


# Texas Commission on Environmental Quality

---

## INTEROFFICE MEMORANDUM

**To:** Office of Chief Clerk **DATE:** September 11, 2017

**From:** Anthony Tatu   
Staff Attorney  
Environmental Law Division

**Subject:** Backup Documents Filed for Consideration of Hearing Requests at Agenda

Applicant: Denali Water Solutions  
Proposed Permit No.: WQ0005210000  
Program: Water Quality  
Docket No.: TCEQ Docket No. 2017-1148-SLG

Enclosed please find an original and seven copies of the following documents for inclusion in the background material for this permit application:

- Draft permit (Attachment A)
- Fact sheet and Executive Director's Preliminary Decision (Attachment B)
- Compliance History (Attachment C)
- Executive Director's Response to Public Comments (Attachment D)

## **Attachment A**



PERMIT NO. WQ0005210000

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY  
P.O. Box 13087  
Austin, Texas 78711-3087

**PERMIT TO LAND APPLY SEWAGE SLUDGE**  
under provisions of Chapter 26 of the Texas Water Code,  
Chapter 361 of the Texas Health and Safety Code,  
and Chapter 312 of the Texas Administrative Code

**I. PERMITTEE:**

Denali Water Solutions LLC  
3308 Bernice Avenue  
Russellville, Arkansas 72802

**II. AUTHORIZATION:**

Beneficial Land Application of Wastewater Treatment Plant (WWTP) Sewage Sludge and Water Treatment Plant (WTP) Sludge.

**III. GENERAL DESCRIPTION AND LOCATION OF SITE:**

**Description:** The permittee is authorized to land apply WWTP sewage sludge and WTP sludge at an annual rate not to exceed 12 dry tons per acre per year on 240.2 acres located within approximately 320 acres at this site.\*

\* See Special Provision A.

**Location:** The sludge land application site is located approximately 4.7 miles west of the intersection of Mile 16 Road and Farm-to-Market Road 2058, in Hidalgo and Starr Counties, Texas 78541 (see Attachment A).

**SIC Code:** 4952

**Drainage Basin:** The land application site is located in the drainage basin of the Rio Grande below Falcon Reservoir in Segment No. 2302 of the Rio Grande Basin. No discharge of pollutants into water in the state is authorized by this permit.

This permit and the authorization contained herein shall **expire at midnight five years from the date issued** listed below.

ISSUED DATE:

---

For the Commission

**IV. GENERAL REQUIREMENTS:**

- A. The permittee shall handle and dispose of sewage sludge (including WTP sludge) in accordance with 30 Texas Administrative Code (TAC) Chapter 312 and all other applicable state and federal regulations in a manner that protects public health and the environment from any reasonably anticipated adverse effects due to any toxic pollutants that may be present in the sludge.
- B. An application for renewing this permit shall be submitted by the permittee at least 180 days prior to the expiration date of this permit.
- C. WWTP and WTP sludge
  - 1. In all cases, the generator or processor of sewage sludge shall provide necessary analytical information to the parties who receive the sludge, including those receiving the sewage sludge for land application, to assure compliance with these regulations.
  - 2. The permittee shall not accept sludge that fails the Toxicity Characteristic Leaching Procedure (TCLP) test per the method specified in both 40 Code of Federal Regulations (CFR) Part 261 and 40 CFR Part 268, or another method which receives the prior approval of the Texas Commission on Environmental Quality (TCEQ) for the contaminants listed in Table 1 of 40 CFR Section 261.24.
  - 3. Sewage sludge shall not be applied to the land if the concentration of any metal exceeds the ceiling concentration listed in Table 1 below. Additional information on the frequency of testing for metals is found in Section IX.

Table 1

Pollutant	Ceiling Concentration (milligrams per kilogram)*
Arsenic	75
Cadmium	85
Chromium	3000
Copper	4300
Lead	840
Mercury	57
Molybdenum	75
Nickel	420
Selenium	100
Zinc	7500

\* Dry weight basis

- 4. When the total aggregate amount of any metal in Table 2 below (in all sludge applied at the site during the entire use of this site) reaches the cumulative level listed in Table 2, only sludge with metal levels at or below those shown in Table 3 below can be applied at the site. To compute this number, the total amount of each metal in all sludge applied must be summed on a continuing basis as sludge is applied.

Table 2

Pollutant	Cumulative Pollutant Loading Rate (pounds per acre)
Arsenic	36
Cadmium	35
Chromium	2677
Copper	1339
Lead	268
Mercury	15
Molybdenum	Report Only
Nickel	375
Selenium	89
Zinc	2500

Table 3

Pollutant	Concentration milligrams per kilogram)*
Arsenic	41
Cadmium	39
Chromium	1200
Copper	1500
Lead	300
Mercury	17
Molybdenum	Report Only
Nickel	420
Selenium	36
Zinc	2800

\* Dry weight basis

5. Sludge also cannot be applied in excess of the most restrictive of the following criteria:
  - a. The maximum sludge application rate (MSAR) based on crop nitrogen needs (also referred to as the agronomic rate), which is calculated based on the total amount of nitrogen in the sludge and in the soils at the application site and on the nitrogen requirements of the vegetation in the application area.
  - b. The MSAR for each metal pollutant in Table 1 above, which is calculated individually for each metal based on its concentration in the sludge and in the soils in the application area.
6. All of the MSARs above must be calculated using Appendix A of the "Application for Permit for Beneficial Land Use of Sewage Sludge." If sludge is received from multiple sources, the average concentration of each of the elements above must be determined using "Table 2 - Volume Weighted Average (Mean) of Nutrient and Pollutant Concentration" from the application form.
7. Anytime the permittee plans to accept WWTP or WTP sludge from any source other than those listed in the application and approved for this permit, the permittee must notify and receive authorization from the Water Quality Division (MC 150) of the TCEQ prior to receiving the new sludge. The notification must include information to demonstrate that the sludge from the proposed new source meets the requirements of this permit. The permittee must provide a certification from each source that the sludge meets the requirements for a Process to Significantly Reduce Pathogens (PSRP) or an alternative. The permittee must provide documentation that the sludge meets the limits for polychlorinated biphenyls (PCBs), vector attraction, and the metal pollutants in Table 1 above. No sludge from sources other than the ones listed in the application can be land applied prior to receiving written authorization from the TCEQ.

- D. The permittee shall maintain a commercial liability insurance policy for the duration of the permit that:
1. is issued by an insurance company authorized to do business in this state that has a rating by the A.M. Best Company of A- or better;
  2. designates the commission as an additional insured; and
  3. is in an amount of not less than \$3 million.
- E. The permittee shall maintain an environmental impairment insurance policy for the duration of the permit that:
1. is issued by an insurance company authorized to do business in this state that has a rating by the A.M. Best Company of A- or better;
  2. designates the commission as an additional insured; and
  3. is in an amount of not less than \$3 million.

#### **V. OPERATIONAL REQUIREMENTS:**

The operation and maintenance of this land application site must be in accordance with 30 TAC Chapter 312 and 40 CFR Part 503 as they relate to land application for beneficial use. All applicable local and county ordinances must also be followed.

#### **VI. REQUIRED MANAGEMENT PRACTICES:**

- A. Sludge applications must not cause or contribute to the harm of a threatened or endangered species of plant, fish, or wildlife or result in the destruction or adverse modification of the critical habitat of a threatened or endangered species.
- B. Sludge must not be applied to land that is flooded, frozen, or snow-covered to prevent the entry of bulk sewage sludge into wetlands or other water in the state.
- C. Sludge shall be land applied in a manner which complies with 30 TAC Section 312.44, Management Requirements, including maintaining the following buffer zones for each application area.
- |  |          |
|--|----------|
| 1. Established school, institution, business or residence  | 750 feet |
| 2. Public water supply well, intake, spring, or similar source, public water treatment plant, or public water supply elevated or ground storage tank | 500 feet |
| 3. Solution channel, sinkhole, or other conduit to groundwater   | 200 feet |
| 4. Water in the state - when sludge is not incorporated  | 200 feet |
| 5. Water in the state - when sludge is incorporated within 48 hours of application and a vegetated cover is established                              | 33 feet  |
| 6. Private water supply well   | 150 feet |
| 7. Public right-of-way   | 50 feet  |
| 8. Property boundary   | 50 feet  |
| 9. Irrigation conveyance canal   | 10 feet  |
- D. Sludge must be applied to the land at an annual application rate that is equal to or less than the agronomic rate for the vegetation in the area on which the sludge is applied.

- E. The seasonally high water table, groundwater table, or depth to water-saturated soils must be at least three (3) feet below the treatment zone for soils with moderate to slow permeability (less than two inches per hour) or four (4) feet below the treatment zone for soils with rapid to moderately rapid permeability (between two and twenty inches per hour). Sludge cannot be applied to soils with permeation rates greater than twenty inches per hour.
- F. Sludge must be applied by a method and under conditions that prevent runoff beyond the active application area and protect the quality of the surface water and the soils in the unsaturated zone. In addition, the following conditions must be met:
1. sludge must be applied uniformly over the surface of the land;
  2. sludge must not be applied to areas where permeable surface soils are less than 2 feet thick;
  3. sludge must not be applied during rainstorms or during periods in which surface soils are water-saturated;
  4. sludge must not be applied to any areas having a slope in excess of 8%;
  5. where runoff from the active application area is evident, the operator must cease further sludge application until the condition is corrected;
  6. the site operator must prevent public health nuisances. Sludge debris must be prevented from leaving the site. Where nuisance conditions exist, the operator must eliminate the nuisance as soon as possible;
  7. sludge application practices must not allow uncontrolled public access, so as to protect the public from potential health and safety hazards at the site; and
  8. sludge can be applied only to the land application area shown on Attachment B. The buffer zones as listed on that map as well as the buffer zone distances listed in section VI.C. must not have any sludge applied on them.
  9. sludge may not be applied on land within a designated floodway.
- G. The permittee shall post a sign that is visible from a road or sidewalk that is adjacent to the premises where the land application unit is located stating that a beneficial land use application site is located on the premises.

The sign shall be posted three days prior to and 14 days after the commencement of land application of sewage sludge and shall include the operator name, telephone number, the classification of sewage sludge and the TCEQ authorization number.

In the event of reasonably unforeseen circumstances such as weather conditions or equipment failure that necessitate a change in a planned land application site, the required sign may be posted on the day on which sewage sludge land application commences. Records of any deviation of the posting requirements listed in this subsection and associated reasons shall be retained by the operator and be readily available for review by a TCEQ representative.

- H. Sludge must be handled by a method that is consistent with the permittee's Adverse Weather and Alternative Plan. This plan shall detail procedures to address times when the sludge cannot be applied to the land application site due to adverse weather or other conditions such as wind, precipitation, field preparation delays, and access road limitations.

**VII. PATHOGEN CONTROL:**

- A. All sewage sludge that is applied to agricultural land, a forest, a public contact site, or a reclamation site must be treated by one of the following methods to ensure that the sludge meets either the Class A, Class AB or Class B pathogen requirements.

1. For sewage sludge to be classified as Class A with respect to pathogens, the density of fecal coliform in the sewage sludge be less than 1,000 most probable number (MPN) per gram of total solids (dry weight basis), or the density of *Salmonella* sp. bacteria in the sewage sludge be less than three MPN per four grams of total solids (dry weight basis) at the time the sewage sludge is used or disposed. In addition, one of the alternatives listed below must be met.

Alternative 1 - The temperature of the sewage sludge that is used or disposed shall be maintained at or above a specific value for a period of time. See 30 TAC § 312.82(a)(3)(A) for specific information.

Alternative 5 (PFRP) - Sewage sludge that is used or disposed of must be treated in one of the Processes to Further Reduce Pathogens (PFRP) described in 40 CFR Part 503, Appendix B. PFRP include composting, heat drying, heat treatment, and thermophilic aerobic digestion.

Alternative 6 (PFRP Equivalent) - Sewage sludge that is used or disposed of must be treated in a process that has been approved by the U. S. Environmental Protection Agency as being equivalent to those in Alternative 5.

2. For sewage sludge to be classified as Class AB with respect to pathogens, the density of fecal coliform in the sewage sludge be less than 1,000 MPN per gram of total solids (dry weight basis), or the density of *Salmonella* sp. bacteria in the sewage sludge be less than three MPN per four grams of total solids (dry weight basis) at the time the sewage sludge is used or disposed. In addition, one of the alternatives listed below must be met.

Alternative 2 - The pH of the sewage sludge that is used or disposed shall be raised to above 12 std. units and shall remain above 12 std. units for 72 hours.

The temperature of the sewage sludge shall be above 52° Celsius for 12 hours or longer during the period that the pH of the sewage sludge is above 12 std. units.

At the end of the 72-hour period during which the pH of the sewage sludge is above 12 std. units, the sewage sludge shall be air dried to achieve a percent solids in the sewage sludge greater than 50%.

Alternative 3 - The sewage sludge shall be analyzed for enteric viruses prior to pathogen treatment. The limit for enteric viruses is less than one Plaque-forming Unit per four grams of total solids (dry weight basis) either before or following pathogen treatment. See 30 TAC §312.82(a)(2)(B)(i-iii) for specific information. The sewage sludge shall be analyzed for viable helminth ova prior to pathogen treatment. The limit for viable helminth ova is less than one per four grams of total solids (dry weight basis) either before or following pathogen treatment. See 30 TAC §312.82(a)(2)(B)(iv-vi) for specific information.

Alternative 4 - The density of enteric viruses in the sewage sludge shall be less than one Plaque-forming Unit per four grams of total solids (dry weight basis) at the time the sewage sludge is used or disposed. The density of viable helminth ova in the sewage sludge shall be



less than one per four grams of total solids (dry weight basis) at the time the sewage sludge is used or disposed. See 30 TAC §312.82(a)(2)(C) for specific information.

3. Sewage sludge that meets the requirements of Class AB sewage sludge may be classified a Class A sewage sludge if a variance request is submitted in writing that is supported by substantial documentation demonstrating equivalent methods for reducing odors and written approval is granted by the executive director. The executive director may deny the variance request or revoke that approved variance if it is determined that the variance may potentially endanger human health or the environment, or create nuisance odor conditions.
4. Three alternatives are available to demonstrate compliance with the Class B criteria for sewage sludge.

- Alternative 1
- i. A minimum of seven random samples of the sewage sludge must be collected within 48 hours of the time the sewage sludge is used or disposed of during each monitoring episode for the sewage sludge.
  - ii. A minimum of seven random samples of the sewage sludge must be collected within 48 hours of the time the sewage sludge is used or disposed of during each monitoring episode for the sewage sludge.

Alternative 2 Sewage sludge that is used or disposed of must be treated in one of the PSRP described in 40 CFR Part 503, Appendix B, so long as all of the following requirements are met by the generator of the sewage sludge.

- i. Prior to use or disposal, all the sewage sludge must have been generated from a single location, except as provided in subparagraph v. below;
- ii. An independent Texas licensed professional engineer must provide a certification to the generator of sewage sludge that the wastewater treatment facility generating the sewage sludge is designed to achieve one of the PSRP at the permitted design loading of the facility. The certification need only be repeated if the design loading of the facility is increased. The certification must include a statement indicating the design meets all the applicable standards specified in Appendix B of 40 CFR Part 503;
- iii. Prior to any off-site transportation or on-site use or disposal of any sewage sludge generated at a wastewater treatment facility, the chief certified operator of the wastewater treatment facility or other responsible official who manages the processes to significantly reduce pathogens at the wastewater treatment facility for the permittee, shall certify that the sewage sludge underwent at least the minimum operational requirements necessary in order to meet one of the PSRP. The acceptable processes and the minimum operational and record keeping requirements shall be in accordance with established EPA final guidance;
- iv. All certification records and operational records describing how the requirements of this paragraph were met must be kept by the generator for a minimum of three years and be available for inspection by commission staff for review; and

- v. All certification records and operational records describing how the requirements of this paragraph were met must be kept by the generator for a minimum of three years and be available for inspection by commission staff for review; and

Alternative 3 Sewage sludge must be treated in an equivalent process that has been approved by the EPA so long as all of the following requirements are met by the generator of the sewage sludge:

- i. prior to use or disposal, all the sewage sludge must have been generated from a single location, except as provided in subparagraph v. below;
- ii. prior to any off-site transportation or on-site use or disposal of any sewage sludge generated at a wastewater treatment facility, the chief certified operator of the wastewater treatment facility or other responsible official who manages the processes to significantly reduce pathogens at the wastewater treatment facility for the permittee, shall certify that the sewage sludge underwent at least the minimum operational requirements necessary in order to meet one of the PSRP. The acceptable processes and the minimum operational and record keeping requirements must be in accordance with established EPA final guidance;
- iii. all certification records and operational records describing how the requirements of this paragraph were met must be kept by the generator for a minimum of three years and be available for inspection by commission staff for review;
- iv. the executive director will accept from the EPA a finding of equivalency to the defined PSRP; and
- v. if the sewage sludge is generated from a mixture of sources resulting from a person who prepares sewage sludge from more than one wastewater treatment facility, the resulting derived product must meet one of the PSRP and must meet the certification, operation, and record keeping requirements of this paragraph.

B. In addition, the following site restrictions must be met if Class B sludge is land applied:

1. food crops with harvested parts that touch the sewage sludge/soil mixture and are totally above the land surface must not be harvested for 14 months after the application of sewage sludge;
2. food crops with harvested parts below the surface of the land shall not be harvested for 20 months after the application of sewage sludge when the sewage sludge remains on the land surface for 4 months or longer prior to incorporation into the soil;
3. food crops with harvested parts below the surface of the land shall not be harvested for 38 months after the application of sewage sludge when the sewage sludge remains on the land surface for less than 4 months prior to incorporation into the soil;
4. food crops, feed crops, and fiber crops shall not be harvested for 30 days after the application of sewage sludge;

5. animals shall not be allowed to graze on the land for 30 days after the application of sewage sludge;
6. turf grown on land where sewage sludge is applied shall not be harvested for 1 year after the application of the sewage sludge when the harvested turf is placed on either land with a high potential for public exposure or a lawn;
7. public access to land with a high potential for public exposure shall be restricted for 1 year after the application of sewage sludge;
8. public access to land with a low potential for public exposure shall be restricted for 30 days after the application of sewage sludge; and
9. land application of sludge shall be in accordance with the buffer zone requirements found in 30 TAC §312.44.

### **VIII. VECTOR ATTRACTION REDUCTION REQUIREMENTS:**

- A. All bulk sewage sludge that is applied to agricultural land, a forest, a public contact site, or a reclamation site shall be treated in accordance with one of the following alternatives for vector attraction reduction.

Alternative 1 The mass of volatile solids in the sewage sludge shall be reduced by a minimum of 38 percent [30 TAC §312.83(b)(1)].

Alternative 2 If Alternative 1 cannot be met for an anaerobically digested sludge, vector attraction reduction can be demonstrated by digesting a portion of the previously digested sludge anaerobically in the laboratory in a bench-scale unit for 40 additional days at a temperature between 30 and 37 degrees Celsius. Volatile solids must be reduced by less than 17 percent to demonstrate compliance [30 TAC §312.83(b)(2)].

Alternative 3 If Alternative 1 cannot be met for an aerobically digested sludge, vector attraction reduction can be demonstrated by digesting a portion of the previously digested sludge with a percent solids of two percent or less aerobically in the laboratory in a bench-scale unit for 30 additional days at 20 degrees Celsius. Volatile solids must be reduced by less than 15 percent to demonstrate compliance [30 TAC §312.83(b)(3)].

Alternative 4 The specific oxygen uptake rate (SOUR) for sewage sludge treated in an aerobic process must be equal to or less than 1.5 milligrams of oxygen per hour per gram of total solids (dry weight basis) at a temperature of 20 degrees Celsius [30 TAC §312.83(b)(4)]. This test may only be run on sludge with a total percent solids of two percent or less.

Alternative 5 Sewage sludge shall be treated in an aerobic process for 14 days or longer. During that time, the temperature of the sewage sludge shall be higher than 40 degrees Celsius and the average temperature of the sewage sludge shall be higher than 45 degrees Celsius [30 TAC §312.83(b)(5)].

Alternative 6 The pH of sewage sludge shall be raised to 12 or higher by alkali addition and, without the addition of more alkali shall remain at 12 or higher for two hours and then remain at a pH of 11.5 or higher for an additional 22 hours [30 TAC

§312.83(b)(6)]. This must be done at the time the sewage sludge is prepared for sale or given away in a bag or other container.

Alternative 7 The percent solids of sewage sludge that does not contain unstabilized solids generated in a primary wastewater treatment process shall be equal to or greater than 75 percent based on the moisture content and total solids prior to mixing with other materials [30 TAC §312.83(b)(7)]. Unstabilized solids are defined as organic materials in sewage sludge that have not been treated in either an aerobic or anaerobic treatment process.

Alternative 8 The percent solids of sewage sludge that contains unstabilized solids generated in a primary wastewater treatment process shall be equal to or greater than 90 percent based on the moisture content and total solids prior to mixing with other materials [30 TAC §312.83(b)(8)]. This shall be done at the time the sludge is used. Unstabilized solids are defined as organic materials in sewage sludge that have not been treated in either an aerobic or anaerobic treatment process.

Alternative 9 Sewage sludge shall be injected below the surface of the land. No significant amount of the sewage sludge shall be present on the land surface within one hour after the sewage sludge is injected. When sewage sludge that is injected below the surface of the land is Class A or Class AB with respect to pathogens, the sewage sludge shall be injected below the land surface within eight hours after being discharged from the pathogen treatment process [30 TAC §312.83(b)(9)].

Alternative 10 Sewage sludge applied to the land surface or placed on a surface disposal site shall be incorporated into the soil within six hours after application to or placement on the land. When sewage sludge that is incorporated into the soil is Class A or Class AB with respect to pathogens, the sewage sludge shall be applied to or placed on the land within eight hours after being discharged from the pathogen treatment process [30 TAC §312.83(b)(10)].

## **IX. MONITORING REQUIREMENTS:**

The sewage sludge must be monitored according to 30 TAC §312.46(a)(1) for the ten metals in Table 1 of Section IV.C.3, pathogen reduction, and vector attraction reduction.

- A. If the concentration of nitrogen or any of the metals in Table 1 in Section IV.C.3 exceeds the concentration used to calculate any of the MSARs in Section IV.C.5 and 6, the MSAR for that element must be recalculated. If the sludge comes from multiple sources, the permittee must use Table 2 in Section IV.C.4 to calculate a volume weighted average of all sludge that will be applied during the current monitoring period.
- B. After the sludge has been monitored according to 30 TAC §312.46(a)(1) for a period of two years, an application may be submitted to amend this permit to reduce the frequency of monitoring.
- C. The frequency of monitoring will be increased if recalculation of the agronomic rate increases the amount of sludge that can be applied to a higher threshold, as shown in 30 TAC §312.46(a)(1). The frequency of monitoring may also be increased if the TCEQ determines that the level of pollutants or pathogens in the sludge warrants such action.
- D. If WWTP and WTP sludge is received at this site for land application then the permittee must ensure that the test data for TCLP and PCBs is provided from the generators.

- E. All metal constituents and fecal coliform or *Salmonella* sp. bacteria shall be monitored at the appropriate frequency pursuant to 30 TAC §312.46(a)(1).
- F. Representative samples of sewage sludge shall be collected and analyzed in accordance with the methods referenced in 30 TAC §312.7.
- G. All laboratory tests submitted to demonstrate compliance with this permit must meet the requirements of 30 TAC Chapter 25, Environmental Testing Laboratory Accreditation and Certification.

#### **X. RECORD KEEPING REQUIREMENTS:**

The permittee shall fulfill record keeping requirements per 30 TAC §312.47. The documents shall be retained at the site and shall be readily available for review by a TCEQ representative.

- A. Records of the following general information must be kept for all types of sludge land application permits:
  - 1. a certification statement that all applicable requirements (specifically listed) have been met and the permittee understands that there are significant penalties for false certification, including fines and imprisonment. See 30 TAC §312.47(a)(4)(A)(ii) or (a)(5)(A)(ii), whichever is applicable;
  - 2. the location, by street address, and specific latitude and longitude, of each site on which sewage sludge (including WTP sludge) is applied;
  - 3. the number of acres in each site on which bulk sludge is applied;
  - 4. the dates, times, and quantities of sludge applied to each site;
  - 5. the cumulative amount of each pollutant in pounds per acre listed in Table 2 of Section IV.C.4 applied to each site;
  - 6. the total amount of sludge applied to each site in dry tons; and
  - 7. a description of how the management practices listed in Section IV.C., and 30 TAC §312.44 are being met. If these requirements are being met, the permittee shall prepare and keep a certification statement per 30 TAC §312.47(a)(5)(B)(viii).
- B. For sewage sludge with metal concentrations at or below levels in Table 3 of Section IV.C.4 that also meets the Class A or Class AB pathogen requirements in 30 TAC §312.82(a) and the vector attraction reduction requirements in 30 TAC §312.83(b)(9) or (10), the permittee shall keep a record of a description of how the vector attraction reduction requirements are met. If these requirements are being met, the permittee shall prepare and keep a certification statement per 30 TAC §312.47(a)(5)(B)(xii).
- C. For sewage sludge with metal concentrations at or below levels in Table 3 of Section IV.C.4 that also meets the Class B pathogen requirements in 30 TAC §312.82(b), and the vector attraction reduction requirements in 30 TAC §312.83(b)(9) or (10), the permittee shall keep a record of:
  - 1. a description of how site restrictions for Class B sludge in 30 TAC §312.82(b)(3) are being met. If these requirements are being met, the permittee shall prepare and keep a certification statement per 30 TAC §312.47(a)(5)(B)(x); and

2. a description of how the vector attraction reduction requirements in 30 TAC §312.83(b)(9) or (10) are being met. If these requirements are being met, the permittee shall prepare and keep a certification statement per 30 TAC §312.47(a)(5)(B)(xii).
- D. For sewage sludge with metal concentrations at or below levels in Table 1 of Section IV.C.3 that also meets the Class B pathogen requirements in 30 TAC §312.82(b), and the vector attraction reduction requirements in 30 TAC §312.83(b)(9) or (10), the permittee shall keep a record of:
1. a description of how the requirements to obtain information from the sludge generators in 30 TAC §312.42(e) are being met. If these requirements are being met, the permittee shall prepare and keep a certification statement per 30 TAC §312.47(a)(5)(B)(vi);
  2. a description of how the site restrictions for Class B sludge in 30 TAC §312.82(b)(3) are being met. If these requirements are being met, the permittee shall prepare and keep a certification statement per 30 TAC §312.47(a)(5)(B)(x); and
  3. a description of how the vector attraction reduction requirements in 30 TAC §312.83(b)(9) or (10) are being met. If these requirements are being met, the permittee shall prepare and keep a certification statement per 30 TAC §312.47(a)(5)(B)(xii).

## **XI. REPORTING REQUIREMENTS:**

- A. The permittee shall submit a separate annual report by September 30<sup>th</sup> of each year per 30 TAC §312.48 for each site. The annual report must include all the information required under 30 TAC §312.48 (including the items listed below) for a period covering September 1<sup>st</sup> of the previous year through August 31<sup>st</sup> of the current year. Additionally, the “Annual Sludge Summary Report Form” (Attachment C) should be filled out and submitted with the annual report. The permittee shall submit the report to the Land Application Team of the Water Quality Assessment Section (MC 150) and the TCEQ Regional Office (MC Region 15). Record retention requirements must be followed in accordance with 30 TAC §312.47. The following information must be included in the report:
1. Annual Sludge Summary Sheet (a blank form is provided as Attachment C) with the following information:
    - i. permit number;
    - ii. the site location (address or latitude and longitude);
    - iii. operator address, contact person’s name, telephone number, and fax number;
    - iv. amount of sludge applied (dry metric tons) at each land application site;
    - v. number of acres on which sludge is land applied;
    - vi. vegetation grown and number of cuttings; and
    - vii. other items listed in the summary sheet.
  2. If the sludge concentration for any metal listed in Table 3 of Section IV.C.4 is exceeded, the report must include the following information:

- i. date and time of each sludge application;
    - ii. all certification statements required under 30 TAC §312.47(a)(5)(B);
    - iii. a description of how the information from the sludge generator was obtained, per 30 TAC §312.42(e);
    - iv. a description of how each of the management practices in 30 TAC §312.44 were met for this site;
    - v. a description of how the site restrictions in 30 TAC §312.82(b)(3) were met for this site;
    - vi. if the vector attraction reduction requirements in 30 TAC §312.83(b)(9) or (10) were met, a description of how this was done;
    - vii. soil and sludge test reports, as required in Section XII of this permit; and
    - viii. calculations of the current agronomic sludge application rate and the life of the site based on metal loadings (Appendix A of the application, or a similar form).
  3. If none of the concentrations for the metals exceed the values listed in Table 3 in Section IV.C.4:
    - i. information per 30 TAC §312.47(a)(3)(B) for Class A sludge; and
    - ii. information per 30 TAC §312.47(a)(4)(B) for Class B Sludge.
  4. When the amount of any pollutant applied to the land exceeds 90% of the cumulative pollutant loading rate for that pollutant, as described in Table 2 in Section IV.C.4, the permittee shall provide the following additional information:
    - i. date and time of each sludge application;
    - ii. the information in 30 TAC §312.47(a)(5)(A) must be obtained from the sludge generator and included in the report; and
    - iii. the cumulative amount in pounds per acre of each pollutant listed in Table 2 in Section IV.C.4 applied to each application field of this site through bulk sewage sludge.
  5. The permittee shall submit evidence it is complying with the nutrient management plan developed by a certified nutrient management specialist in accordance with the practice standards of the Natural Resources Conservation Service of the United States Department of Agriculture.
- B. The permittee shall submit a quarterly report by the 15<sup>th</sup> day of the month following each quarter during the reporting period (ie. quarterly reports will be due December 15<sup>th</sup>, March 15<sup>th</sup>, June 15<sup>th</sup>, and September 15<sup>th</sup>). Additionally, the “Quarterly Sludge Summary Report Form” (Attachment D) should be filled out and submitted with the quarterly report. The permittee shall submit the report to the Land Application Team of the Water Quality Assessment Section (MC 150) and the TCEQ Regional Office (MC Region 15). Record retention requirements must be followed in accordance with 30 TAC §312.47. The Quarterly Sludge Summary Report Form must include the following information:

1. the source, quality, and quantity of sludge applied to the land application unit;
2. the location of the land application unit, either in terms of longitude and latitude or by physical address, including the county;
3. the dates of delivery of Class B sludge;
4. the dates of application of Class B sludge;
5. the cumulative amount of metals applied to the land application unit through the application of Class B sludge;
6. crops grown at the land application unit site; and
7. the suggested agronomic application rate for the Class B sludge.



**XII. SOIL SAMPLING AND ANALYSIS:**

The permittee is required to notify the local TCEQ Regional Office 48 hours prior to taking annual soil samples at the permitted site. Samples will need to be taken within the same 45-day period each year, or under an approved sampling plan and analyzed within 30 days of sample collection.

The permittee must monitor the soil-sludge mixture for the site for the parameters listed below using the soil sampling requirements described in 30 TAC §312.11(d)(2) and (3). Analytical results must be provided on a dry weight basis. The Soil Sampling and Analysis plan shall be provided to the analytical laboratory prior to sample analysis.

No.	PARAMETER	NOTE	FREQUENCY	SAMPLE DEPTH	
				0" - 6"	6" - 24"
1.	Nitrate Nitrogen (NO <sub>3</sub> -N, mg/kg)	1	1 per year	X	X
2.	Ammonium Nitrogen (NH <sub>4</sub> -N, mg/kg)	1	1 per year	X	X
3.	Total Nitrogen (TKN, mg/kg)	2	1 per year	X	X
4.	Phosphorus (plant available, mg/kg)	3	1 per year	X	X
5.	Potassium (plant available, mg/kg)	3	1 per year	X	X
6.	Sodium (plant available, mg/kg)	3	1 per year	X	X
7.	Magnesium (plant available, mg/kg)	3	1 per year	X	X
8.	Calcium (plant available, mg/kg)	3	1 per year	X	X
9.	Electrical Conductivity	4	1 per year	X	X
10.	Soil Water pH (S.U.)	5	1 per year	X	X
11.	Total Arsenic (mg/kg)	6	1 per 5 years	X	N/A
12.	Total Cadmium (mg/kg)	6	1 per 5 years	X	N/A
13.	Total Chromium (mg/kg)	6	1 per 5 years	X	N/A
14.	Total Copper (mg/kg)	6	1 per 5 years	X	N/A
15.	Total Lead (mg/kg)	6	1 per 5 years	X	N/A
16.	Total Mercury (mg/kg)	6	1 per 5 years	X	N/A
17.	Total Molybdenum (mg/kg)	6	1 per 5 years	X	N/A
18.	Total Nickel (mg/kg)	6	1 per 5 years	X	N/A
19.	Total Selenium (mg/kg)	6	1 per 5 years	X	N/A
20.	Total Zinc (mg/kg)	6	1 per 5 years	X	N/A

1. Determined in a 1 N KCl soil extract (<http://soiltesting.tamu.edu/webpages/swftlmethods1209.html>).
2. Determined by Kjeldahl digestion or an equivalent accepted procedure. Methods that rely on Mercury as a catalyst are not acceptable.
3. Mehlich III extraction (yields plant-available concentrations) with inductively coupled plasma.
4. Electrical Conductivity (EC) - determined from extract of 2:1 (volume/volume) water/soil mixture and expressed in dS/m (same as mmho/cm).
5. Soil pH must be analyzed by the electrometric method, Method 9045C, in "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods" EPA SW-846, as referenced in 40 CFR §260.11 - determined from extract of 2:1 (volume/volume) water/soil mixture.
6. Analysis for metals in soil must be performed according to methods outlined in "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods" EPA SW-846; method 3050B.

**XIII. STANDARD PROVISIONS:**

- A. This permit is granted in accordance with the Texas Water Code, Texas Health and Safety Code, the rules and other Orders of the Commission and other applicable laws of the State of Texas.
- B. Unless specified otherwise, any noncompliance which may endanger human health or safety, or the environment shall be reported to the TCEQ. A report of such information must be provided orally or by facsimile transmission (FAX) to the TCEQ Regional Office (MC Region 15) within 24 hours of becoming aware of the noncompliance. A written submission of such information must also be provided to the TCEQ Regional Office (MC Region 15) and to the Enforcement Division (MC 224) within five working days of becoming aware of the noncompliance. The written submission must contain a description of the noncompliance and its cause; the potential danger to human health or safety, or the environment; the period of noncompliance, including exact dates and times; if the noncompliance has not been corrected, the anticipated amount of time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent recurrence of the noncompliance, and to mitigate its adverse effects.
- C. Any noncompliance other than that specified in Standard Provision B, or any required information not submitted or submitted incorrectly, must be reported to the TCEQ Enforcement Division (MC 224) as promptly as possible.
- D. Acceptance of this permit constitutes an acknowledgment and agreement that the permittee shall comply with all the terms, provisions, conditions, limitations and restrictions embodied in this permit and with the rules and other Orders of the Commission and the laws of the State of Texas. Agreement is a condition precedent to the granting of this permit.
- E. Prior to any transfer of this permit, Commission approval must be obtained. The Commission must be notified, in writing, of any change in control or ownership of facilities authorized by this permit. Such notification should be sent to the Applications Review and Processing Team (MC 150) of the Water Quality Division.
- F. The application pursuant to which the permit has been issued is incorporated herein; provided, however, that in the event of a conflict between the provisions of this permit and the application, the provisions of the permit will control.
- G. The permittee is subject to the provisions of 30 TAC §305.125.
- H. The permittee shall remit to the Commission annual fees per 30 TAC §312.9. Failure to pay the fees on time may result in revocation of this permit.
- I. The permittee does not have a vested right in this permit.
- J. The permittee may not accept Class B sludge unless the sludge has been transported to the land application unit in a covered container with the covering firmly secured at the front and back.
- K. This permit does not allow for the land application of chemical toilet waste, grease and grit trap waste, milk solids, or similar non-hazardous municipal or industrial solid wastes.

**XIV. SPECIAL PROVISIONS:**

- A. For the first year of this permit, the maximum sludge application rate shall not exceed 12 dry tons per acre per year. On an annual basis, the sludge application rate shall be calculated and adjusted based on current sludge and soil monitoring results. This application rate that is submitted in each annual sludge report shall not exceed the overall maximum application rate of 12 dry tons per acre per year.
- B. During times of land application of sludge, all buffer zones must be distinguished by the use of flags, posting, or fencing to ensure that buffer areas and land application areas are separated from each other.
- C. The permittee shall consider nutrient management practices appropriate for the land application of sewage sludge and assess the potential risk for nitrogen and phosphorus to contribute to water quality impairments. Information and assistance on a certification program for Nutrient Management Specialists is available online at <http://nmp.tamu.edu>.

Nutrient management shall be practiced within the context of the Natural Resources Conservation Service Code 590 Practice Standard, which addresses the kind, source, placement, form, amount, timing, and application method of nutrients and soil amendments. This is available online at:

[http://www.nrcs.usda.gov/Internet/FSE\\_DOCUMENTS/stelprdb1046896.pdf](http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/stelprdb1046896.pdf). The 590 Standard should be conducted using the Phosphorus Index, a simple screening tool used to rank the vulnerability of fields as sources of phosphorus loss to surface runoff. Information on the Phosphorus Index is available online at:

[http://efotg.sc.egov.usda.gov/references/public/TX/TXTechNote15\\_December\\_2012\\_Texas\\_P\\_Index.pdf](http://efotg.sc.egov.usda.gov/references/public/TX/TXTechNote15_December_2012_Texas_P_Index.pdf). The annual analysis of extractable phosphorus in soil samples shall be conducted using the Mehlich III extraction with inductively coupled plasma.

- D. All sludge staging areas shall be located outside the buffer zones required by 30 TAC §312.44(c).
- E. Sewage sludge shall not be land applied to the topographical depression indicated on the United States Geological Survey Topographic Map in Attachment B.

**Attachment A**

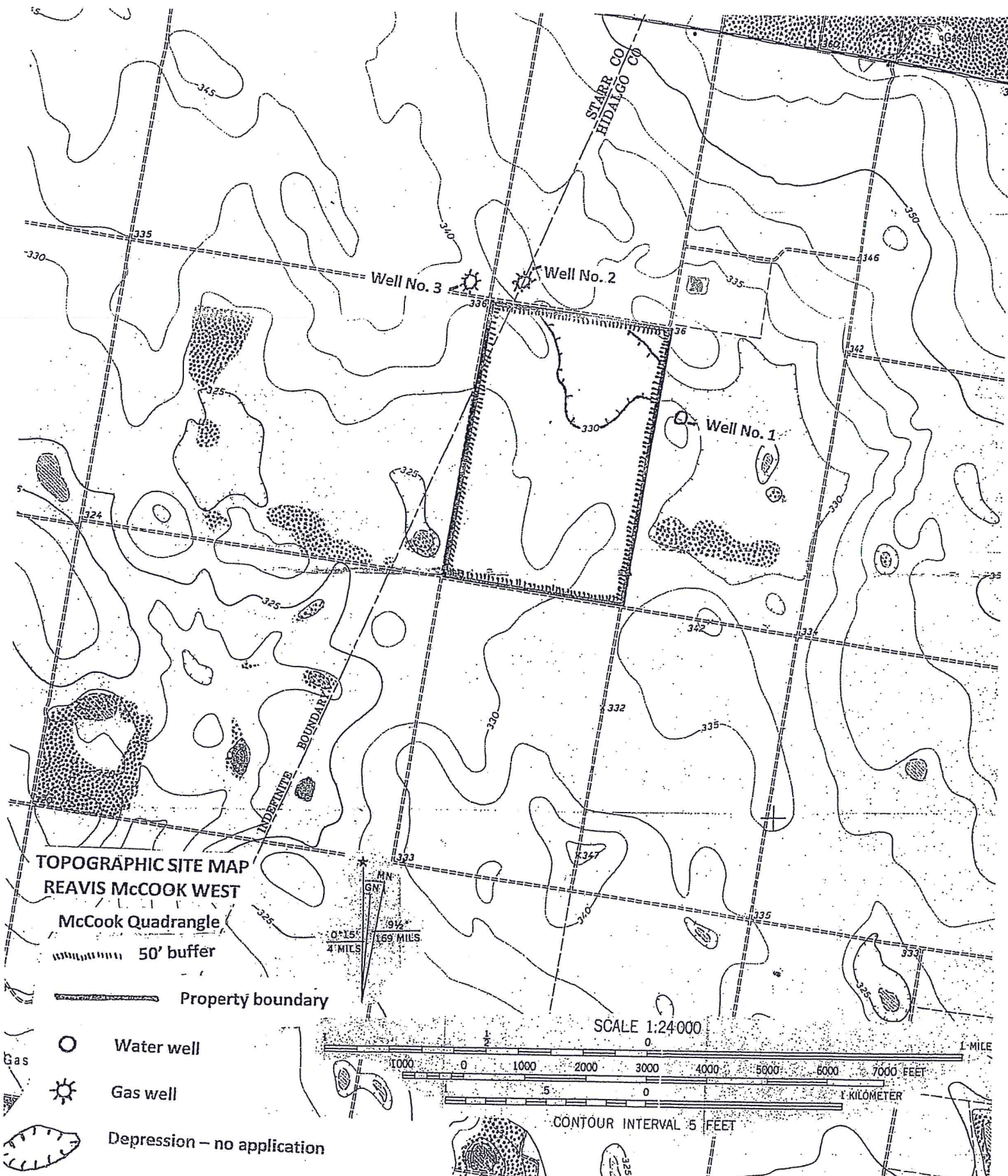
The map displays the geographical layout of Starr and Hidalgo counties, Texas. Key features include:

- Counties:** STARR and HIDALGO.
- Major Roads:** Highway 2294 (Santa Anna Rd), Highway 531, and Highway 490.
- Local Roads:** Santa Anna Rd, Flemen Rangel, Los Cowboys Rd, 14 Mile Rd, 16 Mile Rd, 18 Mile Rd, 12 Mile Rd, 13 Mile Rd, 14 Mile Rd, 15 Mile Rd, 16 Mile Rd, 17 Mile Rd, 18 Mile Rd, 19 Mile Rd, 20 Mile Rd, 21 Mile Rd, 22 Mile Rd, 23 Mile Rd, 24 Mile Rd, 25 Mile Rd, 26 Mile Rd, 27 Mile Rd, 28 Mile Rd, 29 Mile Rd, 30 Mile Rd, 31 Mile Rd, 32 Mile Rd, 33 Mile Rd, 34 Mile Rd, 35 Mile Rd, 36 Mile Rd, 37 Mile Rd, 38 Mile Rd, 39 Mile Rd, 40 Mile Rd, 41 Mile Rd, 42 Mile Rd, 43 Mile Rd, 44 Mile Rd, 45 Mile Rd, 46 Mile Rd, 47 Mile Rd, 48 Mile Rd, 49 Mile Rd, 50 Mile Rd, 51 Mile Rd, 52 Mile Rd, 53 Mile Rd, 54 Mile Rd, 55 Mile Rd, 56 Mile Rd, 57 Mile Rd, 58 Mile Rd, 59 Mile Rd, 60 Mile Rd, 61 Mile Rd, 62 Mile Rd, 63 Mile Rd, 64 Mile Rd, 65 Mile Rd, 66 Mile Rd, 67 Mile Rd, 68 Mile Rd, 69 Mile Rd, 70 Mile Rd, 71 Mile Rd, 72 Mile Rd, 73 Mile Rd, 74 Mile Rd, 75 Mile Rd, 76 Mile Rd, 77 Mile Rd, 78 Mile Rd, 79 Mile Rd, 80 Mile Rd, 81 Mile Rd, 82 Mile Rd, 83 Mile Rd, 84 Mile Rd, 85 Mile Rd, 86 Mile Rd, 87 Mile Rd, 88 Mile Rd, 89 Mile Rd, 90 Mile Rd, 91 Mile Rd, 92 Mile Rd, 93 Mile Rd, 94 Mile Rd, 95 Mile Rd, 96 Mile Rd, 97 Mile Rd, 98 Mile Rd, 99 Mile Rd, 100 Mile Rd.
- Locations:** Santa Guadalupe, Guadalupe Torres, McCook, Immaculate Conception, Reavis McCook West (shaded area).
- Other Features:** A north arrow in the upper right corner.

**Attachment B**



Attachment B



## Attachment C

**Annual Sludge Summary Report Form**

Note 1: If your site has more than one land application field, please submit a separate form for each field.

Note 2: Please note, in addition to the summary form, you need to submit all information as required by 30 TAC 312.48.

Note 3: If you operate other registered/permitted sludge land application sites, a form should be submitted for each site.

Note 4: Also send one complete copy of your report and this form to the TCEQ regional office in your area.

For TCEQ Fiscal Year: _____	Reporting period: From September 1, _____ to August 31, _____
Registration No: _____	Date _____
Name of Registrant: _____	
Mailing Address: _____	
Contact Person: _____	Name: _____ Telephone No: _____

**Field No. (if any): \_\_\_\_\_ (Please submit a separate form for each field).**

1. Sewage Sludge:
    - a. Land Applied: \_\_\_\_\_ dry tons/year
    - b. Disposed Via Monofill: \_\_\_\_\_ dry tons/year
    - c. Disposed Via MSW Landfill: \_\_\_\_\_ dry tons/year
  2. Treated Domestic Septage - Land Applied: \_\_\_\_\_ gallons/year
    - a. Method used to treat Domestic Septage: \_\_\_\_\_
  3. Water Treatment Plant Sludge:
    - a. Land Applied: \_\_\_\_\_ dry tons/year
    - b. Dedicated Land Disposal: \_\_\_\_\_ dry tons/year
    - c. Disposed Via Monofill: \_\_\_\_\_ dry tons/year
- Class A sludge land applied: \_\_\_\_\_ dry tons/year
- Acreage used for Sludge Application/disposal at this site: \_\_\_\_\_ acres

Site Vegetation (such as grass type etc.) and number of cuttings: \_\_\_\_\_

Sewage Sludge only – Please provide information regarding the following 3 items:

1. Does any of the sludge you have generated or received NOT MEET the concentration limits for the metals listed in Table 3 of “30 TAC §312.43 (b)? Yes ☐ No ☐
2. Has your field/site reached or exceeded 90% of the cumulative metal loading rates for any metals as listed in Table 2 of 30 TAC §312.43 (b)? Yes ☐ No ☐
3. Has sewage sludge been applied to the field/site after 90% of cumulative metal loading rates for any of the metals per Table 2 of “30 TAC §312.43 (b)” been reached? Yes ☐ No ☐

**PLEASE MAIL THE COMPLETED ANNUAL REPORT TO:**

Texas Commission on Environmental Quality  
Land Application Team (MC 150)  
Water Quality Assessment Section  
P.O. Box 13087  
Austin, TX 78711-3087



## Attachment D

**Quarterly Sludge Summary Report Form**

Note 1: If your site has more than one land application field, please submit a separate form for each field.

Note 2: Please place this sheet at the top of your Quarterly Sludge Report.

Note 3: If you have more than one permitted site, then fill-out this form for each one of those sites.

Note 4: Please send a copy of this sheet and all attachments to the local TCEQ regional office.

For TCEQ Fiscal Year: _____	Reporting period: From _____ 1, _____ to _____ 31, _____	
Registration No: _____	Date _____	
Name of Registrant: _____		
Mailing Address: _____		
Contact Person: _____	Name: _____	Telephone No: _____

**Field No. (if any): \_\_\_\_\_ (Submit separate form for each field, if site has two or more fields).**

Class B Sewage Sludge Land Applied: \_\_\_\_\_ dry tons /quarter

Treated Domestic Septage - Land Applied: \_\_\_\_\_ gallons / quarter

Method used to treat Domestic Septage: \_\_\_\_\_

Water Treatment Plant Sludge - Land Applied: \_\_\_\_\_ dry tons /quarter

Class A sludge land applied: \_\_\_\_\_ dry tons /quarter

- a. Acreage used for Sludge Application/disposal at this site \_\_\_\_\_
- b. Site Vegetation (such as grass type etc.) and # of cuttings \_\_\_\_\_
- c. Does any of the sludge you have generated or received DOES NOT MEET concentration limits for any of the metals listed in Table 3 of "30 TAC §312.43 (b)? Yes ☐ No ☐
- d. Site location \_\_\_\_\_ Latitude \_\_\_\_\_ Longitude: \_\_\_\_\_
- e. Site physical address: \_\_\_\_\_

Please attach the information regarding the following items (Sewage Sludge only):

\* Please note the following information shall be provided in computer generated report format:

\* Please place check mark before each item below to indicate you have attached that item with this report.

- ☐ 1. Metal concentration, pathogen analysis data and vector attraction certifications of sludge for each source.
- ☐ 2. Provide a list containing the name and permit number of each source of sludge.
- ☐ 3. Date of delivery of each load of sludge land applied.
- ☐ 4. Date of land application of each load of sludge.
- ☐ 5. The cumulative metal loading rates for any metals as listed in Table 2 of 30 TAC §312.43 (b)?"
- ☐ 6. The suggested agronomic rate for the class B sludge.

**PLEASE MAIL THE COMPLETED ANNUAL REPORT TO:**

Texas Commission on Environmental Quality  
 Land Application Team (MC 150)  
 Water Quality Assessment Section  
 P.O. Box 13087  
 Austin, TX 78711-308

## **Attachment B**

## **TECHNICAL SUMMARY AND EXECUTIVE DIRECTOR'S PRELIMINARY DECISION**

### **DESCRIPTION OF APPLICATION**

Applicant: Denali Water Solutions LLC

TCEQ Permit No.: WQ0005210000

Regulated Activity: Beneficial Land Application of Wastewater Treatment Plant (WWTP) Sludge and Water Treatment Plant (WTP) Sludge

Type of Application: New

Request: New Permit

Authority: Texas Water Code §26.027; 30 Texas Administrative Code (TAC) Chapters 281, 305, and 312; Texas Health and Safety Code (THSC) §361.121; and Commission policies.

### **EXECUTIVE DIRECTOR RECOMMENDATION**

The Executive Director has made a preliminary decision that this permit, if issued, meets all statutory and regulatory requirements. The draft permit will expire five years from the date of issuance in accordance with 30 TAC §312.10 and THSC §361.121.

### **REASON FOR PROJECT PROPOSED**

Denali Water Solutions LLC has applied to the Texas Commission on Environmental Quality (TCEQ) for a new permit, Permit No. WQ0005210000, to authorize the beneficial land application of WWTP sewage sludge and WTP sludge.

### **PROJECT DESCRIPTION AND LOCATION**

The land application site will be located approximately 4.7 miles west of the intersection of Mile 16 Road and Farm-to-Market Road 2058 in Hidalgo and Starr Counties, Texas 78541.

No discharge of pollutants into water in the state is authorized by this permit.

### **PROPOSED PERMIT CONDITIONS**

Sludge provisions are included in the draft permit according to the requirements of 30 TAC Chapter 312, Sludge Use, Disposal, and Transportation. The draft permit authorizes the land application of WWTP sewage sludge and WTP sludge for beneficial use on 240.2 acres located within approximately 320 acres.

For the first year of this permit, the maximum sludge application rate shall not exceed 12 dry tons per acre per year. On an annual basis, the sludge application rate shall be calculated and adjusted based on current sludge and soil monitoring results. This application rate that is submitted in each annual sludge report shall not exceed the overall maximum application rate of 12 dry tons per acre per year.

#### SUMMARY OF CHANGES FROM APPLICATION

The maximum overall sludge application rate was decreased from 23.47 dry tons per acre per year to 12 dry tons per acre per year based on the limiting agronomic nutrient needs and protection of water resources.

In response to public comments, the topographic depression shown in the USGS topo map was buffered out reducing the application area acreage from 302.9 acres to 240.2 acres.

#### SUMMARY OF CHANGES FROM EXISTING PERMIT

None. This is a new permit.

#### BASIS FOR DRAFT PERMIT

The following items were considered in developing the draft permit:

1. Application submitted on August 30, 2016 and additional information dated September 22, 2016, September 27, 2016, and November 2, 2016.
2. Interoffice Memorandum from the TCEQ Regional Office (MC Region 15), Water Quality Assessment Team, Water Quality Division.

#### PROCEDURES FOR FINAL DECISION

When an application is declared administratively complete, the Chief Clerk sends a letter to the applicant advising the applicant to publish the Notice of Receipt of Application and Intent to Obtain Permit in the newspaper. In addition, the Chief Clerk instructs the applicant to place a copy of the application in a public place for review and copying in the county where the facility is or will be located. This application will be in a public place throughout the comment period. The Chief Clerk also mails this notice to any interested persons and, if required, to landowners identified in the permit application. This notice informs the public about the application and provides that an interested person may file comments on the application or request a contested case hearing or a public meeting.

Once a draft permit is completed, it is sent, along with the Executive Director's preliminary decision, as contained in the technical summary or fact sheet, to the Chief Clerk. At that time, the Notice of Application and Preliminary Decision will be mailed to the same people and published in the same newspaper as the prior notice. This notice sets a deadline for making public comments. The applicant must place a copy of the Executive Director's preliminary decision and draft permit in the public place with the application.

Any interested person may request a public meeting on the application until the deadline for filing public comments. A public meeting is intended for the taking of public comment and is not a contested case proceeding.

After the public comment deadline, the Executive Director prepares a response to all significant public comments on the application or the draft permit raised during the public comment period. The Chief Clerk then mails the Executive Director's response to comments and final decision to people who have filed comments, requested a contested case hearing, or requested to be on the mailing list. This notice provides that if a person is not satisfied with the Executive Director's response and decision, they can

Denali Water Solutions LLC

Permit No. WQ0005210000

Technical Summary and Executive Director's Preliminary Decision

request a contested case hearing or file a request to reconsider the Executive Director's decision within 30 days after the notice is mailed.

The Executive Director will issue the permit unless a written hearing request or request for reconsideration is filed within 30 days after the Executive Director's response to comments and final decision is mailed. If a hearing request or request for reconsideration is filed, the Executive Director will not issue the permit and will forward the application and request to the TCEQ Commissioners for their consideration at a scheduled Commission meeting. If a contested case hearing is held, it will be a legal proceeding similar to a civil trial in state district court.

If the Executive Director calls a public meeting or the Commission grants a contested case hearing as described above, the Commission will give notice of the date, time, and place of the meeting or hearing. If a hearing request or request for reconsideration is made, the Commission will consider all public comments in making its decision and shall either adopt the Executive Director's response to public comments or prepare its own response.

For additional information about this application, contact Nathan Sessions at (512) 239-3708.

---

Nathan Sessions, Biosolids Coordinator  
Land Application Team  
Water Quality Assessment Section (MC 150)

---

Date

## **Attachment C**



# Compliance History Report

Compliance History Report for CN604718486, RN109394411, Rating Year 2016 which includes Compliance History (CH) components from September 1, 2011, through August 31, 2016.

<b>Customer, Respondent, or Owner/Operator:</b>	CN604718486, DENALI WATER SOLUTIONS LLC	<b>Classification:</b> HIGH	<b>Rating:</b> 0.00
<b>Regulated Entity:</b>	RN109394411, REAVIS MCCOOK WEST	<b>Classification:</b> UNCLASSIFIED	<b>Rating:</b> -----
<b>Complexity Points:</b>	1	<b>Repeat Violator:</b>	NO
<b>CH Group:</b>	14 - Other		
<b>Location:</b>	LOCATED 4.7 MILES WEST OF THE INTERSECTION OF MILE 16 RD AND FM 2058 HIDALGO, TX, HIDALGO COUNTY		
<b>TCEQ Region:</b>	REGION 15 - HARLINGEN		
<b>ID Number(s):</b>	SLUDGE PERMIT WQ0005210000		
<b>Compliance History Period:</b>	September 01, 2011 to August 31, 2016	<b>Rating Year:</b> 2016	<b>Rating Date:</b> 09/01/2016
<b>Date Compliance History Report Prepared:</b>	December 07, 2016		
<b>Agency Decision Requiring Compliance History:</b>	Permit - Issuance, renewal, amendment, modification, denial, suspension, or revocation of a permit.		
<b>Component Period Selected:</b>	September 01, 2011 to August 31, 2016		
<b>TCEQ Staff Member to Contact for Additional Information Regarding This Compliance History.</b>			
<b>Name:</b>	TCEQ Staff Member	<b>Phone:</b>	(512) 239-1000

## Site and Owner/Operator History:

- |  |    |
|--|----|
| 1) Has the site been in existence and/or operation for the full five year compliance period?       | NO |
| 2) Has there been a (known) change in ownership/operator of the site during the compliance period? | NO |

## Components (Multimedia) for the Site Are Listed in Sections A - J

**A. Final Orders, court judgments, and consent decrees:**  
N/A

**B. Criminal convictions:**  
N/A

**C. Chronic excessive emissions events:**  
N/A

**D. The approval dates of investigations (CCEDS Inv. Track. No.):**  
N/A

**E. Written notices of violations (NOV) (CCEDS Inv. Track. No.):**

A notice of violation represents a written allegation of a violation of a specific regulatory requirement from the commission to a regulated entity. A notice of violation is not a final enforcement action, nor proof that a violation has actually occurred.

N/A

**F. Environmental audits:**  
N/A

**G. Type of environmental management systems (EMSs):**  
N/A

**H. Voluntary on-site compliance assessment dates:**

N/A

**I. Participation in a voluntary pollution reduction program:**

N/A

**J. Early compliance:**

N/A

**Sites Outside of Texas:**

N/A



## **Attachment D**

**TCEQ INTRA-AGENCY TRANSMITTAL MEMO**  
**Executive Director's Response to Comments**

TEXAS  
COMMISSION  
ON ENVIRONMENTAL  
QUALITY

DATE: June 13, 2017

**TO:** FINAL DOCUMENTS TEAM LEADER  
OFFICE OF THE CHIEF CLERK

**FROM:** Anthony Tatu  
ENVIRONMENTAL LAW DIVISION OFFICE

**1. Application Information:**

Program Area (Air, Water or Waste): Water

Permit No.: WQ0005210000

Applicant's Name: Denali Water Solutions, LLC

Docket/CID Item # (if known):

**2. Application subject to SB 709 (received on or after 09/01/15):** Yes X No \_\_\_\_\_

**3. OCC Action Required** (check applicable boxes)

Date stamp and return copy to above-noted ELD Staff Attorney and:

**FOR ALL PROGRAM AREAS:** (required only when changes needed to official agency mailing list)

☐ Update the mailing list in your file with the attached contact names and addresses.  
*Include corrected or additional names and addresses for mailing list.*

☐ Other Instructions (where applicable):

**FOR WASTE & WATER:**

☒ Send Response to Comments Letter which solicits hearing requests from commenters and requests for reconsideration to the mailing list in your files.  
*This would occur in all circumstances when comments have been received for 801 and 709 applications.*  
Or

☐ Send Response to Comments Letter and Motion to Overturn Letter which solicits motions to overturn to the mailing list in your files.  
*This may occur when all comments have been withdrawn for 801 or 709 applications, or when comments are received for applications that will not be set for agenda.*

**FOR AIR (NSR only):**

☐ Send RTC with OCC's response to comments letter which solicits contested case hearing requests from commenters and requests for reconsideration to the mailing list in OCC's files.  
*This would occur only when there are pending contested case hearing requests (except no-increase renewals).*

☐ Set for commission agenda and send RTC with agenda setting letter.  
*This would occur when there are pending contested case hearing requests on a no-increase renewal and technical review is complete.*

☐ Hold until a commission agenda date is requested and then send RTC with the Agenda Setting Letter.  
*This would occur when there are pending hearing requests on a no-increase renewal; but technical review is NOT complete. If this box is checked, ED staff must call the OCC Agenda Team Leader to arrange a specific agenda date.*

☐ Place RTC in File - no further action required by OCC.  
*This would occur when the matter is uncontested but comments were received, APD will send a copy with MTO letter.*

2017 JUL 13 PM 3:00

TCEQ PERMIT NO. WQ0005210000

CHIEF CLERKS OFFICE

APPLICATION BY	§	BEFORE THE
	§	
	§	TEXAS COMMISSION ON
Denali Water Solutions, LLC	§	
	§	ENVIRONMENTAL QUALITY

---

**EXECUTIVE DIRECTOR'S RESPONSE TO PUBLIC COMMENT**

---

The Executive Director of the Texas Commission on Environmental Quality (the commission or TCEQ) files this Response to Public Comment (Response) on the Executive Director's preliminary decision to approve Denali Water Solutions, LLC's application for new permit, TCEQ Permit Number WQ0005210000. As required by 30 Texas Administrative Code (TAC) Section 55.156, before a permit is issued, the Executive Director prepares a response to all timely, relevant and material, or significant comments. The Office of Chief Clerk received timely comment letters from Eric Allman on behalf of the Texas Campaign for the Environment and Mr. Raul Munoz Jr. of Triple R Cattle Company, LLC.

**BACKGROUND**

***Description of Facility***

Denali Water Solutions, LLC, 3308 Bernice Avenue, Russellville, Arkansas 72802, has applied to the Texas Commission on Environmental Quality (TCEQ) for a new permit, TCEQ Permit No. WQ0005210000, to authorize the land application of wastewater treatment plant sewage sludge and water treatment plant sludge for

beneficial use. The anticipated date of the first application of sludge, subject to the issuance of the permit, is April 4, 2017. This permit will not authorize a discharge of pollutants into water in the state.

The sewage sludge land application site is located approximately 4.7 miles west of the intersection of Mile 16 Road and Farm-to-Market Road 2058, in Hidalgo and Starr County, Texas 78541. The sewage sludge land application site is located within the drainage basin of Rio Grande River in Segment No. 2058 of the Rio Grande.

### ***Procedural Background***

The TCEQ received Denali Water Solutions, LLC's application for a new permit on August 30, 2016 and declared it administratively complete on September 2, 2016. The Notice of Receipt and Intent to Obtain a Water Quality Permit (NORI) was published in the The Monitor and in El Nuevo Herald on September 13, 2016. The Executive Director completed the technical review of the application and prepared an initial draft permit. The Notice of Application and Preliminary Decision (NAPD) was published in the The Monitor and in El Nuevo Herald on February 9, 2017. The public comment period ended on March 13, 2017. This application was administratively complete on or after September 1, 1999; therefore, this application is subject to the procedural requirements adopted pursuant to House Bill 801, 76th Legislature, 1999. This application was administratively complete on or after September 1, 2015. Therefore, it is subject to the procedural requirements adopted pursuant to House Bill 801, 76th Legislature, 1999, and Senate Bill 709, 84th Legislature, 2015.



### *Access to Rules, Laws, and Records*

Please consult the following websites to access the rules and regulations applicable to this permit:

- Secretary of State website: [www.sos.state.tx.us](http://www.sos.state.tx.us);
- TCEQ rules in Title 30 of the Texas Administrative Code:  
[www.sos.state.tx.us/tac/](http://www.sos.state.tx.us/tac/);
- Texas statutes: <http://www.statutes.legis.state.tx.us/>;
- TCEQ website: [www.tceq.state.tx.us](http://www.tceq.state.tx.us) (for downloadable rules in WordPerfect or Adobe PDF formats, select "Rules, Policy, & Legislation," then "Rules and Rulemaking," then "Download TCEQ Rules");
- Federal environmental laws and rules: [www.epa.gov/epahome/laws.htm](http://www.epa.gov/epahome/laws.htm).

Commission records for this facility are available for viewing and copying and are located at TCEQ's main office in Austin, 12100 Park 35 Circle, Building F, 1st Floor (Office of Chief Clerk).

If you need more information about this permit application or the wastewater permitting process, please call the TCEQ Office of Public Participation and Education Program at 1-800-687-4040. General information about the TCEQ can be found at our website at [www.tceq.texas.gov](http://www.tceq.texas.gov). The permit application, Executive Director's preliminary decision, and draft permit are available for viewing and copying at the Dustin Michael Sekula Memorial Library, 1906 South Closner Boulevard, Edinburg, Texas and at the Rio Grande City Public Library, 591 East Canales Street, Rio Grande City, Texas.

## COMMENTS AND RESPONSES

### **COMMENT 1:**

Mr. Munoz and Eric Allman have expressed concerns that the proposed permit “inappropriately allows for the application of sludge in areas that are within the 100-year floodplain” where potential run-off from the site will cause contamination to adjacent properties and to surface water in already impaired downstream areas.

### **RESPONSE 1:**

The primary objective of the TCEQ’s Beneficial Land Use Program is to ensure that the use of sludge will neither endanger the public health nor degrade the environment. Only properly treated materials that have met rigid requirements to reduce vector attraction and to reduce pathogens significantly are approved for land application. Title 30 of the Texas Administrative Code (30 TAC) Section (§) 312.82(b) outlines methods for Pathogen Reduction of the Class B Sewage Sludge. These methods include but are not limited to density of fecal coliform test or one of the Processes to Significantly Reduce Pathogens (PSRPs), such as aerobic digestion, composting, lime stabilization, air drying and anaerobic digestion. 30 TAC §312.83(b) outlines 10 methods for Vector Attraction Reduction of the sludge. These methods include but are not limited to volatile solid reduction by a minimum of 38%, Specific Oxygen Uptake Rate (SOUR) Test, injection of the sludge into the soil or incorporation of the sludge into the soil. Sewage sludge to be used at this site must be analyzed and meet the requirements for Pathogen Reduction and Vector Attraction Reduction.

Although land application of sewage sludge is not prohibited within the 100-year floodplain, 30 TAC §312.44 requires that sludge be applied to land in a manner that prevents it from entering waters of the state. TCEQ regulations and provisions within the draft permit also prohibit runoff of sewage sludge beyond the active

application area. To ensure that this is achieved, the applicant is required to maintain the following buffer zones:

1. Waters in the state of Texas - 200 feet
2. Waters in the state of Texas if sludge is both incorporated into the soil within 48 hours of application and a vegetative cover is present between the application area and all adjacent surface waters - 33 feet
3. Private water supply well - 150 feet
4. Public water supply well, public water supply spring or similar source, public water supply treatment plant, or public water supply elevated or ground storage tank - 500 feet
5. Solution channel, sinkhole, or other conduit to groundwater - 200 feet
6. Irrigation conveyance canal - 10 feet
7. Property boundary - 50 feet

Where runoff from the application area is evident, the operator must cease further application until the condition is corrected. Furthermore, application of sewage sludge is prohibited during periods in which surface soils are water-saturated, frozen, or snow-covered. Land application of treated sludge at the appropriate agronomic rates on soils with low permeability and recommended slopes while observing the buffer zones will not adversely affect surface water quality.

**COMMENT 2:**

Eric Allman has expressed concerns that land application activities in conjunction with a topographic depression on the site and nearby wells will cause groundwater contamination and possible nuisance conditions.

**RESPONSE 2:**

TCEQ has reviewed the application to determine the presence of water on or near the land application site. TCEQ's Water Quality Assessment Team determined that the proposed land application site is located over the outcrop of the Goliad Formation of the Gulf Coast Aquifer. Well logs from the Texas Water Development Board Water



Data Interactive website indicate depth to groundwater in the area ranges from 120 feet to 220 feet. The Groundwater Impact Evaluation dated September 7, 2016, concluded that no adverse impact would occur if the Applicant applied the material in accordance with the conditions specified in the draft permit at agronomic rates on the proposed site.

TCEQ has reviewed the application and determined that the proposed land application site meets all of the required buffer zones between it and any private water wells, sources of public water supply, conduits to ground water, and any surface water bodies.

The site must be operated in a manner to prevent public health nuisances and to protect the environment. Sewage sludge may not be applied to the land during periods in which surface soils are water-saturated or when pooling or water is evident on the land application site. To prevent possible pooling or ponding of the sewage sludge, a special provision will be included in the permit that prohibits land application of sewage sludge within the topographic depression located on-site. These requirements are designed to protect public health and the environment against adverse effects.

**COMMENT 3:**

Eric Allman has expressed concerns that the application rates are excessive for the soils on-site and “have not been demonstrated to be protective of human health and the environment.” Eric Allman also comments that the application rates are based on infrequent sampling that do not represent the soil characteristics at the site.

**RESPONSE 3:**

Agronomists from the TCEQ's Water Quality Assessment Team have reviewed the Nutrient Management Plan (NMP) and soil characteristics submitted with the application and determined that the proposed operations satisfy all requirements for



land application of sewage sludge. The agronomic rate has been calculated using results from soil sampling designed to be representative of the soil characteristics on-site. Soil sampling followed the procedures outlined in 30 TAC §312.11(d), and the Annual Whole Sludge Application Rate outlined in 30 TAC §312.49 or in Appendix A of the application. Sewage sludge is required to be land applied at a rate equal to or less than the nitrogen uptake rate of the plants being grown (the agronomic rate), thus ensuring that the nutrients are fully utilized by the plant and none are available for horizontal seepage into groundwater or lateral seepage into surface water bodies. It is also required that sewage sludge be applied at a rate that does not cause the annual metal loading rates found in 30 TAC §312.43 to be exceeded.

**COMMENT 4:**

Eric Allman expressed concerns that the application rate does not consider the reduction in available application areas due to the presence of on-site wind turbines nor does the application to land apply address the increase in traffic to and from the site associated with maintenance of the turbines.

**RESPONSE 4:**

Agronomic rates in the draft permit are calculated on a per acre basis. Furthermore, sewage sludge shall be land applied uniformly over the surface of the land and shall not be land applied at rates greater than the agronomic rate permitted. It is required that the operator follow the management practices found in 30 TAC §312.44 to prevent nuisance conditions from occurring. The operator shall minimize dust migration from the site and access roadways, and develop and implement best management practices (BMPs) to minimize off-site tracking of the sewage sludge.

**COMMENT 5:**

Eric Allman has expressed concerns that not all area landowners warranting notice have been notified pursuant to 30 TAC §312.13(b)(2).

**RESPONSE 5:**

30 TAC §312.11(c)(1)(B)(i) requires an applicant to provide the name and mailing address of the owner of each tract of land within a quarter mile of the site to be permitted. Pursuant to 30 TAC §312.13(b)(3)(A), an applicant for a new permit shall provide notice to each owner of land located within a quarter mile of the proposed land application unit who lives on that land. 30 TAC §312.13(b)(2), the rule referenced in the comment, applies to disposal and incineration permits, not to land application permits. Therefore, all rule requirements were satisfied.

## CHANGES MADE TO THE DRAFT PERMIT IN RESPONSE TO COMMENT

In response to public comment, the Executive Director made the following changes to the draft permit:

1. A special provision has been added to the draft permit that prohibits land application of sewage sludge in the topographical depression marked on the USGS Topographical map.

Respectfully submitted,

Texas Commission on Environmental Quality

Richard A. Hyde, P.E.  
Executive Director

Robert Martinez, Director  
Environmental Law Division



---

Anthony Tatu, Staff Attorney  
Environmental Law Division  
State Bar No. 00792869  
P.O. Box 13087, MC 173  
Austin, Texas 78711-3087  
(512) 239-0600  
REPRESENTING THE  
EXECUTIVE DIRECTOR OF THE  
TEXAS COMMISSION ON  
ENVIRONMENTAL QUALITY