

ADEQ

ARKANSAS
Department of Environmental Quality

CERTIFIED MAIL: RETURN RECEIPT REQUESTED (9489 0090 0027 6060 6286 31)

FEB 06 2020

Andy McNeill
Denali Water Solutions LLC - Madison County
3308 Bernice Ave.
Russellville, AR 72802

RE: Permit Number 5346-W; AFIN 44-00254

Dear Mr. McNeill:

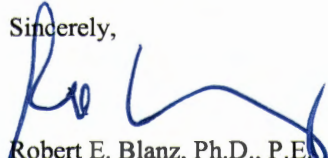
Enclosed are the public notice, the draft permit, and a draft Statement of Basis which the Division of Environmental Quality, Office of Water Quality (OWQ) has prepared on the above date under the authority of the Arkansas Water and Air Pollution Control Act. A copy of the final permit will be mailed to you when the OWQ has made a final permit decision.

The enclosed public notice will be published by **OWQ** in the newspaper of general circulation. An invoice for the cost of publishing the public notice and proof of publication will be sent to you by the advertising newspaper. The permittee **must** send proof of publication and payment to the address below as soon as possible but no later than 30 days after its publication. Until the OWQ receives proof of publication of the public notice, no further action will be taken on the issuance of your No-Discharge permit.

Comments must be received at OWQ prior to the close of the public comment period as described in the enclosed public notice. The public comment period will begin on the day of publication and will end no sooner than 30 days after that date. Once a final permit is issued by the Director and becomes effective, the permittee must comply with all terms and conditions of the permit, or be subject to enforcement actions for any instances of noncompliance during the duration of the permit, usually five (5) years. Consequently, it is imperative that you, as the applicant, thoroughly review the enclosed documentation for accuracy, applicability, and your ability to comply with all conditions therein.

Should you have any questions concerning any part of the permit, please feel free to contact Colby Ungerank of the Permits Branch at (501) 682-0047.

Sincerely,



Robert E. Blanz, Ph.D., P.E.
Associate Director, Office of Water Quality

RB:cu

Enclosure

PUBLIC NOTICE OF DRAFT NO-DISCHARGE PERMIT
PERMIT NUMBER 5346-W
AFIN 44-00254

This is to give notice that the Division of Environmental Quality (DEQ) Office of Water Quality (OWQ), 5301 Northshore Drive, North Little Rock, Arkansas 72118-5317 at telephone number (501) 682-0650, proposes a draft of the permit for which an application was received on August 28, 2019, with additional information received by January 8, 2020, for the following applicant under the Arkansas Water and Air Pollution Control Act.

Applicant: Denali Water Solutions LLC - Denali Water Solutions-Madison County, 1129 Madison 3370, Witter, AR 72776. The land application sites are on multiple farm fields in Madison County. For a more detailed description of the locations for each land application site, refer to Part II of the draft permit or the waste management plan. These documents may be accessed by searching the permit number listed above at the following website:

<http://www.adeq.state.ar.us/home/pdssql/pds.aspx>

This permit is for the land application of processing wash-down rinse water, dissolved air flotation (DAF) skimmings, industrial waste activated sludge, industrial wastewater lagoon sludge, grease trap water.

OWQ's contact person, Colby Ungerank, may be reached by the phone number and address noted above, or at OWQ's email address at Water-Draft-Permit-Comment@adeq.state.ar.us.

The end of the comment period is 30 days after the publication date at 4:30 P.M. Central Time. If the last day of the comment period is a Saturday, Sunday or legal holiday, the public comment period shall expire on the next day that is not a Saturday, Sunday or legal holiday. For information regarding the actual publication date along with the actual date and time the comment period will end, please contact Colby Ungerank at the above address and telephone number or by email at Water-Draft-Permit-Comment@adeq.state.ar.us. Comments and public hearing procedures may be found at APC&EC Rule No. 8 (Administrative Procedures). All persons, including the permittee, who wish to comment on OWQ's draft decision to issue the permit, must submit written comments to OWQ, along with their name and mailing address. After the public comment period, and public hearing, if one is held, OWQ will issue a final permitting decision. A public hearing will be held when OWQ finds a significant degree of public interest. OWQ will notify the applicant and each person who has submitted written comments or requested notice of the final permitting decision. Any interested person who has submitted comments may appeal a final decision by OWQ in accordance with the APC&EC Rule No. 8.

DRAFT

**Permit No. 5346-W
AFIN 44-00254**

**AUTHORIZATION FOR A NO-DISCHARGE WATER PERMIT UNDER THE
ARKANSAS WATER AND AIR POLLUTION CONTROL ACT**

In accordance with the provisions of the Arkansas Water and Air Pollution Control Act (Ark. Code Ann. § 8-4-101 *et seq.*)

Denali Water Solutions LLC - Madison County

is authorized to land apply industrial waste, as defined in Part IV, on sites listed in Condition No. 7 of Part II of the permit at 3308 Bernice Ave. Russellville, AR 72802 in Madison County, AR.

Operation shall be in accordance with all conditions set forth in this permit.

Effective Date:

Expiration Date:

Robert E. Blanz, Ph.D., P.E.
Associate Director, Office of Water Quality
Division of Environmental Quality

Issue Date

PART I
PERMIT REQUIREMENTS

LIMITATIONS AND MONITORING REQUIREMENTS:

The following tables detail the constituent limits, monitoring frequencies, and the requirements for reporting results to OWQ for each respective parameter listed in the table heading.

TABLE I						
Waste Analysis, Reporting, and Record Keeping						
Parameter	Ceiling Concentrations (mg/kg)¹	Ceiling Concentrations (mg/l)²	Cumulative Pollutant Loading Rate (lb/ac)³		Monitoring Frequency	
Arsenic	75	Report	37		Annually, prior to 1 st application of the calendar year per waste stream. ⁵	
Cadmium	85		35			
Copper	4300		1350			
Lead	840		270			
Mercury	57		15			
Molybdenum	75		N/A			
Nickel	420		378			
Selenium	100		90			
Zinc	7500		2520			
Parameter	Maximum Limits		Reporting Units		Monitoring Frequency	
Total Solids	Report		Percentage (%)		Annually, prior to 1 st application of the calendar year per waste stream. ⁵	
Electrical Conductivity			µmhos/cm			
Nitrate Nitrogen			mg/kg ¹	mg/l ²		
Nitrite Nitrogen						
Ammonia Nitrogen						
Total Kjeldahl Nitrogen						
Total Phosphorus						
Total Potassium						
Water Extractable Phosphorus						S.U.
pH						
Sodium Absorption Ratio (SAR)	Report		Unitless			
Oil & Grease	Report		mg/kg ¹	mg/l ²	Daily	
Total Volume of Waste Applied			gallons/acre/year			
Nitrogen Application Rate	⁴ Depends On Crop		lbs N/acre/year		Calculate, prior to each application	

¹ Dry-weight basis for solids

² Liquid wastes

³ Cumulative loading rates in dry weight basis include dry and liquid wastes. See Condition No. 6 of Part II of the permit.

⁴ Refer to Condition No. 4 of Part II of the permit.

⁵ If land applying a mixture from various waste streams, the monitoring frequency shall be annually prior to the 1st application of the calendar year per mixture.

TABLE II		
Soils Analysis, Reporting, and Record Keeping		
Parameter	Limit (Reporting Units)	Monitoring Frequency
Electrical Conductivity	4.0 (mmhos/cm)	Annually, Prior to the 1 st application of the calendar year per land application site. ²
Cation Exchange Capacity	Report (meq/100g)	
pH ¹	Report (S.U.)	
Sodium Adsorption Ratio (SAR)	12.0 (unitless)	
Nitrate-Nitrogen	Report (mg/kg)	
Phosphorus		
Potassium		
Parameter	Limit (Reporting Units)	Monitoring Frequency
Arsenic	Report (mg/kg)	Once every five (5) years per land application site. ²
Cadmium		
Copper		
Lead		
Mercury		
Molybdenum		
Nickel		
Selenium		
Zinc		

¹ If the resulting pH is 5.7 or lower, lime must be applied in accordance with recommendations from the University of Arkansas Cooperative Extension Service.

² One composite sample must be taken for every 40 acres.

Part II
SPECIFIC CONDITIONS

1. This permit is for the land application of residual wastewater from various food and vegetable processing plants, animal processing plants, animal food process plants.
2. The land application operation shall be managed in accordance with the August 28, 2019, Nutrient Management Plan (NMP). If the NMP is inconsistent with this permit, the land application operation shall be managed in accordance with the terms of the permit and the NMP shall be revised to conform to the permit conditions.
3. Waste analyses shall be reported with the appropriate reporting units for solids or liquids show in Table I of Part I. If it is not specified whether the units are appropriate only for solids or liquids, the analysis is appropriate for either solids or liquids in the provided units. However, a sample should be tested as a solid and reported in mg/kg when solids are present and only those samples that do not have enough solids to be tested as a solid should be tested as a liquid and reported in mg/l.
4. Plant Available Nitrogen (PAN) shall be calculated using the following equations:

PAN Equations	
For Surface applied waste, PAN(ppm)	$0.3(\text{TKN} - \text{NH}_3) + 0.5\text{NH}_3 + \text{NO}_3 + \text{NO}_2$
For Subsurface applied or Incorporated waste, PAN(ppm)	$0.3(\text{TKN} - \text{NH}_3) + \text{NH}_3 + \text{NO}_3 + \text{NO}_2$
Conversion from PAN(ppm ¹) to PAN(lbs/Dry Ton(DT))	$0.002 * \text{PAN}(\text{ppm}^1)$
Conversion from PAN(ppm ²) to PAN(lbs/1,000 gallons)	$0.00834 * \text{PAN}(\text{ppm}^2)$

¹Dry Basis
²Wet Basis

The cumulative (liquid and solid) waste must be applied at a rate (calculated in units of DT/acre or 1,000 gallons/acre) that provides a quantity of PAN (lbs N/acre) that is equal to or less than the nitrogen uptake rate of the cover crop (lbs/acre). See the table below for a list of Nitrogen uptakes for crops authorized for land application under this permit. Any crop not listed in the following table may be added to the permit as a permit modification.

Nitrogen Uptake of Cover Crops			
Crop Name	Uptake (lbs/acre)	Crop Name	Uptake (lbs/acre)
Barley	59	Ryegrass	167
Soybeans	226	Sorghum	148
Corn	240	Wheat	83
Oats	75	Bermuda	300
Rice	124	Fescue	138

- Land application sites shall maintain adequate vegetation to ensure the nitrogen uptake rate of the cover crop used to calculate the limit in Condition No. 4 is accurate. Land application sites containing forage crops shall maintain 100% coverage with a minimum of 80% density. Land application sites containing row crops must be planted in a manner to produce the typical yield.
- The permittee shall not land apply waste in a manner that would exceed the Cumulative Pollutant Loading Rate in Table I of Part I of the permit. All records demonstrating compliance with this condition shall remain on site and be made available to Office of Water Quality (OWQ) personnel upon request. Pollutant Loading Rate shall be calculated per application event using the one of the following equations based on if the waste is analyzed as a solid or liquid waste, specified in Condition No. 4 of Part II. Cumulative Pollutant Loading Rate is determined by cumulative summation of the each application event.

$$\frac{\text{Pounds}}{\text{Acre}} = \text{Concentrations} \left(\frac{\text{mg}}{\text{l}} \right) * 8.34 * \text{Application Rate} \left(\frac{\text{MG}}{\text{acre}} \right)$$

$$\frac{\text{Pounds}}{\text{Acre}} = \text{Concentrations} \left(\frac{\text{mg}}{\text{kg}} \right) * 0.002 * \text{Application Rate} \left(\frac{\text{DT}}{\text{acre}} \right)$$

- Land application sites are as follows:

Land Application Sites							
Owner	Field ID	Section(s)	Township	Range(s)	Acreage	Latitude	Longitude
Earl Burkes	DRL-2	11,14	15 North	26 West	66.1	35° 58' 11" N	93° 42' 02" W
Darian Reynolds	DR-4	20	16 North	25 West	36.0	36° 02' 23" N	93° 38' 57" W
Darian Reynolds	DR-5	20	16 North	25 West	34.3	36° 02' 22" N	93° 38' 40" W
Darian Reynolds	DR-6	17,20	16 North	25 West	82.5	36° 02' 26" N	93° 38' 42" W
Darian Reynolds	DR-7	21	16 North	25 West	72.5	36° 02' 26" N	93° 38' 27" W
Brenda Ackerman	SBA-1	25	17 North	25, 26 West	93.3	36° 06' 34" N	93° 41' 51" W
Brenda Ackerman	SBA-2	30	17 North	25 West	33.4	36° 06' 19" N	93° 41' 37" W
Jessie Reynolds	JR-1	16	16 North	26 West	11.6	36° 03' 20" N	93° 43' 55" W
Jessie Reynolds	JR-2	15,16	16 North	26 West	24.3	36° 03' 10" N	93° 43' 59" W
Jessie Reynolds	JR-3	15,16	16 North	26 West	14.2	36° 03' 09" N	93° 43' 47" W
Jessie Reynolds	JR-4	15	16 North	26 West	21.9	36° 03' 09" N	93° 43' 38" W
Jack Robertson	AB-1	23	16 North	26 West	47.4	36° 02' 36" N	93° 42' 14" W
Audra Bolinger	AB-2	24	15 North	26 West	38.5	35° 57' 09" N	93° 41' 46" W
Danny Johnson	DJ-1	11,12	16 North	26 West	43.2	36° 03' 38" N	93° 41' 35" W
Shrum Enterprises	SE-1	14,23	16 North	26 West	40.0	36° 02' 40" N	93° 41' 57" W
Shrum Enterprises	SE-2	13,14	16 North	26 West	113.0	36° 03' 04" N	93° 41' 58" W
Shrum Enterprises	SE-3	12,13	16 North	26 West	124.1	36° 03' 27" N	93° 41' 40" W
Shrum Enterprises	SE-4	12	16 North	26 West	40.0	36° 03' 50" N	93° 40' 58" W
Shrum Enterprises	SE-5	7,18	16 North	25 West	55.4	36° 03' 33" N	93° 40' 26" W
Barry Cleaver	BC-1	25,36	15 North	26 West	80.0	35° 55' 57" N	93° 41' 06" W

- Land application shall only take place on fields that are classified as Low or Medium classes in the Phosphorus Index.
- Each land use agreement must be maintained in effect during the permit term. A copy of the signed land use agreement must be available on site during land application operations. If a land use

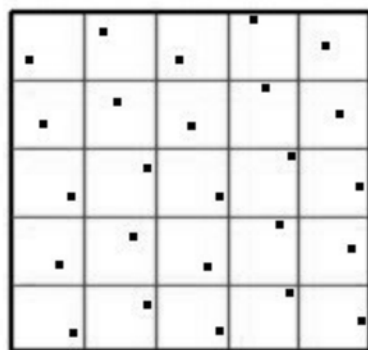
agreement becomes void during the permit term, the permittee must notify the OWQ for a modification of the permit.

10. The permittee shall determine if the land application sites are currently permitted or in use by another user. In the event that the OWQ determines that any land application site under this permit is permitted for land application under another permit, the OWQ may void this permit and enforcement action may be taken.
11. Waste shall be land applied by subsoil injection or surface applied. Surface applied waste must be evenly distributed over the entire application area.
12. Waste shall not be discharged from this operation to the waters of the State or onto the land in any manner that may result in runoff to the waters of the State or ponding on the surface of the land. Ponding caused by rainfall/stormwater must not have a visual sheen.
13. The allowable slope of land application site depends on waste application method. Wastes authorized by Condition No. 1 of Part II shall not be applied to the land application site with slopes greater than allowed by the table below.

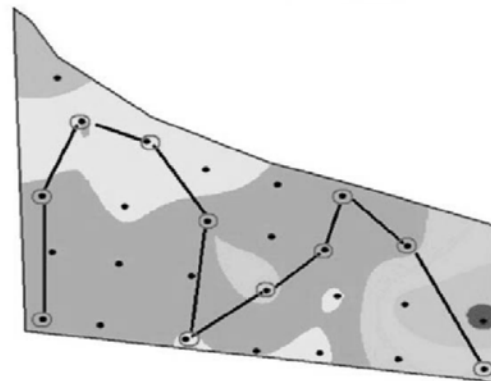
Maximum Slope %	Acceptable Application Methods
6	<ul style="list-style-type: none">• Surface application of liquid waste• Injection of liquid waste• Surface application of dewatered waste solids• Surface application of dewatered waste with immediate incorporation
12	<ul style="list-style-type: none">• Injection of liquid waste• Surface application of dewatered waste solids• Surface application of dewatered waste with immediate incorporation
15	<ul style="list-style-type: none">• No application of liquid wastes without extensive runoff control• Surface application of dewatered waste with immediate incorporation

14. Land application is prohibited when the soils are saturated; frozen; covered with ice or snow; during precipitation events; or when precipitation is imminent (greater than a 50% chance of precipitation predicted by the nearest National Weather Service station) within a 24-hour period.
15. Land application of waste in a floodplain shall not restrict the flow of the base flood, reduce the temporary storage capacity of the floodplain, or result in a washout of solid waste, so as to pose a hazard to human, wildlife or land and water uses.
16. The permittee shall not cause or contribute to the taking of any endangered or threatened species of plant, fish or wildlife. The facility shall not result in the destruction or adverse modification of the known critical habitat of endangered or threatened species as identified in 50 CFR Part 17.
17. Waste shall not be land applied within 100 feet of streams including intermittent streams, ponds, lakes, springs, sinkholes, rock outcrops, wells and water supplies; or 300 feet of extraordinary resource waters as defined by Arkansas Pollution Control and Ecology Commission (APC&EC) Rule No. 2. Buffer distances for streams, ponds and lakes must be measured from the ordinary high water mark.

18. Waste shall not be land applied within 50 feet of property lines or 500 feet of neighboring occupied buildings existing as of the date of the permit. The restrictions regarding property lines or neighboring buildings may be waived if the adjoining property is also approved as a land application site under a permit issued by the DEQ or if the adjoining property owner consents in writing.
19. All boundaries, cited in Condition No. 16 and 17 of Part II of the Permit, must be flagged prior to and present during any land application event for all land application sites.
20. The permittee must not land apply in a manner that will result in an exceedance of the Maximum Contaminant Levels promulgated under the Safe Drinking Water Act, as referenced in 40 C.F.R. Part 257, Appendix I. Land application must cease if evidence suggests that the facility is causing adverse impacts to groundwater.
21. The land application sites shall have the soils tested for the parameters listed in Table II of Part I of the permit. Soil samples shall be collected according to the following method:
 - A. One composite soil sample shall be representative of ≤ 40 acres.
 - B. Identify representative sampling areas/zones that are uniform in soil and previous management history. Soils that are contained within the same soil association according to the USDA Soil Survey are considered uniform for the purposes of this permit. These areas shall be identified on a site map. The areas shall remain the same between each sampling event.
 - C. Using a clean soil probe, soil auger, or spade, collect a minimum of 20 individual subsamples to a 4-inch depth per sample area in a random zigzag or grid pattern (see Fig 1 below) in accordance with the sampling locations on the site map. If using a spade, avoid wedge shaped samples. One composite sample must be taken for every land application site identified in Condition No. 7 above.
 - D. Combine individual subsamples in a clean plastic bucket and mix thoroughly. Place a subsample of the mixed composite in a clean soil box and label with the field ID name, and permittee information. Subsamples shall be representative of each land application site.



Grid Pattern



Zig Zag

Figure 1. Representative Soil Sampling of Land Application Area Patterns

22. Annual reports are due by May 1st of each year for the previous permitted months from January to December (i.e. Annual report is due on May 1st, 2021 for the 2020 calendar year). The annual reports shall include the following:

- A. land application dates;
- B. land application locations;
- C. quantities of waste applied in dry tons per acre per year and/or in gallons per acre per year;
- D. methods of application;
- E. amounts of nutrients applied;
- F. total amount of PAN applied on each field (pounds/acre);
- G. cover crop of each field;
- H. total metals added (in that particular year) in lbs per acre;
- I. total metals applied to date; and
- J. copies of the waste and soil analyses.

The annual reports shall be submitted to the following address:

Division of Environmental Quality
Office of Water Quality, Permits Branch
5301 Northshore Dr.
North Little Rock, Arkansas 72118
Fax (501) 682-0880

Or

Water-permit-application@adeq.state.ar.us

Part III
STANDARD CONDITIONS

1. Duty to Comply

The permittee must comply with all conditions of this permit. Any permit noncompliance constitutes a violation of the Arkansas Water and Air Pollution Control Act (Ark. Code Ann. § 8-4-101 et seq.) and is grounds for civil and administrative enforcement action; for permit termination, revocation and reissuance, or modification; or for rejection of a permit renewal application.

2. Penalties for Violations of Permit Conditions

The Arkansas Water and Air Pollution Control Act (Ark. Code Ann. § 8-4-101 et seq.) provides that any person who violates any provisions of a permit issued under the Act shall be guilty of a misdemeanor and upon conviction thereof shall be subject to imprisonment for not more than one (1) year, or a fine of not more than twenty-five thousand dollars (\$25,000) or both for each day of such violation. Any person who violates any provision of a permit issued under the Act may also be subject to a civil penalty not to exceed ten thousand dollars (\$10,000) for each day of such violation. The fact that any such violation may constitute a misdemeanor shall not be a bar to the maintenance of such civil action.

3. Permit Actions

- A. This permit may be modified, revoked and reissued, or terminated for cause including, but not limited to the following:
- i. Violation of any terms or conditions of this permit;
 - ii. Obtaining this permit by misrepresentation or failure to disclose fully all relevant facts;
 - iii. A determination that the permitted activity endangers human health or the environment and can only be regulated to acceptable levels by permit modification or termination; or
 - iv. Failure of the permittee to comply with the provisions of Arkansas Pollution Control and Ecology Commission (APC&EC) Rule No. 9 (Fee Rule).
- B. The filing of a request by the permittee for a permit modification, revocation and reissuance, termination, or a notification of planned changes or anticipated noncompliance, does not suspend any permit condition.

4. Civil and Criminal Liability

Nothing in this permit shall be construed to relieve the permittee from civil or criminal penalties for noncompliance. Any false or materially misleading representation or concealment of information required to be reported by the provisions of this permit or applicable state statutes or rules which defeats the regulatory purposes of the permit may subject the permittee to criminal enforcement pursuant to the Arkansas Water and Air Pollution Control Act (Ark. Code Ann. § 8-4-101 et seq.).

5. Oil and Hazardous Substance Liability

Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities, or penalties to which the permittee is or may be subject under Section 311 of the Clean Water Act and Section 106 of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA).

6. State Laws

Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities, or penalties established pursuant to any applicable State law or rule.

7. Property Rights

The issuance of this permit does not convey any property rights of any sort, or any exclusive privileges, nor does it authorize any exclusive privileges, nor does it authorize any injury to private property or any invasion of personal rights, nor any infringement of Federal, State or local laws or rules.

8. Severability

The provisions of this permit are severable, and if any provision of this permit, or the application of any provisions of this permit to any circumstance is held invalid, the application of such provision to other circumstances, and the remainder of this permit, shall not be affected thereby.

9. Permit Fees

The permittee shall comply with all applicable permit fee requirements (i.e., including annual permit fees following the initial permit fee that will be invoiced every year the permit is active) for wastewater discharge permits as described in APC&EC Rule No. 9 (Fee Rule). Failure to promptly remit all required fees shall be grounds for the Director to initiate action to terminate this permit under the provisions of 40 CFR Parts 122.64 and 124.5(d), as adopted in APC&EC Rule No. 6 and the provisions of APC&EC Rule No. 8.

10. Proper Operation and Maintenance

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

B. The permittee shall provide an adequate and trained operating staff which is duly qualified to carry out operation, maintenance and testing functions required to insure compliance with the conditions of this permit.

11. Duty to Mitigate

The permittee shall take all reasonable steps to prevent any discharge in violation of this permit which has a reasonable likelihood of adversely affecting human health, the environment, or the water receiving the discharge.

12. Removed Substances

Solids, sludges, filter backwash, or other pollutants removed in the course of treatment or control of waste waters shall be discarded in an approved manner such as to prevent any pollutant from such materials from entering the waters of the State.

13. Reporting of Violations and Unauthorized Discharges

- A. Any violations to this permit must be reported to the Enforcement Branch of the Office of Water Quality (OWQ) immediately. Any leaks or seeps shall be reported to the OWQ and appropriately corrected. Any discharge from the fluids storage system such as an overflow, broken pipe, etc., shall be immediately reported to the OWQ.
- B. The operator shall visually monitor and report immediately (within 24 hours) to the Enforcement Branch any unauthorized discharge from any facility caused by dike or structural failure, equipment breakdown, human error, etc., and shall follow up with a written report within five (5) days of such occurrence. The written report shall contain the following:
 - i. A description of the permit violation and its cause;
 - ii. The period of the violation, including exact times and dates;
 - iii. If the violation has not been corrected, the anticipated time expected to correct the violation; and
 - iv. Steps taken or planned to reduce, eliminate, and prevent the recurrence of the violation.
- C. Reports shall be submitted to the Enforcement Branch at the following address:

Division of Environmental Quality
Office of Water Quality, Enforcement Branch
5301 Northshore Dr.
North Little Rock, Arkansas 72118
Fax (501) 682-0880

Or

Water-enforcement-report@adeq.state.ar.us

14. Penalties for Tampering

The Arkansas Water and Air Pollution Control Act (Ark. Code Ann. § 8-4-101 et seq.) provides that any person who falsifies, tampers with, or knowingly renders inaccurate, any monitoring device or method required to be maintained under the Act shall be guilty of a misdemeanor and upon conviction thereof shall be subject to imprisonment for not more than one (1) year or a fine of not more than ten thousand dollars (\$10,000) or by both such fine and imprisonment.

15. Laboratory Analysis

All laboratory analyses submitted to the OWQ shall be completed by a laboratory accredited by the OWQ under Ark. Code Ann. § 8-2-201 *et seq.* Analyses for the permittee's internal quality control or process control do not need to be performed by an Arkansas Department of Energy and Environment accredited laboratory.

16. Retention of Records

The permittee shall retain records of all monitoring information, copies of all reports required by this permit, and records of all data used to complete the application for this permit for a period of at least 3 years from the date of the sample, measurement, report, or application. This period may be extended by request of the Director at any time.

17. Record Contents

Records and monitoring information shall include:

- A. The date, exact place, time, and methods of sampling or measurements, and preservatives used, if any;
- B. The individuals(s) who performed the sampling or measurements;
- C. The date(s) the analyses were performed;
- D. The individual(s) who performed the analyses;
- E. The analytical techniques or methods used; and
- F. The measurements and results of such analyses.

18. Inspection and Entry

The permittee shall allow the Director, or an authorized representative, upon the presentation of credentials and other documents as may be required by law, to:

- A. Enter upon the permittee's premises where a regulated facility or activity is located or conducted, or where records must be kept under the conditions of this permit;
- B. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;
- C. Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this permit; and
- D. Sample, inspect, or monitor at reasonable times, for the purposes of assuring permit compliance any substances or parameters at any location.

19. Planned Changes

The permittee shall give notice and provide the necessary information to the Director for review and approval prior to any planned physical alterations or additions to the permitted facility.

20. Anticipated Noncompliance

The permittee shall give advance notice to the Director of any planned changes in the permitted facility or activity which may result in noncompliance with permit requirements.

21. Transfers

The permit is nontransferable to any person except after notice to the Director. The Director may require modification or revocation and reissuance of the permit to change the name of the permittee and incorporate such other requirements as may be necessary under the Act.

22. Duty to Provide Information

The permittee shall furnish to the Director, within a reasonable time, any information which the Director may request to determine whether cause exists for modifying; revoking and reissuing or terminating this permit; or to determine compliance with this permit. The permittee shall also furnish to the Director, upon request, copies of records required to be kept by this permit. Information shall be submitted in the form, manner and time frame requested by the Director.

23. Duty to reapply

If the permittee wishes to continue an activity regulated by this permit after the expiration date of this permit, the permittee must apply for and obtain a new permit. The complete application shall be submitted at least 180 days before the expiration date of this permit. The Director may grant permission to submit an application less than 180 days in advance but no later than the permit expiration date. Conditions of this permit will continue in effect past the expiration date pending issuance of a new permit, if:

- A. The permittee has submitted a timely and complete application; and
- B. The Director, through no fault of the permittee, does not issue a new permit prior to the expiration date of the previous permit.

24. Signatory Requirements

- A. All applications, reports or information submitted to the Director shall be signed and certified. All permit applications shall be signed as follows:
 - i. For a corporation: by a responsible corporate officer. For the purpose of this section, a responsible corporate officer means:
 - a. A president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy or decision-making functions for the corporation; or
 - b. The manager of one or more manufacturing, production, or operation facilities, provided the manager is authorized to make management decisions which govern the operation of the regulated facility including: having the explicit or implicit duty of making major capital investment recommendations, and initiating and directing other comprehensive measures to assure long term environmental compliance with environmental laws and rules; the manager can ensure that the necessary systems are established or actions taken to gather complete and accurate information for permit application requirements; and where authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures.
 - ii. For a partnership or sole proprietorship: by a general partner or proprietor, respectively; or
 - iii. For a municipality, State, Federal, or other public agency; by either a principal executive officer or ranking elected official. For purposes of this section, a principal executive officer of a Federal agency includes:
 - a. The chief executive officer of the agency, or

- b. A senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency.
- B. All reports required by the permit and other information requested by the Director shall be signed by a person described above or by a duly authorized representative of that person. A person is a duly authorized representative only if:
- i. The authorization is made in writing by a person described above.
 - ii. The authorization specified either an individual or a position having responsibility for the overall operation of the regulated facility or activity, such as the position of plant manager, operator of a well or a well field, superintendent, or position of equivalent responsibility. (A duly authorized representative may thus be either a named individual or any individual occupying a named position); and
 - iii. The written authorization is submitted to the Director.
- C. Any person signing a document under this section shall make the following certification: “I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.”

25. Availability of Reports

Except for data determined to be confidential under the Arkansas Trade Secrets Act (Ark. Code Ann. § 4-75-601 *et seq.*), all reports prepared in accordance with the terms of this permit shall be available for public inspection at the offices of the Division of Environmental Quality. The name and address of any permit applicant or permittee, permit applications, and permits shall not be considered confidential.

26. Penalties for Falsification of Reports

The Arkansas Air and Water Pollution Control Act provides that any person who knowingly makes any false statement, representation, or certification in any application, record, report, plan, or other document filed or required to be maintained under this permit shall be subject to civil penalties and/or criminal penalties under the authority of the Arkansas Water and Air Pollution Control Act (Ark. Code Ann. § 8-4-101 *et seq.*).

27. Applicable Federal, State, or Local Requirements

Permittees are responsible for compliance with all applicable terms and conditions of this permit. Receipt of this permit does not relieve any operator of the responsibility to comply with any other applicable Federal, State, or local statute, ordinance policy, or rule.

Part IV
DEFINITIONS

“**Act**” means the Arkansas Water and Air Pollution Control Act (Ark. Code Ann. § 8-4-101 et seq.).

“**APC&EC**” means the Arkansas Pollution Control and Ecology Commission.

“**Application Site or Land Application Site**” means all contiguous areas of a users' property intended for sludge application.

“**Available Acreage**” means total acreage minus buffer zones.

“**Cumulative Pollutant Loading Rate**” means the maximum of an inorganic pollutant (dry-weight basis) that is applied to a unit area of land.

“**Department**” means the Department of Energy and Environment.

“**Director**” means the Director of the Division of Environmental Quality.

“**Division or DEQ**” means the Division of Environmental Quality.

“**Dry weight-basis**” means 100 percent solids (i.e., percent moisture).

“**Industrial Waste**” means processing wash-down rinse water, dissolved air flotation (DAF) skimmings, industrial waste activated sludge, industrial wastewater lagoon sludge, grease trap water.

“**OWQ**” means the Division of Environmental Quality - Office of Water Quality.

“**Ordinary High Water Mark**” means that line on the shore established by the fluctuations of water and indicated by physical characteristics such as a cleat, natural line impressed on the bank, shelving, changes in the character of soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas.

“**s.u.**” means standard units.

“**Secretary**” means the Secretary of the Arkansas Department of Energy and Environment.

“**Visual sheen**” means a presence of a film or sheen or a discoloration of the surface of the sample fluids.

“**Annual**” or “**Yearly**” is defined as a fixed calendar year or any portion of the fixed calendar year for a waste characteristic or parameter with a measurement frequency of once/year. A calendar year is January through December, or any portion thereof.

STATEMENT OF BASIS

This Statement of Basis is for information and justification of the permit limits only and is not enforceable. This draft permit decision is for issuance of a No-Discharge operation under draft permit number 5346-W and AFIN 44-00254.

1. Permitting Authority

Division of Environmental Quality (DEQ)
Office of Water Quality (OWQ), Permits Branch
5301 Northshore Dr.
North Little Rock, Arkansas 72118-5317

2. Applicant

Denali Water Solutions-Madison County
3308 Bernice Ave.
Russellville, AR 72802

3. Facility Description

Denali is a company that performs the service of collecting and land applying industrial wastes. The permittee must analyze the waste in accordance with Table I of Part I of the permit. The annual application rates will be governed by the phosphorus and nitrogen contents of the waste and the phosphorus nitrogen uptake of the cover crop at the land application site.

4. Waterbody Evaluation

The land application sites are located in Stream Segment 4K of the White River basin, which is in the Nutrient Surplus Area. Surrounding areas were evaluated to determine if any Extraordinary Resource Waters (ERWs), Ecologically Sensitive Waterbodies (ESWs), Natural and Scenic Waterways (NSWs), or impaired streams in the 2016 OWQ 303(d) List of Impaired Waterbodies in the State of Arkansas are near the land application site. The waterbody evaluation determined that the land application sites are approximately 0.5 miles from Town Branch, which is listed on the 2016 OWQ 303 (d) list for nitrates from an industrial and municipal source. The land application sites meet the required setbacks; therefore, no additional permit requirements are necessary.

5. Permit Activity

The permittee submitted a permit application for a No-Discharge permit, which was received on August 28, 2019, with additional information received on January 8, 2020. It is proposed that the water no-discharge permit be issued for a 5-year term.

6. Applicant Activity

Under the standard industrial classification (SIC) code 4953 or North American Industry Classification System (NAICS) code 562920, the applicant activities are for a refuse system. This permit is for the land application of industrial waste.

7. Waste Application Method

The liquid residuals will be transported to the application sites in sealed tanker trucks and transferred by vacuum to mobile frac tank. The liquid residuals will from the mobile frac tanks and land applied by Terragator land application vehicle or to a 4000 gallon sealed vacuum buggy pulled and powered by tractors. In most cases, the industrial wastes will be subsoil injected to a depth of 8 to 12 inches. If the industrial wastes and site characteristics are such that it may be topspread without causing a nuisance or posing a threat to human health or the environment, the topspread method may be employed.

8. Total Available Acreage

There are 1071.7 acres covered under this permit. The annual application of wastes is limited by the cumulative pollutant loading rate, P-Index, plant available nitrogen (PAN) equation, and the nitrogen uptake rate of the cover crop, Condition No. 4 of Part II of the permit.

9. Basis for Permit Conditions

The DEQ-OWQ has made a tentative determination to issue a permit for the no-discharge facility as described in the application and nutrient management plan. Permit requirements and conditions are based on rules pursuant to the Arkansas Water and Air Pollution Control Act (Ark. Code Ann. § 8-4-101 et seq. and Ark. Code Ann. § 8-4-201 et seq.)

Permit conditions, limits, reporting requirements, and justifications are listed as follows:

A. Part I—Permit Requirements**i. Monitoring Frequency**

The monitoring frequency of once annually prior to the first land application per waste stream is to ensure that a representative sample of what is being applied to the land is measured and recorded. In order to ensure over application of nutrients does not occur, the total volume of each waste and nitrogen application rate must be measured and recorded daily from each waste stream. The loading rates and application rates shall be calculated using each waste analysis and the volume of waste applied from each waste stream. The parameters that must be measured at this frequency can be compared to the soil parameters if a problem arises to determine if the land application is the pollutant source.

Some soil parameters only need to be measured once every 5 years because annual measurements do not show a significant accumulation.

ii. Waste Limits and Reporting**a. Reporting units difference for solid and liquid waste parameters**

Solid and liquid wastes authorized in Condition No. 1 of Part II will both be applied to land application sites. Solid waste parameters will be reported in dry-weight mg/kg. Liquid waste parameters will be reported in mg/l. Appropriate reporting units are required to determine if limits are reached. Incorrect reporting units for both solid and

liquid wastes can result in incorrect interpretation of the analyses such as exceedance of limits or increased soil concentrations because the waste parameter was reported with the wrong reporting units.

- b. Limits and reporting requirements for arsenic, cadmium, copper, lead, mercury, molybdenum, nickel, selenium, and zinc in the waste

The associated limits and Cumulative Pollutant Loading Rates (CPLRs) are adapted from EPA's risk assessment Title 40 of the Federal Code of Regulations Part 503 rule that governs the land application of sewage sludge. This assessment considered 14 different pathways of exposure to highly exposed individuals, including humans, animals (including small organisms) and plants. Industrial wastes, as defined in Part IV, have been known to contain trace amounts of these compounds. These limits minimize the potential for the accumulation of metals in soils to concentrations that could have adverse effects on the environment.

- c. Reporting requirements for percent total solids in the waste

This parameter is required to convert effluent analysis values between a wet and dry basis.

- d. Reporting requirements for the electrical conductivity of the waste and reporting of the waste volume

The analysis of electrical conductivity is the measurement of the salinity of the waste. Over application of salt could affect plant growth. According to *Wastewater Engineering Treatment and Reuse, 4th Edition*, salts tend to concentrate in the root zone. With an increase in soil salinity in the root zone, plants expend more of their available energy on adjusting the salt concentration within the tissue to obtain needed water from the soil. Consequently, less energy is available for plant growth. While a limit has not been implemented in the permit cycle, the OWQ will review this information along with the electrical conductivity of the soil and may implement limits on electrical conductivity in the future, if deemed necessary.

- e. Reporting requirements for all nitrogen compounds in the waste

These concentrations are required to calculate the plant available nitrogen to comply with Condition No. 4 of Part II of the permit.

- f. Reporting requirements for total phosphorus, water extractable phosphorus, and total potassium in the waste

These constituents are required for plant growth and are monitored to ensure crop nutrients are provided. The facility is in the Nutrient Surplus Area, as delineated by the Natural Resource Division; therefore, water extractable phosphorus should be monitored in order to determine whether nutrients are at risk of leaving the site.

g. Reporting requirements for pH of the waste

The pH of the waste must be reported to ensure that it will not negatively impact the pH of the soil. While a limit has not been implemented in the permit cycle, the OWQ will review this information and may implement limits on pH in the future, if deemed necessary.

h. Reporting requirements for Oil & Grease in the waste

The permitted waste is known to contain levels of Oil & Grease. Excessive application of Oil & Grease has the potential to kill or prevent the growth of crops, as well as become a source of pollutants in groundwater and surface water.

i. Limit for Total Volume of Waste Applied

The total volume of waste applied is required in order to calculate the loading rates of metals and nutrients to the land application site. While a limit has not been implemented in this permit cycle, the OWQ will be reviewing this information and may implement limits on total volume of waste in the future, if deemed necessary.

j. Monitoring requirement for Sodium Adsorption Ratio (SAR) in the waste

SAR is a measure of sodicity hazard commonly used to evaluate irrigation water and soils for agricultural use. Because the waste will be land applied, the SAR needs to be evaluated to show the waste is acceptable for use. According to the *Practical Handbook of Disturbed Land Revegetation* (Munshower, 1994), when the SAR rises above 18 in the waste, serious physical soil problems arise and plants have difficulty absorbing water. The OWQ will require reporting of SAR in the waste for a single annual application to multiple sites.

k. Nitrogen Application Rate

Land application of the waste covered under this permit is restricted by the nitrogen application rate. The nitrogen application rate is the amount of nitrogen applied to the land in pounds/acre/year. Using the nitrogen components of the waste analysis and the volume of waste applied, the nitrogen application rate shall be calculated using the equations provided in Condition No. 4 of Part II of the permit. In order to ensure the application of waste will not exceed the Plant Available Nitrogen (PAN) limit for the cover crop identified in Condition No. 4 of Part II of the permit, the nitrogen application rate must be calculated prior to each application.

iii. Soil Limits and Reporting

a. Limit for the electrical conductivity of the soil

The measurement of the electrical conductivity (EC) of the soil is used to determine the salinity or the amount of salts in the soil. In *Soils: an Introduction to Soils and Plant Growth*, an EC of 4.0 mmhos/cm or less is considered normal. Once the EC exceeds 4.0 mmhos/cm, the soil becomes Saline. Saline soils are known to reduce plant growth and

affect soil permeability. If results indicate that soil concentrations have increased, the OWQ may require cessation of land application activities, further testing, or remediation activities.

b. Reporting requirements for pH of the soil

The acidic limit of 5.7 was adapted from the University of Arkansas Cooperative Extension Service (UAEX) Self-study Guide 8: Soil Fertility Management in Pastures Essential Nutrient for Plant Growth to maintain an optimal pH for plant growth. Also when the pH becomes too low, heavy metals are more soluble and therefore more susceptible to leaching to the groundwater. Soil pH must be monitored to ensure compliance with Table II of Part I of the permit.

c. Limit for Sodium Adsorption Ratio (SAR) in the soil

In addition to evaluating SAR in the waste, the SAR should also be monitored in the soils of the application sites. According to the *Practical Handbook of Disturbed Land Revegetation* (Munshower, 1994), when the SAR rises above 12 to 15 in the soil serious physical soil problems arise and plants have difficulty absorbing water. According to the 2009 OWQ Landfarm Study, University of Arkansas soil scientist, Dr. Kristofor Brye, recommends that the SAR in soil be less than 12. SAR values above this range are considered undesirable conditions for plant growth. High sodium content disperses the soil and causes it to crust. Sodium also negatively influences the ability of water to infiltrate the soil. If results indicate that soil concentrations have increased, the OWQ may require cessation of land application activities, further testing, or remediation activities.

d. Reporting requirements for cation exchange capacity, nitrate-nitrogen, phosphorus, and potassium in soils

These parameters are indicators of soil quality. The chemical condition of soil affects soil-plant relations, water quality, buffering capacities, availability of nutrients and water to plants and other organisms, mobility of contaminants, and some physical conditions. (USDA Natural Resources Conservation Service "Indicators for Soil Quality Evaluation" April 1996.) Reporting requirements are included to verify that problems from over-application of wastes or other sources are not occurring. If results indicate that soil concentrations have increased, the OWQ may require cessation of land application activities, further testing, or remediation activities.

e. Reporting requirements for arsenic, cadmium, copper, lead, mercury, molybdenum, nickel, selenium, and zinc in soils

The list of metal cations was adapted from 40 C.F.R. Part 503 for the land application of sewage sludge. Limits were not established due to the variability of analyzing the concentrations of these metals. Reporting requirements are included to verify that metals from land application of waste or other sources are not being applied at a rate that causes accumulation of metals to levels that could have adverse effects on the environment. If results indicate that soil concentrations have increased, the OWQ may require cessation of land application activities, further testing, or remediation activities.

B. Part II—Specific Conditions**i. Plant Available Nitrogen (PAN) application limit**

The OWQ has provided the proper Plant Available Nitrogen (PAN) equation in order to ensure the permittee does not exceed the nitrogen uptake of the cover crop. Any land application of industrial waste is limited by the nitrogen uptake of the cover crop and the PAN. The application rate is designed to provide the amount of nitrogen needed by the crop or vegetation and reduce the risk of nutrients running off into the waters of the State.

ii. Vegetation Cover Requirement

In order to ensure proper uptake of nitrogen, the land application site shall maintain 100% vegetative coverage with a minimum of 80% density. Furthermore, the vegetative coverage and density is also used for stabilization purposes to reduce the risk of soil erosion and runoff.

iii. Cumulative Loading Rate

The OWQ has provided the proper Cumulative Pollutant Loading Rate equation in order to ensure the permittee does not exceed the metal loading rate. Land application of waste is limited by the metal loading on the soils. The application rate is designed to be protective of the environment and has been adapted from 40 C.F.R. Part 503.

iv. Land Use Agreements

The permittee shall maintain a land use agreement with each land owner, in order to prevent over application of nutrients from multiple sources land applying waste to the same site. This condition encourages the applicant to confirm with the landowner that the site is not currently covered under another active permit before permitting the site.

v. Permit termination if the land application site is currently permitted under a previously issued permit

A site covered in more than one permit is at risk of over application of nutrients and metals. This condition encourages the applicant to confirm with the landowner that the site is not currently covered under another active permit before permitting the site.

vi. Even Application

In order to avoid over application to one area of the land application site, the waste shall be distributed evenly over the entire land application site. If the waste is over applied to one portion of the application site, there is potential for concentration on that portion of the site and the waste to runoff to the waters of the State.

vii. No runoff or discharge requirement

A discharge from this site may result in pollutants entering the waters of the State in violation of Ark. Code Ann. § 8-4-217. Specific land application method requirements including even

surface application or subsoil injection and precipitation and moisture limitations, are to ensure that no runoff containing potential pollutants will enter the waters of the State. These conditions are adaptations of APC&EC Rule No. 5.406 (A) & (B) and 40 C.F.R. Part 257.

viii. Maximum allowable slope for the land application area

In order to protect waters of the State, additional measures must be taken to ensure contamination via runoff is prevented. Topography of the land application area affects the potential for runoff and erosion. The limits listed in Condition No. 12 of Part II of the permit were adapted from the *Wastewater Engineering: Treatment and Reuse, 4th Edition*, Table 14-51 as an acceptable maximum slope for the acceptable application of wastes.

ix. Land application during precipitation and saturated conditions

In order to protect waters of the State, additional measures must be taken to ensure contamination via runoff is prevented. Therefore, the OWQ adapted the associated conditions from APC&EC Rule No. 5.406(B) that governs the liquid animal waste management systems. Land application of industrial waste is prohibited during a precipitation event or when significant precipitation is imminent. When land applying industrial waste there is a critical time to prevent runoff to the waters of the State, which is during land application and right after land application before the industrial waste has had time to absorb into the soil. In order to protect the environment, the OWQ defined the word “imminent” to mean greater than a 50% chance of precipitation predicted by the nearest National Weather Service station. When the National Weather Service station predicts greater than 50% chance of precipitation the OWQ believes there is a good chance of rain which could cause pollution to the waters of the State. Also, to ensure the facility will not land applying during precipitation, the operator must be present during any period of land application.

x. Land Application of waste to a floodplain

Land application of waste to a floodplain shall not increase the level of the base flood by one foot or more, to avoid increasing the velocity of the flow downstream of the site, reducing the temporary storage capacity of the floodplain, or increasing the levels of the flood waters, which was adapted from 40 C.F.R. Part 257.3-1.

xi. Buffer distances

Minimum buffer distances are required between land application areas and areas that may be vulnerable to water pollution in order to minimize the risk of nutrients or pollutants from leaving the field and reaching surface waters. Buffer distances were adapted from APC&EC Rule No. 5.406(D), the Department of Health’s *Rules and Regulations Pertaining to Onsite Wastewater Systems* Section 10.5.7.2, and generally accepted scientific knowledge and engineering practices.

xii. Flagged Boundaries

In order to be protective of surface waters, minimum buffer distances have been established. In order to verify that the permittee will be applying waste within all of the required

boundaries of the land application site(s), the OWQ will require all boundaries to be flagged prior to and be present during any land application events.

xiii. Soil Sampling

The sampling requirements were included in the permit to ensure the samples of the soils are collected in an appropriate manner and to ensure representative samples are collected.

xiv. Habitat protection

This condition is adapted from 40 C.F.R. Part 257 and is included to ensure that endangered or threatened species are considered and protected during land application.

xv. Title 40 C.F.R. Part 257 compliance requirement

The OWQ has adapted the maximum contaminant level from 40 C.F.R. Part 257 Appendix I. Complying with these maximum contaminant levels ensures that harmful levels of pollutants will not enter the groundwater through contamination from the land application of industrial waste.

C. Part III—Standard Conditions

Standard Conditions have been included in this permit based on generally accepted scientific knowledge, engineering practices and the authority of the Arkansas Water and Air Pollution Control Act (Ark. Code Ann. § 8-4-101 et seq.).

D. Part IV—Definitions

All definitions in Part IV of the permit are self-explanatory.

10. Point of Contact

The following staff contributed to the preparation of this permit:

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Technical review

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15. Annual Fee

In accordance with APC&EC Rule No. 9, the annual fee for this permit is \$500.00.

16. Sources

The following Sources were used to draft the permit:

- A. APC&EC Rule No. 2, Rule Establishing Water Quality Standards for Surface Waters of the State of Arkansas, as amended.
- B. APC&EC Rule No. 5, Liquid Animal Waste Management Systems, as amended.
- C. APC&EC Rule No. 8, Administrative Procedures, as amended.
- D. APC&EC Rule No. 9, Fee Rule, as amended.
- E. 40 C.F.R. Part 503 for land application of sewage sludge.
- F. 40 C.F.R. Part 257 for solid waste disposal facilities and practices.
- G. Ark. Code Ann. § 8-4-101 et seq., Arkansas Water and Air Pollution Control Act.
- H. Ark. Code Ann. § 4-75-601 et seq., Arkansas Trade Secrets Act.
- I. Department of Health (2014). *Rules and Regulations Pertaining to Onsite Wastewater Systems*.
- J. Integrated Water Quality and Assessment Report (305(b) Report).
- K. 2009 OWQ Landfarm Study.
- L. *Practical Handbook of Disturbed Land Revegetation*, Munshower, 1994.
- M. *Wastewater Engineering: Treatment and Reuse: 4th Edition* Table 14-51.
- N. UAEX Self-Study Guide 8: Soil Fertility Management in Pastures essential Nutrient for Plant Growth
- O. *Soils: An Introduction to Soils and Plant Growth: 4th Edition*; Donahue, Miller, & Shickluna; 1977.
- P. USDA Natural Resource Conservation Service, *Indicators for Soil Quality Evaluation*, April 1996.
- Q. US Army Corps of Engineers Regulatory Guidance Letter No. 05-05.
- R. Application for Permit No. 5346-W was received on August 28, 2019.
- S. Additional information submitted January 8, 2020.

17. Public Notice

The public notice describes the procedures for the formulation of final determinations and shall provide for a public comment period of 30 days. During this period, any interested persons may submit written comments on the permit and may request a public hearing to clarify issues involved in the permitting decision. A request for a public hearing shall be in writing and shall state the nature of the issue(s) proposed to be raised in the hearing. A public hearing will be held if the OWQ finds a significant degree of public interest.

The OWQ will notify via an e-mail public notice of the permit to the Corps of Engineers, the U.S. Fish and Wildlife Service, the Arkansas Game and Fish, the Department of Parks, Heritage, and Tourism, the EPA, and the Department of Health for review and comments.