason, the permit holder is instructed to report the spill to the department's 24 hour Environmental Emergency Response hotline at (573) 634-2436. Leaving a message on a department staff member voice-mail does not satisfy this reporting requirement. These reporting requirements apply whether or not the spill results in chemicals or materials leaving the permitted property or reaching waters of the state. This requirement is in addition to the Noncompliance Reporting requirement found in Standard Conditions Part I.

Federal Regulations (CERCLA) requires reporting spills and releases to soil, water and air in excess of reportable quantities. The toll free number for the US Coast Guard National Response Center is (800) 424-8802.

**Missouri Department of Natural Resources**  
**FACT SHEET**  
**FOR THE PURPOSE OF MODIFICATION**  
**OF**  
**MO-0002828**  
**DAIRY FARMERS OF AMERICA, INC. CABOOL FACILITY**

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 an Industrial.

**Part I – Facility Information**

Facility Type: IND  
Facilities SIC Code(s): 2032 (NAICS 311514); 2026 (NAICS 311511); and 2032 (NAICS 311422)

**Facility Description:**

Dairy Farmers of America, Inc. Cabool Facility originally had 5 outfalls. Outfalls #001, #003, & #004 were stormwater runoff but are now permitted under MOR130154; outfall #002 was eliminated; and outfall #005 is land application of industrial sludge.

The facility has three SIC Codes, namely:

**SIC 2023** Dry, Condensed, and Evaporated Dairy Products

- Establishments primarily engaged in manufacturing dry, condensed, and evaporated dairy products. Included in this industry are establishments primarily engaged in manufacturing mixes for the preparation of frozen ice cream, ice milk, dairy and non-dairy base cream substitutes, and dietary supplements.

**SIC 2026** Fluid Milk

-Establishments primarily engaged in processing (e.g., pasteurizing, homogenizing, vitaminizing, bottling) fluid milk and cream, and related products, including cottage cheese, yogurt (except frozen), and other fermented milk.

**SIC 2032** Canned Specialties

-Establishments primarily engaged in canning specialty products, such as baby foods, nationality specialty foods, and soups, except seafood.

Have any changes occurred at this facility or in the receiving water body that effects effluent limit derivation?

No.

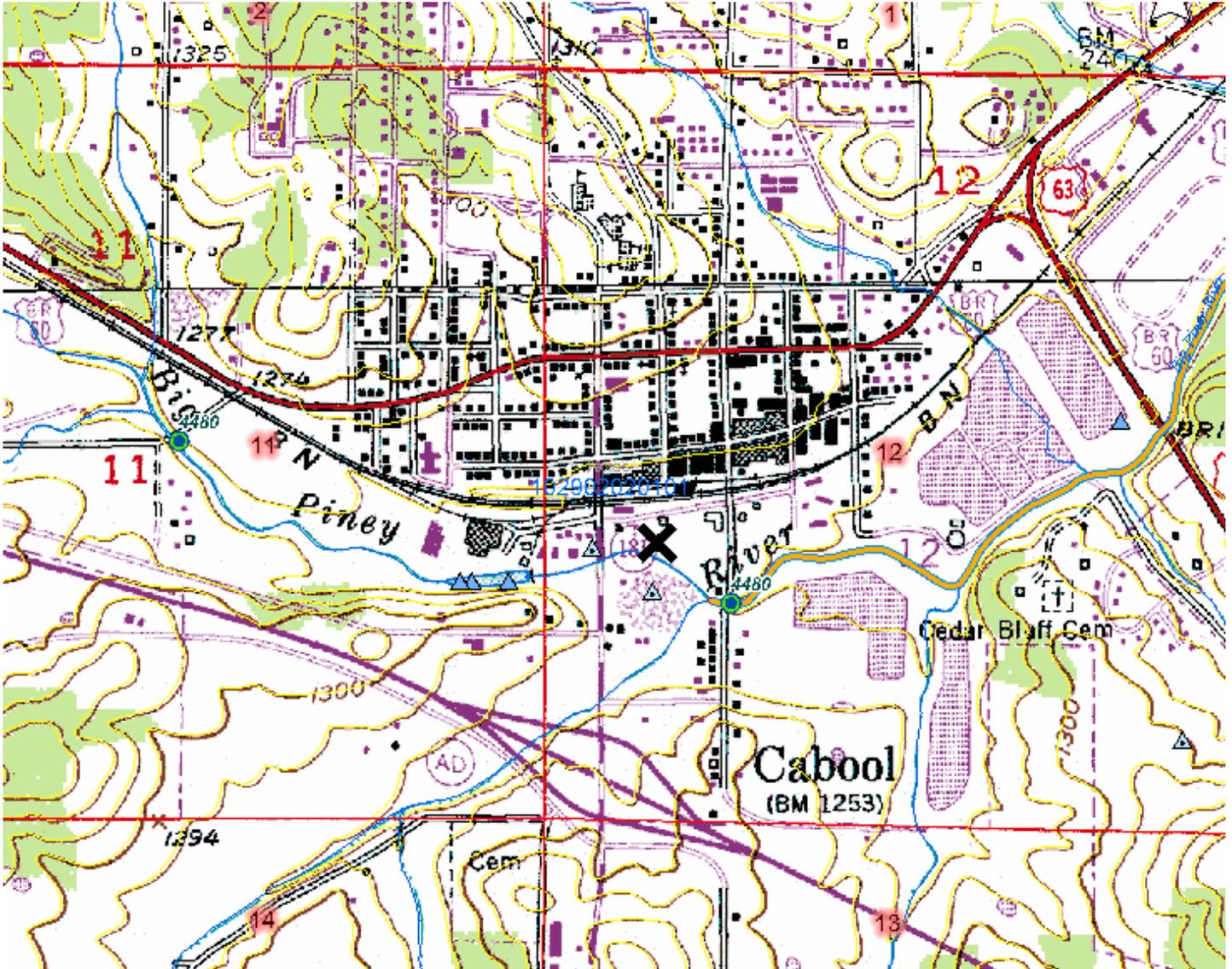
Application Date: 05/09/12  
Expiration Date: 08/03/16  
Last Inspection: 01/04/11 In Compliance ; Non-Compliance

**OUTFALL(S) TABLE:**

OUTFALL	DESIGN FLOW (CFS)	TREATMENT LEVEL	EFFLUENT TYPE	DISTANCE TO CLASSIFIED SEGMENT (MI)
005	n/a	n/a	Land Application	0.01

Outfall #005 – Industrial Sludge - SIC #2023 & NAICS # 311514; SIC #2026 & NAICS #311511; SIC #2032 & NAICS #311422  
The facility's wastewater passes through a trickling filter, a clarifier, an oxidation ditch, a final clarifier, and to Cabool Wastewater Treatment Plant (MO-0026301). The industrial sludge generated from the intermediate clarifier passes through a waste clarifier, two sludge holding tanks, and then sludge is land applied. Sludge is lime stabilized.

Legal Description: NW ¼, SW ¼, Sec. 12, T28N, R11W, Texas County  
UTM Coordinates: X=579726, Y=4108564  
Receiving Stream: Big Piney River (U)  
First Classified Stream and ID: Big Piney River (P)(1578)  
USGS Basin & Sub-watershed No.: (10290202-0101)



Receiving Water Body's Water Quality & Facility Performance History:  
No impairment found on this segment of the receiving water.

Comments:

This is a modification of MO-0002828 to remove outfalls #001, #003, and #004. These outfalls are now permitted under MOR130154. However, upon removal of such outfalls, the permit writer found that outfall #005 was insufficiently delineated. Therefore, changes are being made to this permit to reflect the ten (10) application sites and to itemize the parameters needed for monitoring for outfall #005 on Section A of the permit. Outfall #005 will remain the main outfall under this permit.

**Part II – Operator Certification Requirements**

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

Not Applicable;

This facility is not required to have a certified operator; however, the facility has one.

Operator’s Name: Mike Dalton  
 Certification Number: 7622  
 Certification Level: A

The listing of the operator above only signifies that staff drafting this operating permit have reviewed appropriate Department records and determined that the name listed on the operating permit application has the correct and applicable Certification Level.

**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 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.

All Other Waters [10 CSR 20-7.015(8)]:

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

**RECEIVING STREAM(S) TABLE:**

WATERBODY NAME	CLASS	WBID	DESIGNATED USES*	12-DIGIT HUC**
Big Piney River	U	n/a	General	10290202-0101
Big Piney River	P	1578	LWW, AQL, DWS, SCR, WBC-A***	

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

\*\* - Hydrological Unit Code.

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

**RECEIVING STREAM(S) LOW-FLOW VALUES TABLE:**

RECEIVING STREAM (U, C, P)	LOW-FLOW VALUES (CFS)		
	1Q10	7Q10	30Q10
Big Piney River (U)	0	0	0

**MIXING CONSIDERATIONS:**

Mixing Zone: Not Allowed [10 CSR 20-7.031(4)(A)4.B.(I)(a)].

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

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

### **ALTERNATIVE EVALUATIONS FOR NEW FACILITIES:**

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

Not Applicable;

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

### **ANTI-BACKSLIDING:**

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

- All limits in this operating permit are at least as protective as those previously established; therefore, 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.

- Renewal no degradation proposed and no further review necessary.

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

As per [10 CSR 20-6.010(3)(B)], ...An applicant may utilize a lower preference continuing authority by submitting, as part of the application, a statement waiving preferential status from each existing higher preference authority, providing the waiver does not conflict with any area-wide management plan approved under section 208 of the Federal Clean Water Act or any other regional sewage service and treatment plan approved for higher preference authority by the Department.

### **BIOSOLIDS & SEWAGE SLUDGE:**

Biosolids are solid materials resulting from domestic wastewater treatment that meet federal and state criteria for beneficial uses (i.e. fertilizer). Sewage sludge is solids, semi-solids, or liquid residue generated during the treatment of domestic sewage in a treatment works; including but not limited to, domestic septage; scum or solids removed in primary, secondary, or advanced wastewater treatment process; and a material derived from sewage sludge. Sewage sludge does not include ash generated during the firing of sewage sludge in a sewage sludge incinerator or grit and screening generated during preliminary treatment of domestic sewage in a treatment works. Additional information regarding biosolids and sludge is located at the following web address: <http://dnr.mo.gov/env/wpp/pub/index.html>, items WQ422 through WQ449.

- Permittee land applies biosolids in accordance with Standard Conditions III and a Department approved biosolids 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 permittee/facility is not currently under Water Protection Program enforcement action.

### **PRETREATMENT PROGRAM:**

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

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

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 (BOD<sub>5</sub>) and Total Suspended Solids (TSS) for Publicly Owned Treatment Works (POTWs)/municipals.

Not Applicable;

Influent monitoring is not being required to determine percent removal.

**SANITARY SEWER OVERFLOWS (SSO) AND INFLOW AND INFILTRATION (I&I):**

Sanitary Sewer Overflows (SSOs) are defined as an untreated or partially treated sewage release are considered bypassing under state regulation [10 CSR 20-2.010(11)] and should not be confused with the federal definition of bypass. SSO's have a variety of causes including blockages, line breaks, and sewer defects that allow excess storm water and ground water to (1) enter and overload the collection system, and (2) overload the treatment facility. Additionally, SSO's can be also be caused by lapses in sewer system operation and maintenance, inadequate sewer design and construction, power failures, and vandalism. SSOs also include overflows out of manholes and onto city streets, sidewalks, and other terrestrial locations.

Additionally, Missouri RSMo §644.026.1 mandates that the Department require proper maintenance and operation of treatment facilities and sewer systems and proper disposal of residual waste from all such facilities.

- Not applicable. This facility is not required to develop or implement a program for maintenance and repair of the collection system; however, it is a violation of Missouri State Environmental Laws and Regulations to allow untreated wastewater to discharge to waters of the state.

**SCHEDULE OF COMPLIANCE (SOC):**

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

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 *Developing Your Stormwater Pollution Prevention Plan, A Guide for Industrial Operators*, (Document number EPA 833-B-09-002) [published by the United States Environmental Protection Agency (USEPA) in February 2009], 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.

Applicable;

A SWPPP shall be developed and implemented for each site and shall incorporate required practices by the Department with jurisdiction, incorporate erosion control practices specific to site conditions, and provide for maintenance and adherence to the plan.

**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.

Not Applicable;

Wasteload allocations were not calculated.

**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.

**40 CFR 122.41(M) - BYPASSES:**

The federal Clean Water Act (CWA), Section 402 prohibits wastewater dischargers from “bypassing” untreated or partially treated sewage (wastewater) beyond the headworks. A bypass, which includes blending, is defined as an intentional diversion of waste streams from any portion of a treatment facility, [40 CFR 122.41(m)(1)(i)]. Additionally, Missouri regulation 10 CSR 20-2.010(11) defines a bypass as the diversion of wastewater from any portion of wastewater treatment facility or sewer system to waters of the state. Only under exceptional and specified limitations do the federal regulations allow for a facility to bypass some or all of the flow from its treatment process. Bypasses are prohibited by the CWA unless a permittee can meet all of the criteria listed in 40 CFR 122.41(m)(4)(i)(A), (B), & (C). Any bypasses from this facility are subject to the reporting required in 40 CFR 122.41(l)(6) and per Missouri’s Standard Conditions I, Section B, Part 2.b. Additionally, Anticipated Bypasses include bypasses from peak flow basins or similar devices designed for peak wet weather flows.

Not Applicable;  
This facility does not bypass.

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

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

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

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

**Part V – Effluent Limits Determination**

The limitations established in this operating permit are consistent with Dairy Farmers of America’s facility in Barry County (MO-0128412) having exactly the same SIC Codes 2023, 2026, and 2032. MO-0128412 permitted outfalls are also industrial sludge for land application. Therefore, it is the permit writer’s best professional judgment to establish the same parameters to be in consistent with facilities of similar operations.

**EFFLUENT LIMITATIONS TABLE: *Outfall #005* – Land Application Operational Monitoring**

PARAMETER	UNIT	BASIS FOR LIMITS	DAILY MAXIMUM	WEEKLY AVERAGE	MONTHLY AVERAGE	MODIFIED	PREVIOUS PERMIT LIMITATIONS
PRECIPITATION	INCHES	9	*		*	NEW	**
VOLUME APPLIED	GALLONS	9	*		*	NEW	**
APPLICATION RATE	INCHES/ACRE	9	*		*	NEW	**
APPLICATION AREA	ACRES	9	*		*	NEW	**

\* - Monitoring requirement only.

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

**Basis for Limitations Codes:**

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

**OUTFALL #005 – DERIVATION AND DISCUSSION OF LIMITS: Land Application Operational Monitoring**

- **Precipitation.** Monitoring requirement only.
- **Volume Applied.** Monitoring requirement only.
- **Application Rate.** Monitoring requirement only.
- **Application Area.** Monitoring requirement only.

**Part VI: Finding of Affordability**

Pursuant to Section 644.145, RSMo., the Department is required to determine whether a permit or decision is affordable and makes a finding of affordability for certain permitting and enforcement decisions. This requirement applies to discharges from combined or separate sanitary sewer systems or publically-owned treatment works.

Not Applicable;

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

## **Part VII – Administrative Requirements**

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.

**DATE OF FACT SHEET: JULY 17, 2012**

### **COMPLETED BY:**

**TIM SOUTHARDS, ENVIRONMENTAL ENGINEER  
MISSOURI DEPARTMENT OF NATURAL RESOURCES  
SOUTHEAST REGIONAL OFFICE  
(573) 840-9750**

### **REVISED BY:**

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