TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Protecting Texas by Reducing and Preventing Pollution

October 26, 2009

La Donna Castañuela, Chief Clerk
Texas Commission on Environmental Quality
Office of the Chief Clerk (MC-105)
P.O. Box 13087
Austin, Texas 78711-3087

Re: **Two Sisters Dairy, LLC**
TCEQ DOCKET NO. 2009-1606-AGR

Dear Ms. Castañuela

Enclosed for filing is the Executive Director's Response to Request for hearing in the above-entitled matter.

Sincerely,

Michael T. Parr
Staff Attorney, Environmental Law Division

cc: Mailing List

Enclosure

DOCKET N UMBER 2009-~~0709~~1606-AGR

APPLICATION BY	§	**BEFORE THE**
TWO SISTERS DAIRY, LLC FOR	§	**TEXAS COMMISSION ON**
PERMIT NO. WQ0004866000	§	**ENVIRONMENTAL QUALITY**

EXECUTIVE DIRECTOR'S RESPONSE TO HEARING REQUEST

I. Introduction

The Executive Director (ED) of the Texas Commission on Environmental Quality (TCEQ or Commission) files this Response to Hearing Request on the application by Two Sisters Dairy, LLC (Applicant) for a new Texas Pollutant Discharge Elimination System (TPDES) Permit Number WQ0004866000.

A contested case hearing request was received from the Bosque River Coalition represented by Lloyd Gosselink Rochelle & Townsend, P.C. (Coalition).

Attached for Commission consideration are the following:

Attachment A -	Satellite Map of Area
Attachment B -	Fact Sheet and Executive Director's Preliminary Decision
Attachment C -	Draft Permit
Attachment D -	Executive Director's Response to Public Comments (RTC)
Attachment E -	Compliance History

II. Description Of The Facility

The Applicant has applied to the TCEQ for a new TPDES Permit No.WQ0004866000, for a Concentrated Animal Feeding Operation (CAFO), to authorize the Applicant to expand an existing dairy facility to a maximum capacity of 5,500 head, of which 4,000 head are milking cows. The dairy is currently operating as an animal feeding operation (AFO), with a maximum head count of 199 cows.

The dairy has two retention control structures (RCS) with a total combined capacity of 54.92-acre feet and six Land management Units (LMUs) of the following sizes in acreage: LMU No.1-28, LMU No.2-22, LMU No.3-51, LMU No.4-57, LMU No.5-44, and LMU No.6-18. The dairy is located on the west side of County Road 209 approximately four miles south of the intersection of County Road 209 and US Highway 67; said intersection is located seven miles east of Stephenville in Erath County, Texas. The facility is located in the drainage area of the North Bosque River in Segment No.1226 of the Brazos River basin.

III. Procedural Background

The application was received on August 18, 2008, and declared administratively complete on September 11, 2008. The Notice of Receipt of Application and Intent to Obtain a Water Quality Permit (NORI) was published October 17, 2008 in the *Stephenville Empire Tribune*. The alternative language NORI was published in *Tex-Mex Noticias* on October 23, 2008. The TCEQ Executive Director completed the technical review of the application on November 11, 2008, and prepared a draft permit. Notice of Application and Preliminary Decision for a Water Quality Permit (NAPD) was published December 12, 2008 in the *Stephenville Empire Tribune* and the alternative language NAPD was published in *Tex-Mex Noticias* on January 7, 2009. The comment period closed on February 6, 2009. The ED filed its Response to Comments (RTC) on August 25, 2009. The RTC and ED's final decision letter were mailed on August 27, 2009, and the period to file a request for contested case hearing ended on September 28, 2009. This application is subject to the procedural requirements adopted pursuant to House Bill 801, 76th Legislature, 1999.

IV. The Evaluation Process for Hearing Requests

House Bill 801 established statutory procedures for public participation in certain environmental permitting proceedings. The Commission implemented HB 801 by adopting procedural rules in Title 30 of the Texas Administrative Code (30 TAC) Chapters 39, 50, and 55. This application is subject to the HB 801 requirements.

A. Responses to Requests

"The executive director, the public interest counsel, and the applicant may submit written responses to [hearing] requests . . . ." 30 TAC § 55.209(d).

According to 30 TAC § 55.209(e), responses to hearing requests must specifically address:

(1) Whether the requestor is an affected person;
(2) Which issues raised in the hearing request are disputed;
(3) Whether the dispute involves questions of fact or of law;
(4) Whether the issues were raised during the public comment period;
(5) Whether the hearing request is based on issues raised solely in a public comment withdrawn by the commenter in writing by filing a withdrawal letter with the chief clerk prior to the filing of the Executive Director's Response to Comment;
(6) Whether the issues are relevant and material to the decision on the application; and
(7) A maximum expected duration for the contested case hearing.

B. Hearing Request Requirements

In order for the Commission to consider a hearing request, the Commission must first determine whether the request meets certain requirements. As noted in 30 TAC § 55.201(c): "A request for a contested case hearing by an affected person must be in writing, must be filed with the chief clerk within the time provided . . . and may not be based on an issue that was raised solely in a public

comment withdrawn by the commenter in writing by filing a withdrawal letter with the chief clerk prior to the filing of the Executive Director's Response to Comment."

According to 30 TAC § 55.201(d), a hearing request must substantially comply with the following:

(1) Give the name, address, daytime telephone number, and where possible, fax number of the person who files the request. If the request is made by a group or association, the request must identify one person by name, address, daytime telephone number, and where possible, fax number, who shall be responsible for receiving all official communications and documents for the group;
(2) Identify the person's personal justiciable interest affected by the application, including a brief, but specific, written statement explaining in plain language the requestor's location and distance relative to the proposed facility or activity that is the subject of the application and how and why the requestor believes he or she will be adversely affected by the proposed facility or activity in a manner not common to members of the general public;
(3) Request a contested case hearing;
(4) List all relevant and material disputed issues of fact that were raised during the public comment period and that are the basis of the hearing request. To facilitate the commission's determination of the number and scope of issues to be referred to hearing, the requestor should, to the extent possible, specify any of the executive director's responses to comments that the requestor disputes and the factual basis of the dispute and list any disputed issues of law or policy; and
(5) Provide any other information specified in the public notice of application.

C. Requirement that Requestor be an "Affected Person"

In order to grant a contested case hearing, the Commission must determine that a requestor is an "affected person." The factors to consider in making this determination are found in 30 TAC § 55.203 and are as follows:

(a) For any application, an affected person is one who has a personal justiciable interest related to a legal right, duty, privilege, power, or economic interest affected by the application. An interest common to members of the general public does not qualify as a personal justiciable interest.
(b) Governmental entities, including local governments and public agencies with authority under state law over issues raised by the application may be considered affected persons.
(c) In determining whether a person is an affected person, all factors shall be considered, including, but not limited to, the following:

(1) Whether the interest claimed is one protected by the law under which the application will be considered;
(2) Distance restrictions or other limitations imposed by law on the affected interest;
(3) Whether a reasonable relationship exists between the interest claimed and the activity regulated;
(4) Likely impact of the regulated activity on the health and safety of the person, and on the use of property of the person;

(5) Likely impact of the regulated activity on use of the impacted natural resource by the person; and
(6) For governmental entities, their statutory authority over or interest in the issues relevant to the application.

D. Additional Requirements if Requestor is a Group or Association

A group or association may request a contested case hearing only if the group or association meets all of the following requirements found in 30 TAC § 55.205(a):

(1) One or more members of the group or association would otherwise have standing to request a hearing in their own right;
(2) the interests the group or association seeks to protect are germane to the organization's purpose; and
(3) neither the claim asserted nor the relief requested requires the participation of the individual members in the case.

E. Referral to the State Office of Administrative Hearings

30 TAC § 50.115(b) details how the Commission refers a matter to the State Office of Administrative Hearings: "When the commission grants a request for a contested case hearing, the commission shall issue an order specifying the number and scope of the issues to be referred to SOAH for a hearing." 30 TAC § 50.115(c) further states: "The commission may not refer an issue to SOAH for a contested case hearing unless the commission determines that the issue: (1) involves a disputed question of fact; (2) was raised during the public comment period; and (3) is relevant and material to the decision on the application."

V. Evaluation of Hearing Requests

A. Whether the Requestors Complied With 30 TAC §§ 55.201(c) and (d).

The Coalition submitted a timely written CCH request that included relevant contact information and raised disputed issues. The ED concludes that the CCH request substantially complies with the requirements of 30 TAC § 55.201.

B. Whether the Coalition Meets the Requirements of an Affected Person

The Coalition states that it is a Texas non-profit corporation represented by Martin Rochelle and Lauren Kalisek of Lloyd Gosselink Rochelle & Townsend, P.C. The Coalition states that it was formed for the purpose of furthering the protection and enhancement of water quality in the Bosque River watershed; an interest germane to the organization's specific purpose. The Coalition states that neither the claim asserted nor the relief requested requires the participation of the named Coalition members in this case.

Additionally, to meet the association requirements in 30 TAC § 55.205(a)(1) the Coalition identified Mr. Chuck Markham as a member that it claimed would be affected by this permit action. The Coalition states that Mr. Markham owns property that fronts an unnamed tributary of Little Duffau Creek, approximately 3/4 of a mile from the Applicant and less than one downstream mile from the dairy. The Coalition provided a map documenting the location of the property relative to the dairy operation. The Coalition also notes that Mr. Markham uses the unnamed tributary for picnicking, recreation, and watering his livestock.

The ED considered the factors at 30 TAC § 55.203 to determine whether Mr. Markham is an affected person. Mr. Markham's interest in using the creek at his property is an interest that is protected by the law under which the application is being considered and there is a reasonable relationship between the interest claimed and the activity regulated. Mr. Markham has a personal justiciable interest because the proximity of his property to the diary distinguishes his interest from that of the general public. His property has a greater potential to be affected by the dairy's operations even though the permit does not authorize discharges into water in the state under normal operating conditions.

The ED created a GIS map (Attachment A) using the information provided by the Coalition on the map attached to their hearing request to show the location of Mr. Markham's property relative to the facility and the RCSs. The ED's GIS map locates Mr. Markham at a minimum distance of 1.02 downstream miles from the closest point of the dairy facility, which is a LMU, in relation to the unnamed tributary of Little Duffau Creek to the closest point from Mr. Markham's property that fronts the unnamed tributary of Little Duffau Creek.

The activities conducted at the facility have the potential to affect the health and safety of Mr. Markham due to the distance from the facility to his property. Therefore, the ED recommends finding that Mr. Markham does have a personal justiciable interest that would be affected by this application.

The ED recommends finding Mr. Markham has standing in his own right as an affected person. Consequently, the ED recommends finding the Coalition has met the associational requirements of 30 TAC § 55.205(a)(1) because the member identified in the hearing request would otherwise have standing to request a hearing in his own right.

C. Whether Issues Raised Are Referable to State Office of Administrative Hearings (SOAH) for a Contested Case Hearing.

The ED also analyzed the issues raised in accordance with the regulatory criteria and provides the following recommendations regarding whether the issues are referable to SOAH. All of the issues discussed below were raised during the public comment period. None of the issues were withdrawn. All identified issues in the response are considered disputed, unless otherwise noted.

In their CCH request, the Coalition offers characterizations of contested issues and notes the

corresponding RTC comment associated with each one. However, the issues as characterized by the Coalition are often overbroad to the extent that they bring in issues not raised during the comment period. The Coalition continually frames its issues in terms of whether the draft permit is "adequate," "sufficient," or "properly regulated." This framing would allow the Coalition to raise issues of law at a CCH because even if the Applicant shows that any standard required by the CAFO rules are met; it allows them to question whether the rules themselves are "adequate, "sufficient," or whether the dairy is "properly regulated" by the existing CAFO rules.

For example, issue No. 44 as framed by the Coalition asks whether the draft permit "provides adequate protection of water quality from drainage or discharge from third party fields." As raised during the comment period, the issues raised in RTC comment No. 55 (framed as issue No. 44 by the Coalition) were more narrowly focused on whether the draft permit should prohibit drainage or discharge of wastewater from third party fields or whether the Applicant should be banned from using any third party field if found to be land applying on a field that contains in excess of 200 ppm of phosphorus or if the Applicant is found to exceed the proper land application rates.

As is noted below, these are issues of law as raised by the Coalition, since runoff from third party fields where wastewater is applied at agronomic rates are exempt from the Clean Water Act and not regulated by this permit. There is no basis for banning land application on third party fields in the draft permit because this activity is specifically allowed in the CAFO rules. *See* 30 TAC § 321.42(j).

Secondly, there is also no basis in the CAFO rules for applying a blanket prohibition against delivery of all waste to all third party fields based on a single violation on a single third party field. This and many of the other issues as framed by the Coalition are simply attempts to challenge TCEQ's interpretation of the rules or to promote imposition of more stringent rules on the dairy through the CCH process.

In the interest of framing the issues in the way that they were raised during the comment period, the ED referred to the RTC comment numbers noted in the CCH request and frames the issues as they were raised during the comment period. The CCH request by the Coalition states that issues No. 1-5; No. 7-10; No. 13-25; No. 27-35; No. 37-49; and No. 51-56 are disputed, so the ED addresses and characterizes each of these issues as they were raised in the comment period, rather than using the expansive characterization used by the Bosque River Coalition in their hearing request.

1. **Whether the compaction testing specifications comply with the CAFO rule requirements. (RTC No. 25).**

30 TAC § 321.36(e)(3) and Section VII.A.3(b) of the draft permit requires that the RCSs be designed and constructed in accordance with the technical standards developed by the National Resources Conservation Service (NRCS), American Society of Agricultural Engineers (ASABE), American Society of Civil Engineers (ASCE), or American Society of Testing Materials (ASTM) in effect at the time of construction. The Coalition requests adding additional compaction testing requirements be added to the draft permit. Whether the draft permit complies with the applicable compaction testing standards is an issue of fact. If the draft permit is out of compliance with those standards, it

would be relevant and material to a decision on the permit application. The ED recommends referring this issue to SOAH if the CCH request is granted.

2. **Whether the draft permit meets the requirements in 30 TAC § 321.38(g)(1) regarding including the standards for quality of soils used in construction of the RCS. (RTC No. 27)**

This is an issue of fact. As noted in the RTC, Section VII.A.3(b) of the draft permit contains specific design and construction standards for RCSs. However, if it could be shown that this provision does not meet the rule requirements and additional permit provisions are necessary, then that information would be relevant and material to a decision on the application. The ED recommends referring this issue to SOAH if the CCH request is granted.

3. **Whether the draft permit requirements for sampling of wastewater and manure comply with the CAFO rule requirements. (RTC No. 33)**

Whether the draft permit complies with the sampling and monitoring requirements at 30 TAC § 321.36(g)(3) is a question of fact. If the draft permit fails to attain consistency with the CAFO rules relating to sampling, such information would be relevant and material to a decision on the permit application. The ED recommends referring this issue to SOAH if the CCH request is granted.

4. **Whether the draft permit is consistent with NRCS Code 590 as required by 30 TAC § 321.42(i)(5)(A) with regards to the approximate locations of soil samples and time of year sampling will be conducted. (RTC No. 40)**

This is an issue of fact. If it can be shown that in regards to the approximate locations of soil samples and time of year sampling will be conducted as reflected in the draft permit are not consistent with NRCS Code 590 that information would be relevant and material to a decision on the application. The ED recommends referring this issue to SOAH if the CCH request is granted.

5. **Whether the Applicant should be prohibited from operating an Animal Feeding Operation (AFO) at this site prior to modification of the RCSs. (RTC No. 1)**

As a matter of law, the Applicant is not required to design or construct RCSs to meet the 25-year, 10-day design rainfall event to meet the CAFO rule requirements until their permit is issued,. Section X.A.2 of the draft permit requires the facility to meet the new design requirements prior to increasing their herd size above 199 head. The ED recommends not referring this issue to SOAH.

6. **Whether the Applicant used an acceptable value for the volatile solids loading rate when it calculated the minimum treatment volume. (RTC No. 2)**

As noted in the RTC, the Applicant's determination of the volatile solids loading rate was evaluated in light of the design criteria from the American Society of Agricultural and Biological Engineers (ASABE), which is a source of design criteria that the TCEQ rules recognize. As a matter of fact, the ED determined, due to lack of precision of the ASABE loading rate map, that the loading rate

used in the application is acceptable. As a matter a law, there is no loading rate calculations specified in the CAFO rules. The ED recommends not referring this issue to SOAH.

7. **Whether the Applicant's sampling of the LMUs presents a source of inaccuracy in the Nutrient Management Plan (NMP). (RTC No. 3)**

This is a question of fact. As noted in the RTC, the sampling of LMUs according to present shapes rather than future shapes will provide accurate sampling as all proposed LMUs are subdivisions of older LMUs, which the locations of are depicted on Attachment B in the application. Therefore, whether the Applicant sampled the LMUs based on the proposed configuration in the draft permit is not relevant and material to a decision on the application. The ED recommends not referring this issue to SOAH.

8. **Whether the Applicant is required by 30 TAC Chapter 321 to sample and analyze data from both RCSs. (RTC No. 4)**

As a matter of law, the facility is currently operating as an AFO and 30 TAC § 321.47(f)(11) requires AFOs to collect and analyze at least on representative sample of wastewater each year. Therefore, the NMP is based on the types of samples currently required by the AFO. Section X.O. of the draft permit already requires that annual wastewater sampling be separate for RCS No. 1 & 2 and subsequent yearly modifications of the NMP will be based on that separate sampling. The ED recommends not referring this issue to SOAH.

9. **Whether the Applicant should be required to supply supporting sources in the application for its estimate of process-generated wastewater. (RTC No. 5)**

As noted in the RTC, the ED considers Applicant's estimate acceptable as the lower range for processed wastewater provided in the NRCS software is 15 gallons per head per day. Therefore, any supporting sources for its estimate are not relevant and material to a decision on the application. The ED recommends not referring this issue to SOAH.

10. **Whether the draft permit should include a provision prohibiting any runoff from being directed into RCS No.1. (RTC No. 7)**

As noted in the RTC, there is no need for the special provision as Attachment A delineates and explains that the drainage boundary on the ground will be a berm or ditch that will divert runoff, which the directional flow arrows represent. Therefore, whether the permit has a special provision for runoff into RCS No. 1 is not relevant and material to a decision on the application. The ED recommends not referring this issue to SOAH.

11. **Whether the Applicant should be required to re-certify its RCS liners and re-certify that its RCSs meet the old 25-year, 24-hour design standard prior to issuance of the permit (RTC Nos. 8 and 23)**

This is a question of fact. However, the current RCSs volumes are not relevant to what is proposed by this permit application and are not required as part of this permitting process. Existing RCS volume requirements are contained in the existing authorization and are enforced under that authorization by TCEQ Field Investigators. If the draft permit is issued, the new 25-year, 10-day volume requirements will become effective and construction is required to meet those new requirements within 180 days. The RCSs must meet the new requirements before the dairy is authorized to exceed 199 head. Therefore, this issue is not relevant and material to a decision on the application. The ED recommends not referring this issue to SOAH.

12. Whether the stage/storage table required by the draft permit meets the requirements in 30 TAC § 321.42(g). (RTC No. 9)

As a matter of law, the CAFO rules at 30 TAC § 321.42(g) and the draft permit require that the Applicant implement an RCS management plan, which includes a stage/storage table. This provision is being implemented through issuance of the permit. *See* 30 TAC § 321.42(a). Until the actual expansion and modification of the RCSs are completed and volumes certified, which takes place after the permit is issued, the stage/storage table cannot be completed. The ED recommends not referring this issue to SOAH.

13. Whether the Applicant should be required to submit an RCS Management Plan prior to the permit being issued. (RTC No. 10)

As a matter of law, the CAFO rules at 30 TAC § 321.42(g) and the draft permit require that the Applicant implement an RCS management plan and maintain a copy in the pollution prevention plan (PPP). TCEQ rules do not require review of RCS management plans prior to issuing the permit. This requirement to have a RCS management plan is being implemented through issuance of the permit. *See* 30 TAC § 321.42(a). Until the actual expansion and modification of the RCSs are completed and volumes certified, which takes place after the permit is issued, the RCS management plan cannot be completed and implemented. Therefore, the fact that the Applicant has not produced an RCS management plan prior to permit issuance is not relevant and material to a decision on the application. The ED recommends not referring this issue to SOAH.

14. Whether the permit application uses an acceptable value for open lot runoff for calculating sludge accumulation volume. (RTC No. 13)

As a matter of law, the ED accepts the methodology used by the Applicant for estimating the sludge accumulation rate for runoff from the open lot areas. Therefore, the issue as raised during the comment period is with the ED's interpretation that allows the Applicant to use the accepted methodology and is not an issue that is appropriate to refer to SOAH. The ED recommends not referring this issue to SOAH.

15. Whether the draft permit complies with the design and certification requirements for settling basins found in 30 TAC § 321.38. (RTC No. 14)

As a matter of law, 30 TAC § 321.38, require that an Applicant ensure that the design specifications and completed construction specifications are certified by a licensed Texas professional engineer. The failure to obtain the certifications or to maintain records verifying the certifications is a violation of the rules. Likewise, the draft permit requires that documentation describing the sources of information, assumptions, and calculations used to determine the appropriate volume capacities and structural features of each RCS be included in the PPP. Therefore, whether the Applicant should provide design and construction specifications that are certified by a licensed Texas professional engineer only after the permit is issued is an issue inappropriate to refer to SOAH. The ED recommends not referring this issue to SOAH.

16. Whether the draft permit complies with the regulatory requirements for removal of solids from the settling basin. (RTC Nos. 15 & 16)

As a matter of law, 30 TAC § 321.38 does not require a specific solid removal efficiency assumption to be used in calculating the design specifications of an RCS or settling basin. As noted in the RTC, the Applicant used the Midwest Plan Service Structures and Environmental Handbook to derive the settling basin removal rate. The handbook states that: "Settling basins remove 50%-85% of the solids from lot runoff..." The application is based on 60% removal rate, which falls within the acceptable range in the reference material. If the Applicant has overestimated the solids removal rate, he will have to remove solids more often to meet the requirement in 30 TAC § 321.42(c) to maintain a margin of safety in the RCSs to contain the volume of runoff and direct precipitation from a 25-year, 10-day rainfall event. Additionally, according to the rules, there is no specific requirement in the CAFO rules regarding how often solids must be removed from a settling basin or a RCS. 30 TAC § 321.42(c) requires the CAFO operator to maintain a margin of safety in the RCSs to contain the volume of runoff and direct precipitation from a 25-year, 10-day rainfall event. This rule provision must be met, regardless of the requirements in the draft permit. The draft permit requires sludge accumulation to be monitored as needed, but at least annually beginning in year three of the permit. The ED recommends not referring this issue to SOAH.

17. Whether settling basin solids should be defined as sludge in the draft permit. (RTC No. 17)

As a matter of law, settling basin solids are not "sludge" since there is no sludge volume allocation. Therefore, settling basin solids are defined as "manure." The ED recommends not referring this issue to SOAH.

18. Whether the draft permit complies with 30 TAC § 321.39(c) regarding sludge accumulation in the RCSs. (RTC No. 18)

As a matter of law, 30 TAC § 321.39(c) and draft permit § VII.A.5(a)(7) prohibit the Applicant from allowing sludge accumulation to exceed the design volume. Removing the sludge according to the design schedule will prevent the accumulation of sludge to exceed the design volume. Therefore, whether the draft permit should require an annual determination of sludge is immaterial because the sludge volume is not allowed to exceed the design volume regardless of how often the determination

of sludge volume is done. The ED recommends not referring this issue to SOAH.

19. Whether capacity certifications should include both as-built RCS capacity and remaining RCS capacity due to sludge accumulation. (RTC No. 19)

As a matter of law, capacity certifications reflect the total as-built capacity. This maximum volume does not change, unless modifications are made to the RCS. Sludge accumulations, on the other hand, fluctuate, just as the wastewater levels fluctuate. Sludge accumulations are required to be monitored and recorded in the PPP, as necessary, but at minimum, within one year of the new capacity certification for the RCS expansion and then annually thereafter. The ED recommends not referring this issue to SOAH.

20. Whether the Applicant should be required to submit a liner certification for the settling basins, silage, and manure storage pits before the permit is issued. (RTC No. 20 & 21)

The ED responded to the comment in the RTC by adding Special Provision X.Q. to the draft permit to address the certification of settling basins. Since the Coalition did not identify the issue still in dispute after the ED added Special Provision X.Q., the ED does not consider this a disputed issue absent additional information from the Coalition on the specifics of the dispute. As a matter of law, there is no requirement that these certifications be submitted prior to issuance of the permit and modification of the RCSs take place. The ED recommends not referring this issue to SOAH.

21. Whether the Applicant should be required to re-construct its RCSs to meet current embankment construction requirements before the permit is issued. (RTC No. 22)

The Applicant is already required by the draft permit to re-construct its RCSs to meet embankment construction requirements after the permit is issued. Section VII.A.4 of the draft permit addresses existing RCS embankment design and construction by listing conditions for what constitutes an RCS that is considered to be properly designed with respect to the embankment design and construction and liner requirements and will be required to be implemented on issuance of the draft permit. Moreover, if at the time of construction any required documentation was not completed the RCS must be certified by a licensed professional Texas engineer as providing protection equivalent to the requirements of the permit. The ED recommends not referring this issue to SOAH.

22. Whether the conditions for granting extensions to the RCS compliance schedule should be included in the draft permit. (RTC No. 28)

As noted in the RTC, conditions that may delay construction of a RCS are numerous and highly variable. The extension request must provide an explanation of the conditions that prevented construction during the specified timeframe. As an issue of fact, it makes no sense to attempt to identify all the specific reasons why the RCS compliance schedule could be delayed. As a matter of law, there are no provisions in the CAFO rules that would require pre-identification of potential issues that would delay the RCS compliance schedule. As a matter of fact, whether conditions are identified in the draft permit that would be the basis for granting extensions of the RCS compliance

schedule are not relevant and material to a decision on the application. The ED recommends not referring this issue to SOAH.

23. Whether the descriptions of the structural controls in the permit application and draft permit comply with the CAFO rules in 30 TAC Chapter 321. (RTC No. 29)

As a matter of law, the CAFO rules do not include any requirement that the description of the structural controls in the permit application and draft permit be any more detailed than what was provided by the Applicant. A Runoff Control Map was submitted that clearly identifies the control features directing run-off. This map shows a thick dashed line identified as the diversion berm/ditch. The permit requires the Applicant to conduct weekly inspections on all control facilities, including the RCSs, storm water diversion devices, runoff diversion structures, control devices for management of potential pollutant sources, and devices channeling contaminated storm water to the RCSs; and to annually conduct a complete site inspection of the production area. Additionally, the permit requires the Applicant to have a licensed Texas professional engineer complete a site evaluation of the structural controls every five years. The ED recommends not referring this issue to SOAH.

24. Whether the Applicant is required to demonstrate the adequacy of its dewatering capability prior to permit issuance. (RTC No. 30)

As a matter of law, TCEQ rules do not require ED review or approval of the equipment an applicant will use to dewater the RCS. The ED recommends not referring this issue to SOAH.

25. Whether 30 TAC §§ 321.46(c)(2) and (e)(2) require the annual facility inspection report or five year evaluation to be sent to TCEQ. (RTC No. 31)

As a matter of law, the ED interprets these provisions as not requiring the annual facility inspection report or five-year evaluation to be sent to TCEQ. Questions of law or issues with the ED's interpretation of the rules are not appropriate issues to refer to SOAH. The ED recommends not referring this issue to SOAH.

26. Whether the draft permit should require that an engineer certify to the adequacy of structural controls in the five-year evaluation. (RTC No. 32)

As a matter of law, 30 TAC § 321.46(c)(1) already requires that once every five years, a CAFO operator who uses an RCS must have a licensed Texas professional engineer review the existing engineering documentation, complete a site evaluation of the structural controls, review existing liner documentation, and "complete and certify a report of their findings." The ED recommends not referring this issue to SOAH.

27. Whether the draft permit properly accounts for the management of phosphorus production in compliance with the CAFO rules in 30 TAC Chapter 321. (RTC No. 34)

The projection that 5,500 cows will generate 1,784 lbs. of phosphorus per day was not disputed. The calculation is based on a book value for phosphorus production by dairy cows developed by the American Society of Agricultural and Biological Engineers. As an issue of fact, as long as the phosphorus being land applied or hauled-out is accounted for as required under TCEQ rules, an accounting to reflect what remains in the CAFO production area is not necessary.

Additionally, the number is a design value used to help calculate the required RCS volume. It is not an actual number, which will vary based on a variety of factors e.g. size and type of cow. Therefore, an accounting of this hypothetical phosphorus production is not relevant and material to a decision on the application. The ED recommends not referring this issue to SOAH.

28. Whether the draft permit is consistent with the North Bosque TMDL because it does not require up to 50% of the waste generated by the CAFO be managed outside of the North Bosque watershed. (RTC No. 35)

As noted in the RTC, the North Bosque TMDL has a *goal* of a 50% reduction in instream loading. The TMDL and TMDL I-Plan address growth of CAFOs through best management practices (BMPs) designed to decrease loading. Neither the TCEQ rules nor the TMDL I-Plan requires a 50% haul-out of collectible manure or management outside the North Bosque watershed. As raised by the Coalition during the comment period, this is an issue of law because it questions the ED's interpretation of the TMDL I-Plan and is therefore, not an issue appropriate to referral to SOAH. The ED recommends not referring this issue to SOAH.

29. Whether the Applicant used acceptable curve numbers in the phosphorus index. (RTC No. 37)

As noted in the RTC, the curve numbers used in the phosphorus index are acceptable and the change in phosphorus index reflecting curve numbers for grazing would not result in a change in the phosphorus runoff potential and therefore, would not affect the proposed application rates. The ED recommends not referring this issue to SOAH.

30. Whether the draft permit should limit LMUs to forty acres in size. (RTC No. 38)

As a matter of law, the CAFO rules do not specify or limit the size of a LMU. Also, the CAFO rules in 30 TAC Chapter 321 do not require that the soil sampling area define the size of an LMU. The ED recommends not referring this issue to SOAH.

31. Whether the NRCS Practice Code 590 methodology used to calculate the agronomic rates in the NMP is flawed. (RTC No. 39 & 41)

As raised during the comment period, this is an issue of law. The NRCS methodology is what is proscribed by the current version of the CAFO rules. Therefore, an issue that claims the methodology required by the rules is flawed questions the validity of the CAFO rules and is not an appropriate issue to refer to SOAH for a hearing on this permit application. The ED recommends

not referring this issue to SOAH.

32. Whether the draft permit is inconsistent with the TMDL I-Plan by allowing land application on fields with phosphorus levels over 200 ppm. (RTC No. 42)

This is an issue of law. 30 TAC § 321.42(o) specifically allows land application on LMUs that have a phosphorus level between 200 and 500 ppm of phosphorus as long as it is supported by a certified nutrient utilization plan (NUP). Land application on third party fields is where phosphorus levels exceed 200 ppm is already prohibited. *See* 30 TAC 321.42(j)(2). Therefore, this issue is not appropriate for referral to SOAH because the issue is with the CAFO rules, not this particular permit action. The ED recommends not referring this issue to SOAH.

33. Whether the draft permit should prohibit waste application on uncultivated fields. (RTC No. 43 partial)

As a matter of law, the CAFO rules do not prohibit land application of waste on non-cultivated fields. Whether a field is cultivated or non-cultivated will impact the uptake of nutrients and the amount of nutrients that can be applied (less cultivation, less land application), but there is no justification in the CAFO rules for an outright ban to this practice. The ED recommends not referring this issue to SOAH.

34. Whether the draft permit should require adherence to NRCS Code 590 on third party fields if it is more restrictive. (RTC No. 43 partial)

As a matter of law, the CAFO rules do not require that land application on third party fields be consistent with the NRCS Practice Code 590. However, the limitations placed in the draft permit assure that application on third party fields will take into account the potential for phosphorus build-up to occur. Land application on third party fields may not exceed a maximum of 200 ppm of phosphorus. When a third party fields tests 200 ppm or higher for phosphorus, all land application on that field must cease. *See* 30 TAC 321.42(j)(2). The ED recommends not referring this issue to SOAH.

35. Whether TCEQ should require NMPs for third party fields. (RTC No. 43 partial)

As a matter of law, the CAFO rules do not require NMPs for third party fields. The application limitations on third party fields are based on soil test phosphorus levels instead of the Phosphorus Risk Index. The restrictions are more conservative than the rules require. Similar to an NMP, as soil phosphorus levels increase on third party fields, the Applicant will have to reduce waste application rates in order to continue land applying on those fields and to prevent those fields from exceeding 200 ppm of phosphorus. The ED recommends not referring this issue to SOAH.

36. Whether the draft permit identifies the mode of conveyance, an applicant uses to transport wastewater to third party fields. (RTC No. 44)

As a matter of law, the CAFO rules address the actual land application on third party fields and do not regulate how the material is transported from the CAFO to any third party fields. The ED recommends not referring this issue to SOAH.

37. Whether the draft permit should include additional reporting requirements for third party fields than what is required in 30 TAC § 321.42(j). (RTC No. 45 & 54)

As raised during the comment period, this is an issue of law, there are no rules requiring CAFO operators to track yields on third party fields. 30 TAC § 321.42(j) and Section VII.A.8(e)(5)(iv) of the draft permit contain the requirements for land application on third party fields in the North Bosque River watershed. It requires that records be maintained that contain the name, locations, and amounts of manure, litter, or wastewater transferred to operators of third party fields and requires that information be submitted to the appropriate TCEQ region office on a quarterly basis. *See* 30 TAC§ 321.42(j)(4). Soil sample testing on third party fields must be included in the annual report due February 15th and submitted to TCEQ. *See* 30 TAC §§ 321.46(e)(1) and 321.42(j)(3).

30 TAC § 321.42(j)(1) requires a written contract between the CAFO dairy operator and the operator of a third party field; and any such contracts should be maintained in their PPP. 30 TAC § 321.46(d) specifies the requirements for recordkeeping at the CAFO. Records must be kept on site for a minimum of five years from the date the record was created and they must be submitted to TCEQ within five days of a request by the ED.

Additional reporting requirements for third party fields beyond what is already provided in the draft permit is an attempt to change the rules through the CCH process and as such, is not an appropriate issue to refer to SOAH. The ED recommends not referring this issue to SOAH.

38. Whether the draft permit is in violation of 30 TAC § 321.42(j) by allowing sludge application on third party fields. (RTC No. 46)

As raised during the comment period, this is an issue of law. The Coalition noted in their comment letter that 30 TAC § 321.42(j) allows only manure, litter, and wastewater to be applied to third-party fields, and not sludge and disputes the ED's interpretation of this rule provision. The ED interprets 30 TAC § 321.42(j) as inclusive of sludge. 30 TAC § 321.32(49) defines sludge as solid, semi-solid, or slurry waste generated during the treatment of or storage of any wastewater. The term includes materials resulting from treatment, coagulation, or sedimentation of waste in a RCS. 30 TAC § 321.32(56) defines waste as manure (feces and urine), litter, bedding, or feedwaste from animal feeding operations. Therefore, sludge is a product of the treatment, coagulation, or sedimentation of its parent materials, waste, and wastewater. More simply, it is modified manure and wastewater. The draft permit incorporates this rational by explicitly including the term sludge when appropriate. The ED recommends not referring this issue to SOAH.

39. Whether the draft permit is required to demonstrate sustainability for the term of the permit. (RTC No. 47)

As a matter of law, there are no CAFO rule requirements that LMUs be sustainable for the permit term. Long-term sustainability of a field is a planning consideration and a five-year NMP would be impracticable because the NMP is likely to change yearly due to changing climatic and operational conditions; and soil sampling results. It is important that NMPs remain flexible. The ED recommends not referring this issue to SOAH.

40. Whether the historical waste application fields should be identified in the application or the draft permit. (RTC No. 48)

As noted in the RTC, Section VII.A.9(b)(2) of the draft permit requires the Applicant to have soil samples collected annually for each current and historical LMU. This provision tracks the requirement in 30 TAC § 321.42(k) that historical waste application fields must be sampled every year, regardless of whether the Applicant eliminates them from the permit.

Special Provision X.R. requires the Applicant to maintain a map in the PPP that identifies the location of all historical LMUs and reads as follows: "A LMU map showing historical LMUs shall be maintained in the PPP." As raised during the comment period, the Coalition asked the ED to go beyond these requirements already included in the CAFO rules and draft permit and also require historical LMUs to be identified in the application or the permit. As a matter of law, this issue is not appropriate for adjudication at SOAH because the draft permit requirements already meet the applicable requirements. The ED recommends not referring this issue to SOAH.

41. Whether runoff containment from silage, commodity, manure, and hay storage areas should be addressed in the permit application as well as in the PPP. (RTC No. 49)

As noted in the RTC, draft permit § X.H. already addresses runoff containment from silage commodity and hay storage and states that those particular provisions will be included in the PPP. Additionally, § X.H. refers directly to the waste storage areas that are identified on Attachment A, the Site Map. As a matter of law, there are no requirements in 30 TAC Chapter 321 that require this containment to be addressed in the permit application. The ED recommends not referring this issue to SOAH.

42. Whether the description of the vegetative buffers in the draft permit complies with the applicable regulatory requirements. (RTC No. 51)

As raised during the comment period, this is an issue of law. TCEQ rules define the width of vegetative buffers, not the composition. As explained in the RTC, vegetative buffers are commonly understood to mean vegetation that reduces shock due to contact. NRCS Practice Code 393 refers to Practice Code 391, *Riparian Forest Buffer*. Riparian forest buffers are areas predominantly in trees or shrubs located adjacent to an up-gradient from watercourses or water bodies. One of the purposes of a riparian forest buffer is to reduce excess amounts of sediments, organic material, nutrients, and pesticides in surface runoff. This purpose is the same as that performed by vegetative filter strips according to NRCS Practice Code 393. The ED recommends not referring this issue to SOAH.

43. Whether the draft permit meets the applicable regulatory requirements in regards to addressing water quality concerns potentially caused by bacteria and other pathogens. (RTC No. 52)

As noted in the RTC, 40 CFR § 122.44(k)(3) allows states to use BMPs to control or abate discharges "when numeric effluent limitations are infeasible." This also applies to bacteria. In the case of North Bosque dairies, they are only authorized to discharge from an RCS in the event of a chronic or catastrophic rainfall event that exceeds the 25-year, 10-day storm event. The BMPs in place to limit the amount on nutrients applied to the LMUs also limit the amount of bacteria that can be applied. Bacteria applied to LMUs are limited by the BMPs that limit nutrient application. Additionally, as long as land application follows the BMPs and NMP application rates, runoff from LMUs are considered non-point source discharges that are not regulated under the draft permit.

As a matter of law, there are no further requirements to impose additional BMPs not already in place or that would be required if the draft permit is issued, to specifically address bacteria separately from nutrients. The ED recommends not referring this issue to SOAH.

44. Whether 30 TAC § 321.42(j) prohibits the Applicant from utilizing third party field for waste disposal. (RTC No. 53)

This is an issue of law. The Coalition is interpreting 30 TAC § 321.42(j) as prohibiting new CAFOs from utilizing third party fields. The ED does not interpret this provision as limiting use of third party fields to only dairy CAFOs in the North Bosque watershed permitted in 2004 when the new CAFO rules were issued. Therefore, the issue in dispute is purely one of how the ED interprets a CAFO rule provision and as such, is not an issue referable to SOAH. The ED recommends not referring this issue to SOAH.

45. Whether the draft permit should prohibit drainage or discharges of wastewater or manure from third party fields. (RTC No. 55 partial)

As raised during the comment period, this is a question of law. Runoff from third party fields where waste is applied at agronomic rates is allowed under the Clean Water Act. Runoff from third party fields where waste is not applied at agronomic rates or applied using proper operational controls is already prohibited. In those instances, runoff would be an unauthorized discharge and subject to TCEQ enforcement action. The ED recommends not referring this issue to SOAH.

46. Whether the Applicant should be prohibited from using any third party fields in the event of any rule or permit violation in the use of a third party field. (RTC No. 55 partial)

As raised during the comment period, this is a question of law. There is no basis in the CAFO rules for including a blanket prohibition against delivery of all waste to all third party fields based on a single violation on a single third party field. However, such land application when soil phosphorus is in excess of 200 ppm or land application in excess of the agronomic rate or established application rate would be a violation of the CAFO rules and subject the operator to enforcement action by

TCEQ. The ED recommends not referring this issue to SOAH.

47. Whether increase in the number of head proposed by the draft permit is consistent with the North Bosque River TMDL-Implementation Plan. (RTC No. 56)

This is an issue of law. The Coalition questions the interpretation of TMDL I-Plan, not specific factual issues with this particular dairy. The North Bosque River TMDL for phosphorus is based on narrative water quality criteria and uses BMPs to protect water quality. The TMDL does not limit the number of dairy cows in the watershed, but permits that are issued must be consistent with the TMDL. For example, while this permit would add to the number of permitted cows in the watershed, the Applicant must construct RCSs that are designed to hold a 25-year, 10-day rainfall event. This will increase their RCS capacity by approximately 60% over the previous standard in earlier versions of the CAFO rules. It is also anticipated the loading will be reduced due to the emphasis the new CAFO rules place on phosphorus levels in soil application areas.

The TMDL I-Plan recognizes that new dairies may begin operating in the watershed or that existing dairies may expand. New or expanding operations are required to meet all the new management practices found in the Chapter 321, Subchapter B CAFO rules, which were approved by EPA as meeting all federal requirements for the protection of water quality. The focus of the rules was to reduce nutrient loading by requiring BMPs designed to significantly decrease the potential for discharges. Special provisions applicable to the North Bosque watershed that were not in the previous version of the CAFO rules were designed and adopted to specifically address the TMDL requirements to reduce phosphorus loadings. The operational and management strategies in the rules and draft permit are designed to reduce nutrient loading and be consistent with the North Bosque River TMDL. The ED recommends not referring this issue to SOAH.

In the event the Commission refers this case to SOAH, the ED recommends referring issues No. 1 – No. 4.

VI. Duration of the Contested Case Hearing

Should there be a contested case hearing on this permit application, the ED recommends that the duration for a hearing on this matter be for a period of nine months from the preliminary hearing to the presentation of a proposal for decision before the commission.

VII. Executive Director's Recommendation

The ED recommends the following actions by the Commission:

1. Find that the Coalition has met the associational standing requirements in 30 TAC § 55.205(a) because Mr. Markham has a personable justiciable in his own right and grant the hearing request.

2. Refer issues No.1- No.4 to SOAH for a proceeding of nine months duration with the time

period beginning with the preliminary hearing and concluding with presentation of a proposal for decision before the Commission.

Respectfully submitted,

Texas Commission on Environmental Quality

Mark R. Vickery, P.G.
Executive Director

Robert Martinez, Director
Environmental Law Division

Michael T. Parr , Staff Attorney
Environmental Law Division
State Bar No. 24062936
P.O. Box 13087, MC 173
Austin, Texas 78711-3087
Telephone No. 512-239-0611
Facsimile No. 512-239-0606
REPRESENTING THE EXECUTIVE
DIRECTOR OF THE TEXAS COMMISSION
ON ENVIRONMENTAL QUALITY

CERTIFICATE OF SERVICE

I hereby certify that on October 26, 2009 the original and seven true and correct copies of the "Executive Director's Response to Hearing Request" relating to the application of Two Sisters Dairy, LLC for a new Texas Pollutant Discharge Elimination System (TPDES) Permit Number WQ WQ0004866000 were filed with the Chief Clerk of the TCEQ and a copy was served to all persons listed on the attached mailing list via hand delivery, facsimile transmission, email, or by deposit in the U.S. Mail.

Michael T. Parr, *Staff Attorney*
Environmental Law Division
State Bar No. 24062936

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY
2009 OCT 26 PM 4:41
CHIEF CLERKS OFFICE

MAILING LIST
FOR PERMIT NO. WQ0004866000
Two Sisters Dairy, LLC

FOR THE CHIEF CLERK:
LaDonna Castañuela, *Chief Clerk*
Texas Commission on Environmental Quality
Office of Chief Clerk MC-105
P.O. Box 13087
Austin, Texas 78711-3087
Tele: (512) 239-3300
Fax: (512) 239-3311

FOR OFFICE OF PUBLIC ASSISTANCE:
Bridget Bohac
Texas Commission on Environmental Quality
Office of Public Assistance MC-108
P.O. Box 13087
Austin, Texas 78711-3087
Tele: (512) 239-4000
Fax: (512) 239-6377

FOR THE APPLICANT:
Anneke Talsma,
Two Sisters Dairy, LLC
235 Private Road 1266
Hico, Texas 76457-3508

Norman Mullin
Enviro-Ag Engineering, Inc.
3404 Airway Boulevard
Amarillo, Texas 79118-7741
Tele: (254) 445-2200
Fax: (806) 353-4132

FOR THE REQUESTOR
Martin C. Rochelle
mrochelle@lglawfirm.com
Lauren Kalisek
lkalisek@lglawfirm.com
Lloyd Gosselink Rochelle & Townsend, P.C.
816 Congress Avenue, Suite 1900
Austin, Texas 78701
Tele: (512) 322-5847
Fax: (512) 472-0532

OFFICE OF PUBLIC INTEREST COUNCIL
Blas Coy, Jr., *Public Interest Counsel*
Texas Commission on Environmental Quality
Office of Public Interest, MC-103
P.O. Box 13087
Austin, Texas 78711-3087
Tele: (512) 239-6363
Fax: (512) 239-6377

FOR ALTERNATIVE DISPUTE RESOLUTION
Kyle Lucas
Texas Commission on Environmental Quality
Alternative Dispute Resolution, MC-222
P.O. Box 13087
Austin, Texas 78711-3087
Tele: (512) 239-4010
Fax: (512) 239-4015

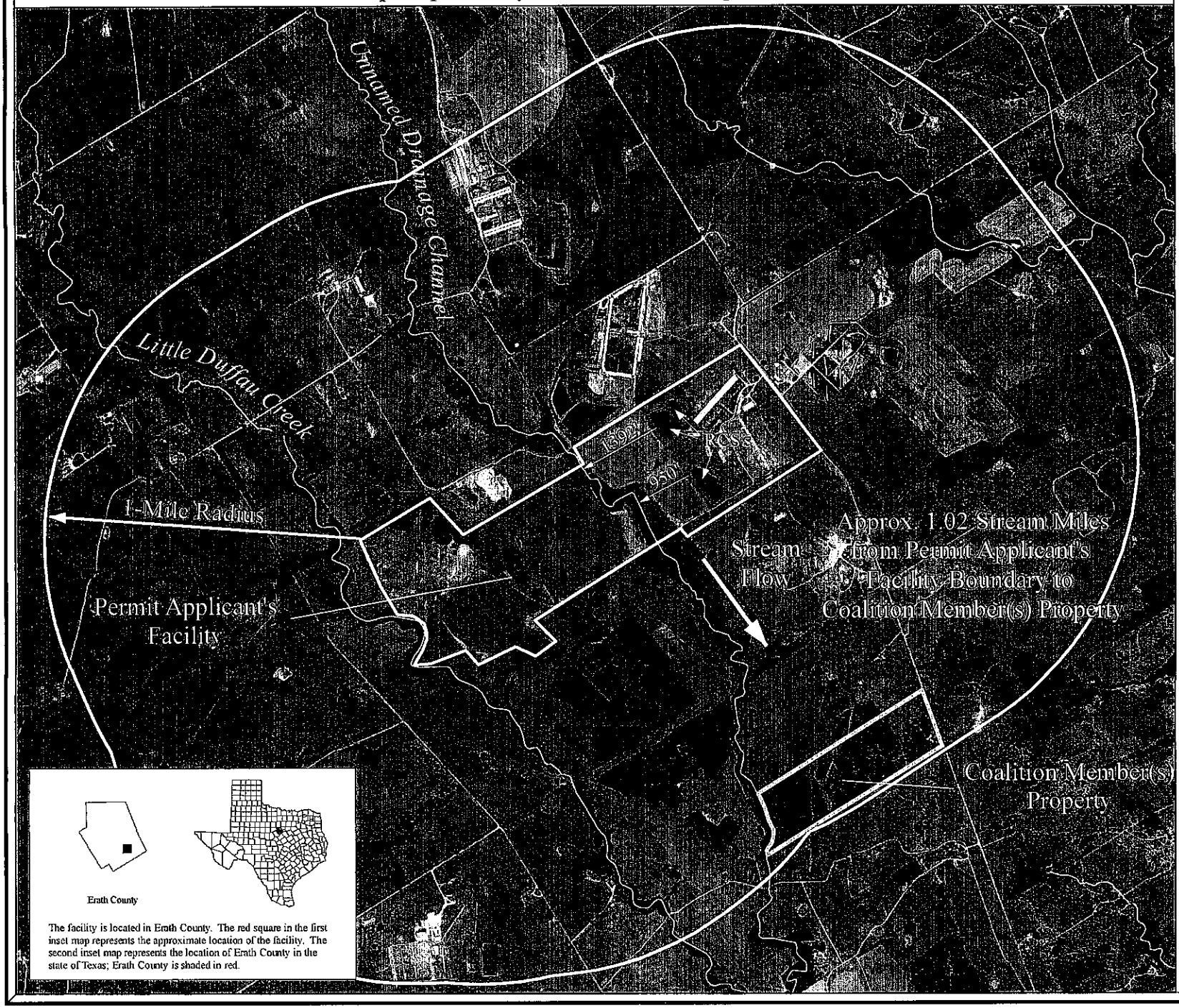
FOR THE EXECUTIVE DIRECTOR:
Michael T. Parr, *Staff Attorney*
Texas Commission on Environmental Quality
Environmental Law Division MC-173
P.O. Box 13087
Austin, Texas 78711-3087
Tele: (512) 239-0611
Fax: (512) 239-0606

Maria Snodgrass, *Technical Staff*
Texas Commission on Environmental Quality
Water Quality Division, MC-150
P.O. Box 13087
Austin, Texas 78711-3087
Tele: (512) 239-1298
Fax: (512) 239-4430

Attachment A

Two Sisters Dairy, LLC Map

Two Sisters Dairy
WQ00048660000
Map Requested by TCEQ Office of Legal Services



The facility is located in Erath County. The red square in the first inset map represents the approximate location of the facility. The second inset map represents the location of Erath County in the state of Texas; Erath County is shaded in red.

Protecting Texas by Reducing and Preventing Pollution

TCEQ

Texas Commission on Environmental Quality
GIS Team (Mail Code 197)
P.O. Box 13087
Austin, Texas 78711-3087

October 13, 2009

0 0.2 0.4 Miles

Projection: Texas Statewide Mapping System (TSMS)

Scale 1:27,400

Legend

Facility

Coalition Member(s) Property

Source: The location of the facility was provided by the TCEQ Office of Legal Services (OLS). OLS obtained the site location information and the requestor information from the applicant. The counties are U.S. Census Bureau 1992 TIGER/Line Data (1:100,000). The background of this map is a source photograph from the 2008 U.S. Department of Agriculture Imagery Program. The imagery is one-meter Color-Infrared (CIR). The image classification number is tx143_1-1.

This map depicts the following:

(1) The approximate location of the facility. This is labeled "Permit Applicant's Facility".
(2) The approximate location of the Coalition member(s) property. This is labeled "Coalition Member(s) Property".
(3) The 1-mile radius from the Permit Applicant's facility. This is labeled "1-Mile Radius".

N

This map was generated by the Information Resources Division of the Texas Commission on Environmental Quality. This map was not generated by a licensed surveyor, and is intended for illustrative purposes only. No claims are made to the accuracy or completeness of the data or to its suitability for a particular use. For more information concerning this map, contact the Information Resource Division at (512) 239-0800.

M McDonough CRF-091013082

Attachment B

Fact Sheet and ED Prelim Decision

FACT SHEET AND EXECUTIVE DIRECTOR'S PRELIMINARY DECISION

Permit No.:	WQ0004866000
Owner:	Two Sisters Dairy, LLC
Regulated Activity:	Concentrated Animal Feeding Operation; dairy cattle
Type of Application:	New
Request:	Air & Water Quality Authorization
Authority:	Federal Clean Water Act - Section 402; Texas Water Code §26.027; 30 Texas Administrative Code (TAC) Chapters 39, 305, and 321 Subchapter B; Section 382.051 of the Texas Clean Air Act and Commission Policies and Environmental Protection Agency Guidelines

I. EXECUTIVE DIRECTOR'S RECOMMENDATION

The Executive Director has made a preliminary decision that this proposed permit, if issued, meets all statutory and regulatory requirements. The proposed permit shall be issued for a five year term in accordance with 30 Texas Administrative Code Chapter 305.

II. REASON FOR PROPOSED PROJECT

The applicant has applied to the Texas Commission on Environmental Quality (TCEQ) for a New Texas Pollutant Discharge Elimination System Permit No. WQ0004866000 for a Concentrated Animal Feeding Operation (CAFO) to authorize the permittee to operate a new dairy facility at 5,500 head, of which 4,000 head are milking cows.

III. PROJECT DESCRIPTION AND LOCATION

Maximum Capacity: 5,500 total head, of which 4,000 head are milking
Land Management Units (LMUs) (acres): LMU#1- 28, LMU#2- 22, LMU#3- 51, LMU #4- 57, LMU#5- 44, and LMU#6- 18.

Location: The facility is located on the west side of County Road 209 approximately four miles south of the intersection of County Road 209 and US Highway 67, said intersection is located seven miles east of Stephenville in Erath County, Texas. Latitude: 32° 07' 04"N Longitude: 98° 03' 03" W.

Drainage Basin: The facility is located in the drainage area of the North Bosque River in Segment No. 1226 of the Brazos River Basin.

The table below indicates the volume allocations for the Retention Control Structure (RCS):

Volume Allocations for RCS(s) (Acre-feet)							
RCS #	Design Rainfall Event Runoff	Process Generated Wastewater	Minimum Treatment Volume	Sludge Accumulation	Water Balance	Required Capacity without Freeboard	Actual Capacity without Freeboard
1	4.59	5.52	15.34	12.73	5.67	43.85	To Be Determined
2	9.71	0	0	0.43	0.93	11.07	To Be Determined

The volume allocations are determined using Natural Resource Conservation Service standards, American Society of Agricultural and Biological Engineers standards, and/or site specific data submitted in the permit application.

The Design Rainfall Event is the volume of runoff from the 25–year, 10–day storm event. The RCS is required to include adequate capacity to contain this amount of runoff as a margin of safety to protect against discharges during rainfall events that may exceed the average monthly values used to design the RCS, but do not constitute chronic or catastrophic rainfall. This volume allocation accommodates runoff from open lot surfaces, all areas between the open lots and the RCS, runoff from roofed areas that contribute to the RCS and direct rainfall on the surface of the RCS. Runoff curve numbers used to calculate the runoff volume from the open lot surfaces are reflective of the characteristics of open lot surfaces and range between 90 and 95. Runoff curve numbers used to compute the runoff from areas between the open lots and the RCS are reflective of the land use and condition of the areas between the open lots and RCS. A curve number of 100 is used for the RCS surface and all roofed areas.

Process Generated Wastewater is the volume of wet manure and wastewater generated by the facility that is flushed or otherwise directed to the RCS. Wastewater includes all water used directly or indirectly by the facility that comes in contact with manure or other waste. The RCS must contain the process generated wastewater from a 21 day period or greater. RCS #1 is designed to contain 30 days of process generated wastewater for this permit.

Treatment volume is required to minimize odors for facilities requesting air authorization under the Air Standard Permit in 30 TAC Section 321.43. Treatment volume is based on the amount of volatile solids produced and the volatile solids loading rate. Volatile solids are solid material in waste that can be decomposed through biological, physical, and chemical activity. The rate of solids decomposition is based on temperature; therefore it varies by geographic location. The volatile solids loading rate for this facility is 5.3 pounds per day of

volatile solids per 1000 ft^3 of treatment volume.

Sludge accumulation volumes are required in the RCS that receives runoff from open lots, and flushwater from the milking parlor. The sludge accumulation volume for flushwater entering the RCS is based on a rate of 0.0729 cubic feet of storage capacity per pound of total solids in the wet manure entering the RCS during the design sludge accumulation period, then multiplied by the design sludge accumulation period. The sludge accumulation volume allocated for runoff from open lots is calculated using USDA Agricultural Field Waste Handbook, Kansas, Part 651.1083, which uses the following equation: (%SC) x (MAR) x (DA) x (SP), where %SC = percent solids content of runoff, MAR = mean annual runoff (in inches), DA = contributing drainage area (in acres), and SP = sediment storage period (in years). A minimum of one year of sludge storage is required in the RCS. Design sludge volumes in this permit reflect a five (5) year sludge accumulation period.

The RCS volume designated as Water Balance is the capacity needed in addition to the Process Generated Wastewater volume to provide adequate operating capacity so that the operating volume does not encroach into the design storm volume. The water balance is an analysis of the inflow into the RCS, all outflows from the RCS and the consumptive use requirements of the crops on the land areas being irrigated. The water balance is developed on a monthly basis. It estimates all inflows into the RCS including process generated wastewater and runoff from open lots, areas between open lots and the RCS, roofed areas and direct rainfall onto the RCS surface. Consumptive use potential for the areas to be irrigated is developed based on the potential evapotranspiration of the crops and the effective average monthly rainfall on the area to be irrigated. Runoff curve numbers used for the water balance are adjusted from 1 day to 30 day curve numbers to more accurately reflect monthly values. Evaporation from the RCS surface is computed on a monthly basis. Monthly withdrawals from the RCS are developed based on the total inflow to the RCS minus evaporation from the RCS surface and limited by the monthly crop consumptive use potential.

IV. SUMMARY OF CHANGES FROM EXISTING AUTHORIZATION

The existing facility was not previously required to obtain written authorization because it operated under the head count requiring a permit, but was permitted by rule and required to operate in accordance with the requirements in 30 TAC §321.47 (relating to Requirements for Animal Feeding Operations (AFOs) Not Defined or Designated As Concentrated Animal Feeding Operations (CAFOs)). The applicant is requesting authorization to operate the existing dairy cattle facility at 5,500 head. The applicant proposes to utilize 220 acres for land application. The proposed permit requires a total RCS capacity of 44.92 acre-feet to accommodate the required margin of safety. Furthermore, land application of wasterwater, sludge, slurry and manure must be in accordance with a nitrogen and phosphorus based nutrient management plan in accordance with United States Department of Agriculture/Natural Resource Conservation Service (NRCS) Practice Standard Code 590. For additional changes from the existing authorization, see Attachment 1.

V. WATER QUALITY PROTECTION

Although the proposed permit is allowing an increase from 199 head to 5,500 head, this proposed permit includes many requirements not required by the existing authorization. As a result, this proposed permit is more stringent. The new requirements can be categorized based on their intended goal: reduce the potential for discharges, minimize the nutrient loading to land and surface water, and increase the oversight of operational activities by the TCEQ.

The following requirements are designed to reduce the potential for discharges:

1. The design rainfall event, at which time the CAFO is authorized to discharge, has been increased from a 25–year, 24–hour rainfall event (7.3 inches) to a 25–year, 10–day rainfall event (12.1 inches). This is approximately a 60% increase to the design rainfall event which will result in an approximate 60% increase to the required design storm event storage capacity. The additional storage capacity creates a portion of the structure above the maximum operating capacity that will remain dry, except during chronic or catastrophic rainfall events. The increased storage capacity is expected to reduce the potential for discharge from the RCSs.

2. A RCS management plan is required to be implemented. This plan must establish expected end of the month water storage volumes for each RCS. These maximum levels are based on the design assumptions used to determine the required size of the RCS. This plan assures the permittee will maintain wastewater volumes within the designed operating capacity of the structures, except during chronic or catastrophic rainfall events. The permittee must document and provide an explanation for all occasions where the water level exceeds the expected end of the month storage volumes. By maintaining the wastewater level at or below the expected monthly volume, the RCS will be less likely to encroach into the volume reserved for the design rainfall event and/or discharge during smaller rainfall events. This has resulted in an increased operating volume in each RCS. An operating volume of 12.12 acre-feet (process generated wastewater volume plus the water balance volume) exceeds calculations of the maximum 30–day inflow (runoff plus process generated wastewater minus evaporation).

3. The wastewater level in the RCS(s) must be recorded daily. This requirement will assist the permittee in the implementation of the RCS management plan and will provide a visual indication of compliance.

4. The pond marker must have one foot increments. This requirement identifies the level of wastewater storage to assist the permittee in the implementation of the RCS management plan. It also acts as an enforcement tool for TCEQ to determine compliance with the RCS management plan.

5. Proper sludge management will reduce overflows associated with insufficient wastewater storage capacity. This permit requires that sludge accumulations in the RCS(s) be measured at least annually beginning in year three of the permit in RCS #1 and at least annually beginning in year two of the permit in RCS #2. The proposed sludge volume allocation for RCS #1 is 12.73 acre feet and RCS #2 is 0.43 acre feet, which are designed for a five (5) year accumulation.

6. Land application is prohibited between the hours of 12 a.m. and 4 a.m. This provision reduces the potential of irrigation related discharges associated with equipment malfunctions.

The following requirements are designed to help minimize the nutrient loading to land and the potential for nutrient loading to surface water:

1. Although not a new requirement, the land application of commercial fertilizer, wasterwater, sludge, slurry and manure must be in accordance with a Nutrient Management Plan (developed by a certified nutrient management specialist, based on United States Department of Agriculture/Natural Resource Conservation Service (NRCS) Practice Standard 590) which provides the permittee the necessary information to properly manage the amount, form, placement and timing for the application of nutrients to the LMUs. The proposed permit requires a nutrient management plan to be implemented upon issuance of this permit. This plan involves a site specific evaluation of the land management unit to include soils, crops, nutrient needs and includes the phosphorus index tool. The phosphorus index is a site specific evaluation of the risk potential for phosphorus movement into watercourses. The risk potential is determined by site characteristics such as soil phosphorus level, proposed phosphorus application rate, application method and timing, proximity of the nearest field edge to a named stream or lake, runoff class, and soil erosion potential. The application rates are adjusted according to the risk potential. The higher the risk potential, the lower the application rate. In determining the application rate, the nutrient management plan also considers the nitrogen and phosphorus inputs from the organic wastes, the soil content of these plant nutrients and the phosphorus loading potential into watercourses for each LMU. Once the nutrients are in balance, there is minimal potential to have excess nutrients available to leave the site and affect water quality. This proposed permit requires all excess manure, sludge and wastewater that cannot be land applied in accordance with the nutrient management plan to be removed (exported) from the facility (see item #3 below for additional discussion on manure and sludge management).

   This plan determines the application rate based on nitrogen and phosphorus, whereas the previous land application rates were based on the nitrogen requirement of the crop. Implementation of a NMP will ensure that nitrogen will not be land applied beyond the amount needed to achieve the stated target crop yields and that

phosphorus loss in surface runoff will be minimized and will not exceed the limits defined by the NRCS Practice Standard 590. Further, implementation of the NMP will define the amount of excess waste to be exported thus lowering the potential for land applied nutrients to enter surface waters. Record keeping and reporting requirements, such as the amount of manure produced, amount of wasterwater, sludge, slurry and manure land applied, soil sampling and analyses, and the amount of wastewater, sludge, and/or manure removed from the facility, can be used to verify compliance with the nutrient management plan.

2. In addition to the requirements for implementation of a nutrient management plan, the permittee must develop and implement a Comprehensive Nutrient Management Plan (CNMP) certified by the Texas State Soil and Water Conservation Board. The CNMP must be developed by a qualified individual(s) in accordance with Texas State Soil and Water Conservation Board regulations. The CNMP is a whole farm plan that addresses nutrient management from the origin in the feed rations to final disposition. The CNMP considers all nutrient inputs, onsite use and treatment, outputs, and losses. Inputs include animal feed, purchased animals, and commercial fertilizer. Outputs include animals sold, harvested crops removed from the facility, and manure removed from the facility. Losses include volatilization, stormwater runoff, and leaching.

3. All generated manure, sludge or wastewater in excess of the amount allowed by the nutrient management plan must be delivered to a composting facility authorized by the executive director, delivered to a permitted landfill, beneficially used by land application to land located outside of the major sole source impairment zone, or provided to operators of third-party fields for beneficial use subject to specified land application requirements and testing. By requiring specific outlets for excess manure, sludge and wastewater, the permit limits unregulated use of manure, sludge and wastewater within the watershed. Exported use requires additional record-keeping to document how manure, sludge and wastewater are used and provides a mechanism to track each permittee's contribution toward the 50% voluntary removal goal in the Bosque River Total Maximum Daily Load (TMDL).

4. Additional conservation practices have been imposed on LMUs adjacent to water in the state. These conservation practices include a 100 foot vegetative buffer, filter strips, vegetative barrier, and/or contour buffer strips. Site specific conditions and NRCS practice standards specify which conservation practices, in addition to the required 100 foot vegetative buffer, must be implemented. The conservation practices reduce erosion, suspended solids and nutrients in runoff from LMUs. This will improve the quality of stormwater runoff prior to entering water in the state.

   In the table below, the Additional Buffer Setback length was determined by using the NRCS Conservation Practice Code 393, Filter Strip. The practice code uses a

combination of hydrologic soil groups and field slope percentages to calculate an appropriate filter strip length.

LMU #	Vegetative Buffer Setback (feet)	Additional Buffer Setback NRCS Code 393 Filter Strip flow length (feet)
1	Not applicable	
2	100	28-40
3	100	28
4	100	33
5	100	33
6	100	36

5. The table below illustrates numbers from the permittee's NMP, dated November 11, 2008, to compare the maximum application rate versus the planned application rate. The plan is based on a goal of maintaining soil test Phosphorus (P) levels below 200 ppm, which results in a planned application amount, for all LMUs collectively, that is less than the maximum allowed under the East Texas Phosphorus Index. NMPs are routinely updated and the values shown below are subject to change.

LMU #	Soil Test P (ppm)	Max Annual P_2O_5 (lbs/ac)	Proposed Annual P_2O_5 (lbs/ac)	% of Max Allowable
1	137	460	55	12
2	56	490	101	22
3	56	202	0	0
4	124	460	55	12
5	129	460	55	12
6	129	350	0	0

The following requirements allow for increased oversight of operational activities by the TCEQ:

1. The permittee must provide a report to the TCEQ to substantiate a chronic rainfall discharge. After review of the report, if required by the executive director, the permittee must have an engineering evaluation by a licensed Texas professional engineer developed and submitted to the executive director. The report and engineering evaluation may be used to verify that the facility was maintained and operated according to the permit conditions. Information reviewed may include rainfall records at the CAFO, RCS wastewater levels preceding the discharge, irrigation records, and the current sludge volume. This requirement allows for closer scrutiny by TCEQ for discharges resulting from chronic conditions and provides documentation for enforcement of unauthorized discharges. The current authorization does not require chronic discharge documentation or an engineering evaluation.

2. The TCEQ regional office must be notified ten (10) days prior to annual soil sample collection activities. This allows the TCEQ to observe sample collection and/or obtain split samples for duplicate analysis to help assure that data collected are credible to support application rates in the nutrient management plan. The current authorization does not require notification of soil sample collection activities.

3. Annual soil samples must be collected by one of the following persons: the NRCS; a certified nutrient management specialist; the Texas State Soil and Water Conservation Board; the Texas AgriLife Extension; or an agronomist or soil scientist on full-time staff at an accredited university located in the State of Texas. This ensures that samples are collected by individuals who are knowledgeable about soil sampling techniques and sample preservation. The current authorization does not specify who must collect the annual soil samples.

4. Some of the land application records maintained by the permittee must be submitted to the TCEQ annually. These records include: date of wasterwater, sludge, slurry and manure application to each LMU; location of the specific LMU and the volume applied during each application event; acreage of each individual crop on which wasterwater, sludge, slurry and manure is applied; basis for and the total amount of nitrogen and phosphorus applied per acre to each LMU, including sources of nutrients and amount of nutrients on a dry weight basis other than wasterwater, sludge, slurry and manure; weather conditions, such as temperature, precipitation, and cloud cover, during the land application and twenty–four (24) hours before and after the land application; and annual nutrient analysis for at least one (1) representative sample of each type of waste to be applied (wastewater, sludge (if applicable), or manure) for total nitrogen, total phosphorus, and total potassium. This will assist the TCEQ in monitoring compliance with land application requirements of the permit.

Although the proposed permit authorizes an expansion from 199 head to 5,500 head, the conditions being proposed in this permit are anticipated to significantly reduce pollutants entering receiving waters. These reductions are from limiting the potential for RCS overflows and better managing land application of nutrients to LMUs. Regardless of the number of head, this permit requires all exported manure, sludge and wastewater that cannot be land applied in accordance with the nutrient management plan to be exported from the facility (i.e. composting, landfill, outside of the watershed, or third-party fields). The wastewater generated by the facility is retained and managed in a RCS that must be designed to exceed the federal sizing requirement. The RCS is required to be designed with a margin of safety, which requires a larger portion of the RCS to remain dry (i.e. the distance between the normal wastewater operating level and the spillway). This permit requires each RCS to accommodate rainfall and runoff from a 25-year, 10-day rainfall event rather than the 25-year, 24-hour rainfall event specified in Federal regulations. This results in approximately a

60% increase in the required storage capacity and is intended to reduce the potential for discharges from the RCS. The normal wastewater operating level is required to be closely monitored and maintained by implementation of the RCS management plan and increased recordkeeping by the permittee. The dry storage area is available to capture rainfall from extended periods of wet weather without overflow. In the unlikely event of an overflow, the permittee must provide records to the TCEQ to prove that the overflow was unavoidable. If the overflow is determined to be unauthorized, this documentation provides TCEQ additional tools to initiate enforcement proceedings. These permit requirements, best management practices, and increased management and TCEQ oversight will protect water quality, when properly implemented.

VI. 303(d) LISTING and TOTAL MAXIMUM DAILY LOAD (TMDL)

The facility for this permit action is located within the watershed of the North Bosque River in Segment No. 1226 of the Brazos River Basin. The designated uses and dissolved oxygen criterion as stated in Appendix A of the Texas Surface Water Quality Standards (30 Texas Administrative Code §307.10) for Segment No. 1226 are contact recreation, public water supply, high aquatic life use, and 5.0 mg/L dissolved oxygen.

Segment No. 1226 is currently listed on the State's inventory of impaired and threatened waters (the 2008 Clean Water Act Section 303(d) list) for bacteria. The North Bosque River (Segments 1226 and 1255) was included in the 1998 Texas Clean Water Act 303(d) List and deemed impaired under narrative water quality standards related to nutrients and aquatic plant growth.

Segment No. 1226 is included in the agency's document *Two Total Maximum Daily Loads for Phosphorus in the North Bosque River,* adopted by the Commission on February 9, 2001 and approved by EPA on December 13, 2001. *An Implementation Plan for Soluble Reactive Phosphorus in the North Bosque River Watershed* (TMDL Implementation Plan) was approved by the Commission on December 13, 2002 and approved by the Texas State Soil and Water Conservation Board on January 16, 2003.

The TMDL for the North Bosque River, Segments 1226 and 1255, identified the amount of phosphorus introduced into these segments, i.e. the load. Phosphorus load from two categories of sources was modeled to calculate the expected reductions in phosphorus load to meet instream water quality standards. Point sources included wastewater treatment plants; non-point sources included all other sources, such as CAFOs. The TMDL called for an average 50% reduction in the average concentration of soluble reactive phosphorus across river index stations and was to be achieved by a 50% reduction in soluble reactive phosphorus loadings from both point sources and non-point sources. The TMDL was developed assuming implementation of specific best management practices. This set of best management practices represents one way to achieve the water quality targets in stream and the overall reduction goal of the TMDL.

The TMDL was approved with the understanding that an adaptive management approach was an appropriate means to manage phosphorus load to the stream. The TMDL Implementation Plan emphasized this approach to achieve the phosphorus reductions targeted in the TMDL. Adaptive management envisions adjustment of management practices over time as necessary to reach this target. The TMDL anticipated that, to control loading to the stream, dairy CAFO permittees would implement those best management practices which best addressed site-specific conditions. Accordingly, the TMDL is not directly tied to the number of animal units permitted in the watershed; it is instead tied to the amount of nutrients that may be land applied consistent with management practices that ensure appropriate agricultural utilization of nutrients.

The provisions of this permit seek to reduce the amount of phosphorus (and other pollutants) discharged to water in the state from the CAFO. Primary management strategies for dairies, both voluntary and regulatory, were identified in the TMDL Implementation Plan which included: requiring phosphorus-based application rates when applying manure, wastewater, or sludge to LMUs; voluntarily implementing efforts to reduce the amount of phosphorus in dairy cow diets; and removing significant quantities of dairy-generated manure from the watershed for the production of compost, beneficial use on crops, or disposal. The permit application includes a nutrient management plan, which allocates the amount of nutrients to each LMU based on target agronomic crop yields. The proposed permit requires a nutrient management plan to be implemented upon issuance of the permit and also specifies how the excess manure will be managed. The voluntary phosphorus diet reductions may be implemented through consultations between a nutritionist and the permittee. Any such dietary phosphorus reductions will result in reduced phosphorus concentrations in manure. These strategies are facets of CNMPs; CNMPs are required for all dairy CAFOs in the major sole-source impairment zone.

The CNMP must consider manure phosphorus content, the LMU area available for land application based on phosphorus-rate application, and the amount of exported manure that would remain. It must also account for all pathways of manure use or disposal, which would include removal to compost facilities, transport to another watershed for land application, or land application at onsite LMUs. The proposed permit requires the permittee to continue implementation of a CNMP.

These nutrient management plans determine the nutrient application rate based on nitrogen and phosphorus, whereas the current authorization allows land application rates based on the nitrogen requirement of the crop. The implementation of these enhanced nutrient management plans and best management practices for phosphorus reduction within the watershed is expected to result in phosphorus load reduction consistent with the TMDL Implementation Plan.

Continuing education requirements in the proposed permit mandate that the operator be trained on management practices that are also consistent with the TMDL Implementation Plan regarding feed management and waste management practices.

The TMDL Implementation Plan also includes a recommendation that the CAFO rule making consider more stringent requirements for RCSs, in order to reduce the potential for overflows from RCSs. In response, several permit provisions have been proposed that are consistent with the TMDL Implementation Plan, which include:

1. RCSs must be designed to contain the volume associated with a 25 year/10 day rainfall event,
2. installation of a permanent marker, graduated in one foot increments from the minimum treatment volume to the top of the spillway or graduated in one-foot increments beginning from the bottom of the RCS to the top of the embankment or spillway for RCSs without treatment volume,
3. a RCS management plan detailing procedures for proper operation and management of wastewater levels based on design and assumptions of monthly expected operating levels,
4. daily monitoring records of wastewater levels,
5. notification of discharges within one hour,
6. discharge sample analyses to be submitted to the TCEQ, and
7. a report of discharges to be submitted to the TCEQ regional office, documenting that overflows from cumulative rainfall events were beyond the permittee's control.

In addition, the September 15, 2003 White Paper, *Standards for Waste Retention Facilities in the North Bosque River Watershed*, contains a statement indicating that "...some of the technical professionals working on this committee are convinced that a significant part of the dairy source loading as being from retention facilities." Although not directly quantifiable, it is expected that a significant phosphorus load reduction will occur as a result of these enhanced design standards. Not only will the increased capacity requirements result in load reductions, but the additional operation, maintenance, recordkeeping and reporting requirements will aid in achieving the water quality target for the North Bosque River.

The TMDL Implementation Plan includes a recommendation that the CAFO rule making consider whether additional limitations or requirements are needed for runoff control and whether additional irrigation management is needed to prevent excessive runoff. In response, the proposed permit includes the requirement for a CNMP (mentioned above), and a 100-foot wide vegetative buffer plus an additional site specific filter strip width between every application area and a water in the state. The proposed permit also specifies that automatic irrigation shutdown requirements may be imposed and prohibits nighttime land application from midnight to 4:00 a.m.

The RCS storage capacity requirements, nutrient management practices, increased TCEQ oversight of operational activities, and requirements of the TMDL Implementation Plan,

which are incorporated into the draft permit, are designed to reduce the potential for this CAFO to contribute to further impairment from bacteria and nutrients such as total phosphorus. Furthermore, it is anticipated the implementation of the primary management strategies and permit provisions identified above will result in phosphorus load reduction in the watershed and achieve the reductions targeted in the TMDL. Attachment 2 outlines the proposed permit provisions discussed above and provides the purpose of each provision. The permit provisions are consistent with the approved TMDL that establishes measures for reductions in loadings of phosphorus (and consequently other potential pollutants) to the North Bosque River Watershed. Therefore, this permit is consistent with the requirements of the antidegradation implementation procedures in 30 Texas Administrative Code Section 307.5 (c)(2)(G) of the Texas Surface Water Quality Standards.

VII. DRAFT PERMIT RATIONALE

A. PERMIT CONDITIONS AND EFFLUENT LIMITATIONS

The following items were considered in developing the proposed draft permit:

1. The application received on August 18, 2008 and subsequent revisions,
2. 30 TAC §321.47 (Requirements for Animal Feeding Operations (AFOs) Not Defined or Designated As Concentrated Animal Feeding Operations (CAFOs)),
3. Interoffice Memorandum from the Water Quality Assessment Team, Water Quality Assessment Section, Water Quality Division, dated November 14, 2008,
4. Interoffice Memorandum from the Water Quality Standards Team, Water Quality Assessment Section, Water Quality Division, dated November 14, 2008,
5. TCEQ rules,
6. Bosque River TMDL Implementation Plan,
7. NRCS Animal Waste Management Field Handbook, Nutrient Management Practice Standard Code 590, the Field Office Technical Guidance for Texas, and ASABE Standards, and
8. Environmental Protection Agency rules

Wasterwater, sludge, slurry and manure may only be discharged from a LMU or a properly designed, constructed, operated and maintained RCS into water in the state from this CAFO if any of the following conditions are met:

1. discharge resulting from a catastrophic condition other than a rainfall event that the permittee cannot reasonably prevent or control;

2. a discharge resulting from a catastrophic rainfall event from a RCS;

3. a discharge resulting from a chronic rainfall event from a RCS; or

4. a discharge resulting from a chronic rainfall event from a LMU that occurs because the permittee takes measures to de-water the RCS in accordance with the individual permit, relating to imminent overflow.

For a discharge resulting from a chronic rainfall event, the permittee shall submit a report to the appropriate TCEQ regional office that includes the CAFO records that substantiates that the overflow was a result of cumulative rainfall that exceeded the design rainfall event, without the opportunity for dewatering, and was beyond the control of the permittee. After review of the report, if required by the executive director, the permittee shall have an engineering evaluation by a licensed Texas professional engineer developed and submitted to the executive director.

All waste including any manure, bedding or feed waste from the CAFO and any water contaminated by waste contact must be stored or utilized to comply with the permit and TCEQ Rules. The proposed permit satisfies the Environmental Protection Agency effluent limitation guidelines in 40 Code of Federal Regulations, Parts 412 and122.

40 Code of Federal Regulations §122.44 specifies that any requirements, in addition to or more stringent than promulgated effluent limitation guidelines, must be applied when they are necessary to achieve state water quality standards. Water quality based effluent limitations must be established when TCEQ determines there is a reasonable potential to cause or to contribute to an in-stream excursion above the allowable ambient concentration of a state numeric criterion. For CAFO discharges the TCEQ must consider:

1. existing controls on point and non-point sources of pollution;
2. variability of the pollutant in the effluent; and
3. dilution of the effluent in the receiving water.

In proposing this permit, the TCEQ addresses considerations 2. and 3. since continuous discharges are prohibited and effluent discharges are authorized only during catastrophic conditions or a chronic or catastrophic rainfall event from a RCS properly designed, constructed, operated and maintained. The effluent pollutant levels are variable and effluent is usually not discharged. Additionally, during these climatic events, water bodies receiving a contribution of CAFO wastewater should be significantly diluted by other rainfall runoff.

Consideration 1. requires permit controls on CAFO discharges which will result in the numeric criteria of the water quality standards being met, thus ensuring that applicable uses of water in the state are attained. The principal pollutants of concern include organic matter causing biochemical oxygen demand, the discharge of

ammonia-nitrogen, phosphorus and fecal coliform bacteria. This permit requires discharges to be monitored for the pollutants of concern. Existing technology does not allow for practicable or economically achievable numeric effluent limitations at this time. The Environmental Protection Agency has not promulgated effluent guidelines or numeric effluent limitations that would allow regular discharges of CAFO process wastewater or process-generated wastewater. The proposed permit addresses potential pollutant impacts through requirements including numerous narrative (non-numeric) controls on CAFO process wastewater and non-point sources of pollutant discharges associated with CAFOs. Setting specific water quality-based effluent limitations in this permit is not feasible (see 40 Code of Federal Regulations §122.44 (k)(3)). Instead, the proposed permit provides general and site specific provisions which are expected to result in compliance with water quality criteria and protection of attainable water quality as follows:

1. The approved recharge feature certification submitted in the permit application must be updated and maintained in the onsite pollution prevention plan. The recharge feature certification describes the location of the CAFO relative to certain natural and artificial features that could result in adverse ground water impacts. Groundwater has the potential to resurface as surface water. Therefore, preventing impacts to groundwater also provides protection to surface water.

   The table below shows potential soil limitations identified in the recharge feature evaluation and the proposed management practices to address those limitations.

Soil Series and Map ID	Potential Limitations	Best Management Practices
Fr, WaB, WkA	Percolates slowly, Slow water movement, Depth to saturated zone.	Land application not to exceed agronomic rates and soil infiltration rates, and no land application to inundated soils.
Ma, Pd	Depth to bedrock, Droughty.	Land application not to exceed agronomic rates and soil infiltration rates, maintain soil moisture to promote crop growth, and maintain cover crop in LMUs.
WsD3	Percolates slowly.	Maintain all RCSs as meeting TCEQ liner requirements.

Soil Series and Map ID	Potential Limitations	Best Management Practices
Pd	Low adsorption.	Land application not to exceed agronomic rates and soil infiltration rates, maintain soil moisture to promote crop growth, and maintain cover crop in LMUs.
Fr	Flooding.	No land application to inundated soils.
WkA, WaB	Runoff.	Will not apply when ponded or within 24 hours of a 0.5 inch or more rainfall event.

Seldon fine sand, 1 to 5 percent slopes, have been identified by the NRCS as highly erodible land (HEL). If erosion is detected, the LMUs will be protected with conservation farming practices within the standards of NRCS.

The table below lists all wells on the facility, their status, and what measure will be taken to protect groundwater. A Well Buffer Exception request for Well Nos. 1, 2, 3, and 9 was submitted to and approved by the TCEQ Water Quality Assessment Team.

Well Number*	Status	BMPs
1	Producing	Concrete surface slab around the wellhead and located up-gradient from the pollution source.
2	Producing	Concrete slab around the wellhead and located up-gradient from the pollution source.
3	Producing	Concrete surface slab around the wellhead and well is isolated from runoff by concrete retaining wall.
4	Producing	Maintain 150 ft buffer
5	Producing	Maintain 150 ft buffer
6	Producing	Maintain 150 ft buffer
7	Producing	Maintain 150 ft buffer
8	Producing	Maintain 150 ft buffer
9	Producing	Concrete surface slab around the wellhead and well is isolated from runoff by concrete retaining wall.

2. Each RCS at the CAFO must be adequately lined and certified by a professional engineer. Groundwater has the potential to resurface as surface

water. Therefore, preventing impacts to groundwater also provides protection to surface water.

3. RCS design criteria must include volumes for the design rainfall event, sludge, process generated wastewater, and treatment volume for the air standard permit to meet "best available technology economically achievable" and "best practicable control technology". These design criteria must be supplemented with a water balance analysis that demonstrates that wastewater can be sufficiently stored and irrigated and that consumption of the wastewater will not induce runoff or create tailwater. The application includes design calculations, certified by a professional engineer, which determine the design criteria for each RCS.

4. The modified RCSs must maintain two vertical feet of material equivalent to construction materials between the top of the embankment and the structure's spillway to protect from overtopping the structure. RCSs without spillways must have a minimum of two vertical feet between the top of the embankment and the required storage capacity.

5. Recordkeeping and reporting requirements are designed to help ensure that the permittee complies with the permit provisions. Some of these requirements include daily records of RCS wastewater levels and measurable rainfall; weekly records of manure, wastewater, and sludge removed from the facility, inspections of control facilities and land application equipment; and monthly records of wasterwater, sludge, slurry and manure land applied. The permittee is required to submit an annual report to the TCEQ which includes a subset of the permit recordkeeping requirements.

6. Discharge of wastewater from irrigation is prohibited, except a discharge resulting from irrigation events associated with imminent overflow conditions. Precipitation-related runoff from LMUs is allowed by the permit, when land application practices are consistent with a nutrient management plan or nutrient utilization plan.

7. Solid waste management provisions specify requirements which minimize adverse water quality impacts.

8. The entry of uncontaminated stormwater runoff into RCSs must be minimized. The site includes berms to direct contaminated runoff into the RCSs as well as prevent uncontaminated stormwater runoff from entering the RCSs.

9. The permittee shall take all steps necessary to prevent any adverse effect to

human health or safety, or the environment.

10. The permittee shall provide the following notifications:

    (a) Any noncompliance which may endanger human health or safety, or the environment shall be reported by the permittee to the TCEQ, orally or by facsimile transmission within twenty-four (24) hours and in writing within five (5) days of becoming aware of the noncompliance.

    (b) Discharges resulting from a chronic or catastrophic rainfall event or catastrophic conditions must be reported orally within one hour of the discovery of the discharge and in writing within fourteen (14) working days.

Where a specific chemical pollutant does not have a water quality criterion and that pollutant is present in CAFO effluent at a concentration that has the reasonable potential to cause, or contribute to, an excursion above a narrative criterion in the state water quality standards, TCEQ must establish effluent limits, except as provided by 40 Code of Federal Regulations Section 122.44(k).

Nutrient pollutants of concern have narrative criteria and are discharged in CAFO wastewater. As described above, effluent limitations are not feasible at this time. Nutrient management has been addressed through the imposition of a three tiered approach, based on the soil phosphorus concentration.

For LMUs with a soil phosphorus concentration of less than 200 ppm in Zone 1 (0-6 inches if incorporated, 0-2 or 2-6 inch if not incorporated) depth, a certified nutrient management plan is required. This plan is based on the NRCS Practice Standard Code 590. It uses site specific criteria to determine the phosphorus application rate based on the crop requirement. It addresses the amount, source, placement, form, and timing of the application of all nutrients and soil amendments to meet crop needs. As previously discussed in Section V of this Fact Sheet, the nutrient application rate is based on the most limiting nutrient with phosphorus inputs not to exceed ceiling levels as described in the nutrient management plan, thus there is minimal potential to have excess nutrients available to leave the site and affect water quality.

As required by Texas Water Code §26.504, for LMUs with a soil phosphorus concentration of 200 - 500 ppm in Zone 1 (0-6 inches if incorporated, 0-2 or 2-6 inch if not incorporated) depth, the permittee must submit a nutrient utilization plan based on crop removal. At the discretion of the certified nutrient management specialist, the nutrient utilization plan may also include a phosphorus reduction component. This nutrient utilization plan must be submitted to the TCEQ for review and

approval. The nutrient utilization plan is a revised nutrient management plan developed utilizing the same NRCS 590 Practice Standard tool to evaluate the site specific elements in the LMU such as slope and distance to water courses, the rates, methods, schedules of wasterwater, sludge, slurry and manure application, and best management practices including physical structures and conservation practices utilized by the CAFO to assure the beneficial use of wasterwater, sludge, slurry and manure is conducted in a manner that prevents phosphorus impacts to water quality. A crop removal application rate is the amount of nutrients contained in and removed by the proposed crop.

As required by Texas Water Code §26.504, for LMUs with a soil phosphorus concentration of greater than 500 ppm in Zone 1 (0-6 inches if incorporated, 0-2 or 2-6 inch if not incorporated) depth, the nutrient utilization plan must be based on crop removal and include a phosphorus reduction component. A phosphorus reduction component is a management practice, incorporated into the nutrient utilization plan, which is designed to further reduce the soil phosphorus concentration by means such as phosphorus mining, moldboard plowing, or other practices utilized by the permittee. This revised nutrient utilization plan must also be submitted to the TCEQ for review and approval. Permittees required to operate under a nutrient utilization plan with a phosphorus reduction component must show a reduction in the soil phosphorus concentration within twelve (12) months or may be subject to enforcement actions.

After a nutrient utilization plan is implemented, the permittee shall land apply in accordance with the nutrient utilization plan until the soil phosphorus is reduced below 200 ppm. Each of these plans must be developed and certified by a nutrient management specialist. This three tiered approach, when implemented, should minimize the potential for nutrients to accumulate in the soil and reduce nutrient concentrations in LMUs. Failure to operate in accordance with a nutrient management plan or nutrient utilization plan may constitute a violation of state law and this permit and may subject the permittee to enforcement action.

B. TECHNOLOGY-BASED REQUIREMENTS

Technology-based effluent limitations are considered in the proposed individual permit. Effluent limitations are based on "best conventional pollutant control technology", and "best available technology economically achievable", a standard which individually represents the best performing existing technology in an industrial category or subcategory. "Best available technology economically achievable" and "best conventional pollutant control technology" effluent limitations may never be less stringent than corresponding effluent limitations based on "best practicable control technology", a standard applicable to similar discharges before March 31, 1989 under Clean Water Act §301(b)(1)(A).

Frequently, the Environmental Protection Agency adopts nationally applicable guidelines identifying the "best practicable control technology", "best conventional pollutant control technology", and "best available technology economically achievable" standards to which specific industrial categories and subcategories are subject. When such guidelines are published, the Clean Water Act, §402(a)(1) requires that appropriate "best conventional pollutant control technology" and "best available technology economically achievable" effluent limitations be included in permitting actions on the basis of the permitting authority's best professional judgment.

The Environmental Protection Agency standard for CAFOs, as contained in 40 Code of Federal Regulations Parts 122 and 412, is no discharge of waste or wastewater from animal feeding operations into water of the United States, except when chronic or catastrophic rainfall or catastrophic conditions cause an overflow. All waste including any manure, litter, bedding or feed waste from animal feeding operations and any water contaminated by waste contact must be stored or utilized to comply with this individual permit, which requires applicable technology control.

The conditions of the proposed permit have been developed to comply with the technology-based standards of 40 Code of Federal Regulations Part 412. The proposed permit includes provisions and performance standards based on NRCS technical standards rather than numeric limitations, to address the collection, storage, treatment and land application of manure, sludge, or wastewater and to limit pollutants in discharges. This permit exceeds these standards by requiring the 25-year/10-day design storm event storage volume.

C. WATER QUALITY-BASED REQUIREMENTS

The proposed permit would authorize the land application of wasterwater, sludge, slurry and manure, and would only allow a discharge to surface water when chronic or catastrophic rainfall or catastrophic conditions result in an overflow of a properly designed, operated and maintained RCS. No water quality impacts are expected to occur from land application based upon properly prepared and implemented nutrient management practices.

Instead of numeric water quality based effluent limitations, this permit establishes management practices to restrict discharges to occur only during defined chronic or catastrophic rainfall events or catastrophic conditions. Discharges occurring during these conditions would be highly intermittent in nature and should be significantly diluted by rainfall runoff.

D. MONITORING REQUIREMENTS

Monitoring requirements were established based on TCEQ rules, and 40 Code of Federal Regulations Part 412. For any discharges, grab samples must be collected and analyzed for Biochemical Oxygen Demand, Total and Fecal Coliform, Total Dissolved Solids, Total Suspended Solids, Nitrate, Total Phosphorus, Ammonia Nitrogen and pesticides (if suspected). Soil samples must be taken annually from LMUs and analyzed for Nitrate, Phosphorus, Potassium, Sodium, Magnesium, Calcium, Soluble salts/electrical conductivity, and pH. Discharges and soil analyses are reported to TCEQ.

E. REQUIREMENTS FOR BENEFICIAL USE OF MANURE, SLUDGE, AND WASTEWATER

The proposed permit contains requirements related to the collection, handling, storage and beneficial use of manure, wastewater, and sludge. These requirements were established based on TCEQ rules, Environmental Protection Agency guidance, NRCS Field Operations Technical Guidance and the Animal Waste Management Field Handbook, recommendations from the TCEQ's Water Quality Assessment Team, and best professional judgment.

40 Code of Federal Regulations §122.42(e)(1) specifies that a nutrient management plan must be developed and implemented by February 27, 2009. The elements of a nutrient management plan as listed in 40 Code of Federal Regulations §122.42(e)(1) have been incorporated into this permit. This permit requires a nutrient management plan and each of the required elements to be implemented upon issuance of this permit. In relation to these items, the proposed permit is more stringent than federal requirements.

This permit also requires the implementation of a CNMP. The CNMP must consider manure, wastewater, and sludge handling and storage, land treatment practices, nutrient management, documentation of implementation and management activities associated with the CNMP, feed management (voluntary), and alternative uses for manure. This requirement is not required by federal rule and is, consequently, more stringent than federal requirements.

The proposed permit authorizes the use of third-party fields, i.e. land not owned, operated, controlled, rented, or leased by the CAFO owner or operator that have been identified in the PPP. The permittee must have a contract with the operator of the third-party fields. The written contract must require all transferred manure, wastewater, and sludge to be beneficially applied to third-party fields in accordance with the applicable requirements in 30 Texas Administrative Code §321.36 and §321.40 at an agronomic rate based on soil test phosphorus in Zone 1 (0-6 inches if

incorporated, 0-2 or 2-6 inch if not incorporated) depth. A certified nutrient management specialist must annually collect soil samples from each third-party field used and have the samples analyzed in accordance with the requirements for permitted LMUs. The permittee is prohibited from delivering manure, wastewater, and sludge to an operator of a third-party field once the soil test phosphorus analysis shows a level equal to or greater than 200 ppm in Zone 1 (0-6 inches if incorporated, 0-2 or 2-6 inch if not incorporated) depth or after becoming aware that the third-party operator is not following the specified requirements and the contract. The permittee will be subject to enforcement action for violations of the land application requirements on any third-party field. The third-party fields must be identified in the pollution prevention plan. The permittee must submit a quarterly report with the name, locations, and amounts of manure, wastewater, and sludge transferred to operators of third-party fields.

VIII. THREATENED OR ENDANGERED SPECIES

The discharge from this permit action is not expected to have an effect on any federal endangered or threatened aquatic or aquatic dependent species or proposed species or their critical habitat. This determination is based on the United States Fish and Wildlife Service's (USFWS) Biological Opinion on the State of Texas authorization of the Texas Pollutant Discharge Elimination System (TPDES) dated September 14, 1998 and the October 21, 1998 update. To make this determination for TPDES permits, TCEQ and Environmental Protection Agency only considered aquatic or aquatic dependent species occurring in watersheds of critical concern or high priority as listed in Appendix A of the USFWS Biological Opinion. This determination is subject to reevaluation due to subsequent updates or amendments to the Biological Opinion. The permit does not require Environmental Protection Agency review with respect to the presence of endangered or threatened species.

IX. PROCEDURES FOR FINAL DECISION

When an application is declared administratively complete, the Chief Clerk sends a letter to the applicant instructing 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 fact sheet, to the Chief Clerk. At that time, Notice of Application and Preliminary Decision will be mailed to the people identified on the Office of

the Chief Clerk mailing list and published in the newspaper. 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. 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 a person may request a contested case hearing or file a request for reconsideration of the Executive Director's decision within thirty (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 thirty (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 Maria Snodgress at (512)239-1298.

_____ _____

Maria Snodgress
CAFO Permits Team
Water Quality Assessment Section
Water Quality Division

Date

Attachment 1

	Existing Authorization: Permit by Rule under 30 TAC §321.47	Proposed permit
Head Count	199	5,500
RCS Required Capacity (acre-feet)	25 year, 24 hour runoff	44.92
RCS Actual Capacity (acre-feet)	73.27	To be determined
design rainfall criteria	25 year/24 hour rainfall event	25 year/10 day rainfall event
RCS management plan	not required	required
RCS depth marker	25 year/24 hour designation	25 year/10 day designation; and 1 foot graduations to bottom of pond
management of sludge volume in RCSs	No monitoring frequency required	Sludge volume accumulations measured as needed first two years, then annually beginning in year 2 for RCS #2 and year 3 for RCS #1 of the permit.

RCS discharge monitoring	not required	monitored for fecal coliform, total coliform, total dissolved solids, nitrate, total, phosphorus, 5-day biochemical oxygen demand, total suspended solids, ammonia nitrogen, and any pesticide which the operator has reason to believe could be in the discharge
Chronic discharge determination	not required	required
Monitoring wastewater volume in RCS	weekly	daily
CNMP	not required	required
additional manure removed from the facility	compost facility, land fill, or beneficially applied outside the watershed	compost facility, landfill or beneficially land applied outside the watershed, or beneficially land applied to third-party fields
Buffer distances between land application and surface water	100 ft	100 ft plus additional NRCS conservation practices
nighttime land application	allowed	prohibited between 12 am and 4 am
soil sampling notification	no notice required	regional office notification prior to sampling
soil sampling	permittee collects annually	CNMS collects annually

Attachment 2

Permit Provision	Purpose
25 year/24 hour rainfall event to 25 year/10 day rainfall event	• 60% increase to the storage capacity reserved for chronic rainfall • an additional portion of the structure will remain dry, except during chronic or catastrophic rainfall events • will reduce potential for overflow
RCS management plan	• predicts expected end of the month water storage volumes for each RCS • requires permittee to manage water level accordingly • requires permittee to maintain minimum wastewater volume • will reduce potential for overflow
monitor and record RCS wastewater level daily	• provides visual indication of compliance
One foot increments on pond marker	• identifies the level of wastewater storage to assist the permittee in the implementation of RCS management plan • enforcement tool
maintain RCS sludge volume at or below designed sludge volume	• requires sludge removal to maintain the required wastewater storage capacity • will reduce overflows associated with insufficient wastewater storage capacity
Land application prohibited 12 am to 4 am	• reduces the potential of irrigation related discharges associated with equipment malfunctions

Nutrient Management Plan (based on crop requirement rate)	• evaluates risk potential for phosphorus movement into watercourses • establishes the annual application rate based on annual soil analyses, nutrient content of the land applied materials, phosphorus index, and management practices used at the facility • based on NRCS Practice Standard 590
Nutrient Utilization Plan (based on crop removal rate)	• stabilizes and/or reduces phosphorus on high phosphorus LMUs by establishing the annual application rate based on the amount of nutrients removed by the previous year's harvest based on NRCS Practice Standard 590
CNMP	• whole farm mass balance of nutrients which considers all inputs, onsite use and treatment, outputs, and losses. • Inputs include animal feed, purchased animals, fertilizer • Outputs include animals sold, harvested crops removed from facility, and manure removed from the facility • Losses include volatilization, runoff, and leaching
Excess manure must go to compost, landfill, outside of watershed, or third-party fields	• limits unregulated use of manure within the watershed • offsite use incurs additional record-keeping to document how excess manure is used. • provides mechanism to track 50% voluntary removal goal in TMDL
chronic discharge determination	• discharges resulting from chronic conditions are more closely scrutinized by TCEQ Regional Office • validates chronic conditions claim • provides documentation to TCEQ for enforcement of unauthorized discharge

soil sampling notification	• allows the TCEQ to observe sample collection and/or obtain split samples for duplicate analysis • assures data collected is credible to support application rates in nutrient management plan
soil sampling by technical service provider	• ensures that samples are collected by unbiased individuals who are knowledgeable about soil sampling techniques and sample preservation
Conservation Practices for LMUs adjacent to water of the state (100 foot vegetative buffer, filter strips, vegetative barrier, contour buffer strips)	• reduce erosion, suspended solids, pathogens, and nutrients in runoff from LMUs. • site specific conditions and NRCS practice standards specifies which Conservation Practices must be implemented

Attachment C

Draft Permit

TPDES Permit No. WQ0004866000
[For TCEQ use only EPA ID No. TX0128872]

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

TPDES PERMIT FOR CONCENTRATED ANIMAL FEEDING OPERATIONS
under provisions of
Section 402 of the Clean Water Act
Chapter 26 of the Texas Water Code and
Section 382.051 of the Texas Clean Air Act

I. Permittee:

A.	Owner	Two Sisters Dairy, LLC
B.	Business Name	Two Sisters Dairy
C.	Owner Address	235 Private Road 1266 Hico, Texas 76457

II. Type of Permit: New Air & Water Quality

III. Nature of Business Producing Waste: Concentrated Animal Feeding Operation (CAFO); dairy cattle; SIC No. 2410

IV. General Description and Location of Waste Disposal System:

Maximum Capacity: 5,500 total head of which 4,000 are milking
Site Plan: See Attachment A.
Retention Control Structures (RCSs) total required capacities without freeboard (acre-feet):
RCS #1-43.85, RCS #2-11.07
Land Management Units (LMUs) (acres): LMU#1-28, LMU#2-22, LMU#3-51, LMU#4-57, LMU#5-44, and LMU#6-18; See Attachment B for locations.
Location: The facility is located on the west side of County Road 209 approximately four miles south of the intersection of County Road 209 and US Highway 67, said intersection is located seven miles east of Stephenville, Erath County, Texas. Latitude: 32° 07' 04"N Longitude: 98° 03' 03"W. See Attachment C.
Drainage Basin: The facility is located in the drainage area of the North Bosque River in Segment No. 1226 of the Brazos River Basin.

This Permit contained herein shall expire at midnight, five years after the date of Commission approval.

ISSUED DATE:

For the Commission

(2) before any increase in the maximum number of animals and/or the maximum number of milking cows;
(3) before operation of any new control facilities;
(4) before any change that has a significant effect on the potential for the discharge of pollutants to water in the state;
(5) if the PPP is not effective in achieving the general objectives of controlling discharges of pollutants from the production area or the LMU(s); or
(6) within 90 days following written notification from the executive director that the plan does not meet one or more of the minimum requirements of this permit.

(c) Maps. The permittee shall maintain the following maps as part of the PPP.
(1) Site Map. The permittee shall update the site map as needed to reflect the layout of the facility. The map shall include, at a minimum, the following information: facility boundaries; pens; barns; berms; open lots; manure storage areas; dead animal burial sites; RCSs or other control facilities; LMUs; water wells, abandoned and in use, which are on-site or within 500 feet of the facility boundary; and all springs, lakes, or ponds located on-site or within one mile of the facility boundary.
(2) Land Application Map. Natural Resource Conservation Service (NRCS) soil survey maps of all LMUs shall depict:
(i) the boundary of each LMU and acreage;
(ii) all buffer zones required by this permit; and
(iii) the unit name and symbol of all soils in the LMU(s).

(d) Potential Pollutant Sources/Site Evaluation
(1) Potential Pollutant Sources. The PPP shall include a description of potential pollutant sources and indicate all measures that will be used to prevent contamination from the pollutant sources. Potential pollutant sources include any activity or material that may reasonably be expected to add pollutants to surface water in the state from the facility.
(2) Soil Erosion. The PPP shall identify areas that, due to topography, activities, or other factors, have a high potential for significant soil erosion. If these areas have the potential to contribute pollutants to surface water in the state, the PPP shall identify measures used to limit erosion and pollutant runoff.
(3) Control Facilities. The PPP shall include the location and a description of control facilities. The control facilities shall be appropriate for the identified sources of pollutants at the CAFO.
(4) Recharge Feature Certification. The recharge feature certification submitted in the permit application shall be implemented, updated by the permittee as often as necessary, and maintained in the PPP.

(c) If the permittee is unable to collect samples due to climatic conditions that create dangerous conditions for personnel (such as local flooding, high winds, hurricane, tornadoes, electrical storms, etc.), the permittee shall document why discharge samples could not be collected. Once dangerous conditions have passed, the permittee shall conduct the required sampling.

3. RCS Design and Construction

(a) RCS Certifications

(1) The permittee shall ensure that the design and completed construction of the modified RCS(s) (See Special Provision X.A.) is certified by a licensed Texas Professional Engineer prior to use. The certification shall be signed and sealed in accordance with Texas State Board of Professional Engineers requirements.

(2) Documentation of liner and capacity certifications must be completed for each RCS prior to use and kept on-site in the PPP. Once construction is complete, new capacity and liner certifications for RCS #1 and #2 will be provided.

(b) Design and Construction Standards. The permittee shall ensure that each RCS is designed and constructed in accordance with the technical standards developed by the NRCS, American Society of Agricultural and Biological Engineers, American Society of Civil Engineers, or American Society of Testing Materials that are in effect at the time of construction. Where site-specific variations are warranted, a licensed Texas Professional Engineer must document these variations and their appropriateness to the design.

(c) RCS Drainage Area

(1) The permittee shall describe in the PPP and implement measures that will be used to minimize entry of uncontaminated stormwater into the RCS(s).

(2) The permittee shall maintain the drainage area to minimize ponding or puddling of water outside the RCS(s).

(d) RCS Sizing.

(1) The design plan must include documentation describing the sources of information, assumptions and calculations used in determining the appropriate volume capacity and structural features of each RCS, including embankment and liners.

(2) Design Rainfall Event. Each RCS authorized under this permit shall be designed and constructed to meet or exceed the margin of safety, equivalent to the volume of runoff and direct precipitation from the 25 year/10 day rainfall event. The design rainfall event for this CAFO is 12.1 inches.

embankment and the structure's spillway. RCS(s) without spillways must have a minimum of two (2) vertical feet between the top of the embankment and the required storage capacity.

(g) RCS Liner Requirements. For all new construction and for all structural modifications of existing RCS(s), the RCS must have a liner consistent with one of the following:

(1) In-situ Material. In-situ material is undisturbed, in-place, native soil material. In-situ materials must at least meet the minimum criteria for hydraulic conductivity and thickness and specific discharge as described in Section VII.A.3(g)(2) of this permit. Samples shall be collected and analyzed in accordance with Section VII.A.3(g)(3) of this permit. This documentation must be certified by a licensed Texas professional engineer or licensed Texas professional geoscientist.

(2) Constructed or Installed Liner.

(i) Constructed or installed liners must be designed by a licensed Texas professional engineer. The liner must be constructed in accordance with the design and certified as such by a licensed Texas professional engineer. Compaction tests and post construction sampling and analyses, conducted in accordance with Sections VII.A.3(f)(4) and VII.A.3(g)(3) of this permit, will provide support for the liner certification.

(ii) Liners shall be designed and constructed to have hydraulic conductivities no greater than 1×10^{-7} centimeters per second (cm/sec), with a thickness of 18 inches or its equivalency in other materials, and not to exceed a specific discharge through the liner of 1.1×10^{-6} cm/sec with a water level at spillway depth.

(iii) Constructed or installed liners must be designed and constructed to meet the soil requirements, lift requirements, and compaction testing requirements as listed in Section VII.A.3(f)(1), (2), and (4) of this permit.

(3) Liner Sampling and Analyses.

(i) The licensed Texas professional engineer or licensed Texas professional geoscientist shall use best professional practices to ensure that corings or other liner samples will be appropriately plugged with material that also meets liner requirements of this subsection.

(ii) Samples shall be collected in accordance with ASTM D 1587 or other method approved by the executive director. For each RCS, a minimum of one undisturbed sample shall be collected per plan surface acre at the spillway elevation. For the purpose of determining the number of samples to collect,

storage volume provided at each specified depth (or water level) and the type of storage designated by that depth; and

(vi) the planned end of month storage volume anticipated for each RCS for each month of the year and the corresponding operating depth expected at the end of each month of the year, based on the design assumptions.

(3) The wastewater level in the RCS shall be maintained at or below the maximum operating level expected during that month, according to the design of the RCS. When rainfall volumes exceed average rainfall data used in design calculations planned end of month storage volumes may encroach into the design storm event storage provided that documentation is available to support that the design parameters have been exceeded and that the RCS is otherwise being managed according to the RCS Management Plan criteria. In circumstances where the RCS has a water level exceeding the expected end of the month depth, the permittee shall document in the PPP why the level of water in the structure is not at or below the expected depth. Also, if the water level in the RCS encroaches into the storage volume reserved for the design rainfall event, the permittee must document, in the PPP, the conditions that resulted in this occurrence. As soon as irrigation is feasible and not prohibited by Section VII.A.8(f) and (g), the permittee shall irrigate until the RCS water level is at or below the maximum operating level expected during that month.

(4) Imminent Overflow. If a RCS is in danger of imminent overflow from chronic or catastrophic rainfall or catastrophic conditions, the permittee shall take reasonable steps to irrigate wastewaters to the LMU(s) only to the extent necessary to prevent overflow from the RCS. If irrigation results in a discharge from a LMU, the permittee shall collect samples from the drainage pathway at the point of the discharge from the edge of the LMU where the discharge occurs, analyze the samples for the parameters listed in Section VII.A.2(b), and provide the appropriate notifications as required by Section VIII.B of this permit and 30 TAC §321.44.

(5) Permanent Pond Marker. The permittee shall install and maintain a permanent pond marker (measuring device) in the RCS(s), visible from the top of the levee to show the following:

(i) the volume for the design rainfall event;

(ii) one-foot increments beginning from the predetermined minimum treatment volume of the RCS, or the bottom of the RCS for those without treatment volume, to the top of the embankment or spillway; and

(iii) design volume levels for maximum sludge accumulation and operating volume (calculated process generated wastewater

(c) Carcass Disposal. Carcasses shall be collected within twenty four (24) hours of death and properly disposed of within three days of death in accordance with Texas Water Code, Chapter 26; Texas Health and Safety Code, Chapter 361; and 30 TAC Chapter 335 (relating to Industrial Solid Waste and Municipal Hazardous Waste) unless otherwise provided for by the commission. Animals must not be disposed of in any liquid manure or process wastewater system. Disposal of diseased animals shall also be conducted in a manner that prevents a public health hazard in accordance with Texas Agriculture Code, §161.004, and 4 TAC §31.3 and §58.31(b). The collection area for carcasses shall be addressed in the potential pollutant sources section of the PPP with management practices to prevent contamination of surface or groundwater; control access; and minimize odor.

(d) Manure and Sludge Storage

(1) Manure and sludge storage capacity requirements shall be based on manure and sludge production, land availability, and the NRCS Field Office Technical Guide (Part 651, Chapter 10) or equivalent standards. [See Special Provision X.I for the storage requirements applicable to slurry collected from freestall barns.]

(2) When manure is stockpiled, it shall be stored in a well-drained area, and the top and sides of stockpiles shall be adequately sloped to ensure proper drainage and prevent ponding of water. Runoff from manure or sludge storage piles must be retained on site. If the manure or sludge areas are not roofed or covered with impermeable material, protected from external rainfall, or bermed to protect from runoff during the design rainfall event, the manure or sludge areas must be located within the drainage area of a RCS and accounted for in the design calculations of the RCS.

(3) Manure or sludge stored for more than thirty (30) days must be stored within the drainage area of a RCS or stored in a manner (i.e. storage shed, bermed area, tarp covered area, etc.) that otherwise prevents contaminated storm water runoff from leaving the storage area. All storage sites and structures located outside the drainage area shall be designated on the site map. Storage for more than thirty (30) days is prohibited in the 100-year floodplain. (4) Temporary storage of manure or sludge shall not exceed thirty (30) days and is allowed only in a LMU or a RCS drainage area. Temporary storage of manure and sludge in the 100-year flood plain, near water courses or near recharge features is prohibited unless protected by berms or other structures to prevent inundation or damage that may occur.

(e) Composting. Composting on site is prohibited on this CAFO unless this permit is amended to include composting requirements.

7. Well Protection Requirements.

(a) The permittee shall not locate or operate a new RCS, holding pen, or LMU

The plan shall be updated as appropriate or at a minimum of annually according to NRCS guidance for Practice Standard 590. The permittee shall make available to the executive director, upon request, a copy of the site specific NMP and documentation of the implementation.

(b) Comprehensive Nutrient Management Plan (CNMP) required. The permittee must develop and implement a CNMP certified by the Texas State Soil and Water Conservation Board (TSSWCB) prior to exceeding 199 head. The CNMP must be submitted for approval to the TSSWCB within sixty days of permit issuance.

(c) Critical Phosphorus Level.

(1) When results of the annual soil analysis show a phosphorus level in the soil of more than 200 ppm but not more than 500 ppm in Zone 1 (0-6 inch incorporated; 0-2 or 2-6 inch if not incorporated) depth for a particular LMU or if ordered by the commission to do so in order to protect the quality of waters in the state, then the permittee shall:

(i) file with the executive director a new or amended nutrient utilization plan (NUP) with a phosphorus reduction component based on crop removal that is certified as acceptable by a person described in (3) below; or

(ii) show that the level is supported by a NUP that is certified as acceptable by a person described in (3) below.

(2) The permittee shall cease land application of wasterwater, sludge, slurry and manure to the affected area until the NUP has been approved by the TCEQ. After a NUP is approved, the permittee shall land apply in accordance with the NUP until soil phosphorus is reduced below the critical phosphorus level of 200 ppm extractable phosphorus. Thereafter, the permittee shall implement the requirements of the nutrient management plan.

(3) NUP. A NUP is a NMP, based on NRCS Practice Standard Code 590, which utilizes a crop removal application rate. The NUP, based on crop removal, must be developed and certified by one of the following individuals or entities:

(i) an employee of the NRCS;

(ii) a nutrient management specialist certified by the NRCS;

(iii) the Texas State Soil and Water Conservation Board;

(iv) the Texas AgriLife Extension;

(v) an agronomist or soil scientist on full-time staff at an accredited university located in the State of Texas; or

(vi) a Certified Professional Agronomist certified by the American Society of Agronomy, a Certified Professional Soil Scientist certified by the Soil Science Society of America, or a licensed Texas professional geoscientist-soil scientist after approval by the executive director based on a determination by the executive director that another person or entity identified in

(i) There must be a written contract between the permittee and the recipient that includes, but is not limited to, the following provisions:

(A) All transferred wastewater, sludge, and/or manure shall be beneficially applied to third-party fields identified in the PPP in accordance with the applicable requirements in 30 TAC §321.36 and §321.40 at an agronomic rate based on soil test phosphorus. The requirements for development or implementation of a nutrient management plan or nutrient utilization plan, under 30 TAC §321.40, do not apply to third-party fields.

(B) Manure and sludge must be incorporated on cultivated fields within forty-eight (48) hours after land application.

(C) Land application rates shall not exceed the crop nitrogen requirement when soil phosphorus concentration in Zone 1 (0-6 inch incorporated; 0-2 or 2-6 inch not incorporated) depth is less than or equal to 50 ppm phosphorus.

(D) Land application rates shall not exceed two times the phosphorus crop removal rate, and not to exceed the crop nitrogen requirement, when soil phosphorus concentration in Zone 1 (0-6 inch incorporated; 0-2 or 2-6 inch not incorporated) depth is greater than 50 ppm phosphorus and less than or equal to 150 ppm phosphorus.

(E) Land application rates shall not exceed one times the phosphorus crop removal rate, and not to exceed the crop nitrogen requirement, when soil phosphorus concentration in Zone 1 (0-6 inch incorporated; 0-2 or 2-6 inch not incorporated) depth is greater than 150 ppm phosphorus and less than 200 ppm phosphorus.

(F) Before commencing manure, wastewater, and/or sludge application to third-party fields, at least one representative soil sample from each third-party field must be collected by a certified nutrient management specialist and analyzed in accordance with 30 TAC §321.36. Third-party fields which have had wastewater, sludge, and/or manure applied during the preceding year must be sampled annually by a certified nutrient management specialist and the samples analyzed in accordance with 30 TAC

Chapter 76 (related to Water Well Drillers and Water Well Pump Installers).

(g) Nighttime Application.

(1) Land application at night shall only be allowed if there is no occupied residence(s) within one quarter (0.25) of a mile from the outer boundary of the actual area receiving wasterwater, sludge, slurry and manure application. In areas with an occupied residence within one quarter (0.25) of a mile from the outer boundary of the actual area receiving wasterwater, sludge, slurry and manure application, application shall only be allowed from one (1) hour after sunrise until one (1) hour before sunset, unless the current occupant of such residences have, in writing, agreed to specified nighttime applications.

(2) Land application of wasterwater, sludge, slurry and manure is prohibited between 12a.m. and 4a.m.

9. Sampling and Testing.

(a) Manure and Wastewater. The permittee shall collect and analyze at least one representative sample of wastewater and one representative sample of manure each year for total nitrogen, total phosphorus, and total potassium. The results of these analyses shall be used in determining application rates.

(b) Soils.

(1) Initial Sampling. Before commencing wasterwater, sludge, slurry and manure application to the LMU(s), the permittee shall have at least one representative soil sample from each LMU, collected and analyzed according to the following procedures.

(2) Annual Sampling. The permittee shall have soil samples collected annually for each current and historical LMU.

(3) Sampling Procedures. Sampling procedures shall employ accepted techniques of soil science for obtaining representative samples and analytical results, and be consistent with approved methods described in the executive director's guidance entitled "Soil Sampling for Nutrient Utilization Plans (RG-408)."

(i) Soil samples must be collected by one of the following persons:

(A) the NRCS;

(B) a certified nutrient management specialist;

(C) the Texas State Soil and Water Conservation Board;

(D) the Texas AgriLife Extension; or

(E) an agronomist or soil scientist on full-time staff at an accredited university located in the State of Texas.

(ii) Samples shall be collected and analyzed within the same forty-five (45) day time frame each year, except when crop rotations or inclement weather require a change in the sampling time. The reason for a change in sampling

inspection. The permittee shall correct all the deficiencies within thirty (30) days or shall document the factors preventing immediate correction.

(2) Daily Inspections. The permittee shall conduct daily inspections on all water lines, including drinking water and cooling water lines, which are located within the drainage area of a RCS.

(3) Weekly Inspections. The permittee shall conduct weekly inspections on:

(i) all control facilities, including RCSs, storm water diversion devices, runoff diversion structures, control devices for management of potential pollutant sources, and devices channeling contaminated storm water to RCSs; and

(ii) equipment used for land application of wasterwater, sludge, slurry and manure.

(4) Monthly Inspections. The permittee shall conduct monthly inspections on:

(i) mortality management systems, including collection areas; and

(ii) disposal and storage of toxic pollutants, including pesticide containers.

(5) Annual Site Inspection.

(i) The permittee shall annually conduct a complete site inspection of the production area and the LMU(s).

(ii) The inspection shall verify that:

(A) the description of potential pollutant sources is accurate;

(B) the site plan/map has been updated or otherwise modified to reflect current conditions; and

(C) the controls outlined in the PPP to reduce pollutants and avoid nuisance conditions are being implemented and are adequate.

(b) Five Year Evaluation. Once every five years the permittee shall have a licensed Texas professional engineer review the existing engineering documentation, complete a site evaluation of the structural controls, review existing liner and RCS capacity documentation, and complete and certify a report of their findings. The report must be kept in the PPP.

11. Management Documentation. The permittee shall maintain the following records in the PPP:

(a) a copy of the administratively complete and technically complete individual water quality permit application and the written authorization issued by the commission or executive director;

(b) a copy of the approved recharge feature certification and appropriate updates;

(c) a copy of the comprehensive nutrient management plan, nutrient management

maintenance of the facility and land application of manure, sludge, and wastewater.

(b) Employee training shall address all levels of responsibility of the general components and goals of the PPP. Training shall include appropriate topics, such as land application of manure, sludge, and wastewater, proper operation and maintenance of the facility, good housekeeping, material management practices, recordkeeping requirements, and spill response and clean up.

(c) The permittee is responsible for determining the appropriate training frequency for different levels of personnel. The PPP shall identify periodic dates for such training.

2. Operator Training. The operator shall attend and complete at least eight (8) hours of continuing education in animal waste management or its equivalent, developed by the executive director and the Texas AgriLife Extension, for each two year period.

3. Verification of the date and time(s) of attendance and completion of required training shall be documented in the PPP.

D. Air Standard Permit Requirements

1. Air emission limitations.

(a) Facilities shall be operated in such a manner as to prevent the creation of a nuisance as defined by Texas Health and Safety Code, 30 TAC §§341.011 and 321.32(32), and as prohibited by 30 TAC §101.4. Facilities shall be operated in such a manner as to prevent a condition of air pollution as defined by Texas Health and Safety Code, 30 TAC §382.003(3).

(b) The permittee shall take necessary action to identify any nuisance condition that occurs. The permittee shall take action to abate any nuisance condition as soon as practicable or as specified by the executive director.

2. Wastewater treatment. The permittee shall design and operate RCSs to minimize odors in accordance with accepted engineering practices. Each RCS shall be operated in accordance with the design and an operation and maintenance plan that minimizes odors. The primary lagoon in a multi-stage lagoon system shall be designed with a minimum treatment volume so that the lagoon maintains a constant level at all times unless prohibited by climatic conditions. A multi-stage lagoon system shall be designed to minimize the amount of contaminated storm water runoff entering the primary lagoon by routing the contaminated storm water runoff into a secondary RCS.

3. Dust control. To minimize dust emissions, the CAFO shall be operated and maintained as follows.

(a) Fugitive emissions from all grain receiving pits, where a pit is used, shall be minimized through the use of "choke feeding" or through an equivalent method of control. If choke feeding is used, operation of conveyors associated with receiving shall not commence until the receiving pits are full.

(b) As necessary, emissions from all in-plant roads, truck loading and unloading areas, parking areas, and other traffic areas shall be controlled with one or

3. The permittee shall update records monthly to include:
   (a) records describing mortality management practices;
   (b) storage and disposal of chemicals, including pesticide containers; and
   (c) records of all wasterwater, sludge, slurry and manure applied on the LMUs). Such records must include the following information:
      (i) date of wasterwater, sludge, slurry and manure application to each LMU;
      (ii) location of the specific LMU and the volume applied during each application event;
      (iii) acreage on which wasterwater, sludge, slurry and manure is applied;
      (iv) basis for and the total amount of nitrogen and phosphorus applied per acre to each LMU on a dry basis, including sources of nutrients other than wasterwater, sludge, slurry and manure; and
      (v) weather conditions, such as temperature, precipitation, and cloud cover, during the land application and twenty-four (24) hours before and after the land application.
4. The permittee shall update records annually to include:
   (a) annual nutrient analysis for at least one representative sample of wastewater and one representative sample of manure for total nitrogen, total phosphorus, and total potassium;
   (b) any initial and annual soil analysis reports;
   (c) the annual site inspection report;
   (d) percent moisture content of the manure, sludge, slurry, and wastewater; and
   (e) actual annual yield of each harvested crop for each LMU.
5. The Five Year Evaluation report must be updated every five (5) years.
6. The permittee shall keep the following records on-site:
   (a) a list of any significant spills of potential pollutants at the CAFO that have a significant potential to reach water in the state;
   (b) documentation of liner maintenance by an NRCS engineer, a licensed Texas professional engineer or a licensed Texas professional geoscientist;
   (c) RCS design calculations and as built capacity certification;
   (d) embankment certification;
   (e) liner certification;
   (f) a copy of current and amended site plans; and
   (g) copies of all notifications to the executive director, including any made to a regional office.

B. Reporting and Notifications

1. The permittee shall provide written notice to the appropriate TCEQ regional office as soon as the RCS cleaning is scheduled, but not less than ten (10) days before cleaning. The permittee shall also provide written verification of completion to the same regional office within five days after the cleaning has been completed. This paragraph does not apply to the cleaning of solid separators or settling basins that are

information shall be provided orally, e-mail, or electronic facsimile transmission (FAX) to the TCEQ regional office within twenty four (24) hours of becoming aware of the noncompliance. A written submission of such information shall also be provided by the permittee to the TCEQ regional office and the Enforcement Division (MC 224) within five (5) days of becoming aware of the noncompliance. The written submission shall 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 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.

(b) In the event the permittee discharges manure, sludge, or wastewater other than as authorized in the permit, the permittee shall give twenty four (24) hour oral, email, or fax notice and five (5) day written notice to TCEQ as required by paragraph (a) above.

7. The permittee shall submit an annual report to the appropriate regional office and the Enforcement Division (MC 224) by February 15 of each year for the reporting period of January 1 to December 31 of the previous year. The report shall be submitted on forms prescribed by the executive director to include, but not limited to:

(a) number and type of animals, whether in open confinement or housed under roof;

(b) estimated total manure, sludge, and wastewater generated during the reporting period;

(c) total wasterwater, sludge, slurry and manure land applied during the last twelve (12) months on-site at the CAFO facility;

(d) total wastewater, sludge, and/or manure transferred to other persons during the reporting period;

(e) total number of acres for land application under the control of the permittee and all third-party acreage;

(f) summary of discharges of manure, sludge, or wastewater from the production area that occurred during the reporting period including dates, times, and approximate volume;

(g) a statement indicating that the NMP/NUP, under which the CAFO is operating, was developed and approved by a certified nutrient management specialist;

(h) a copy of the initial soil analysis for each new LMU, regardless of whether manure, wastewater, or sludge has been applied;

(i) soil monitoring reports of all soil samples collected in accordance with the requirements of this permit;

(j) groundwater monitoring reports (if applicable); and

(k) any other information requested by the executive director.

8. The permittee shall furnish to the appropriate regional office, the Enforcement

(f) the technique or method of analysis; and
(g) the results of the analysis or measurement and quality assurance/quality control records.

3. The permittee shall ensure that properly trained and authorized personnel monitor and sample the soil or wastewater related to any permitted activity.

K. Any noncompliance other than that specified in this section, or any required information not submitted or submitted incorrectly shall be reported to the executive director as promptly as possible.

L. A permit may be transferred only according to the provisions of 30 TAC §305.64 (relating to Transfer of Permits) and 30 TAC §305.97 (relating to Action on Application for Transfer).

M. PPPs, reports, and other information requested or required by the Executive Director shall be signed in accordance with the requirements of 30 TAC §305.128 (relating to Signatories to Reports).

N. A permit may be amended, suspended and re-issued, or revoked for cause. The filing of a request by the permittee for a permit amendment, suspension and re-issuance, or termination, or a notification of planned changes or anticipated noncompliance does not stay any permit condition.

O. A permit does not convey any property rights of any sort or any exclusive privilege.

P. Reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any compliance schedule of the permit shall be submitted no later than 14 days following each schedule date.

Q. If the permittee becomes aware that he/she failed to submit any relevant facts in a permit application, or submitted incorrect information in an application, or in any report to the executive director, the permittee shall promptly submit such facts or information.

R. The permittee is subject to administrative, civil, and criminal penalties, as applicable, under Texas Water Code, §§26.136, 26.212, and 26.213, for violations including but not limited to the following:

1. negligently or knowingly violating Clean Water Act (CWA) §§301, 302, 306, 307, 308, 318, or 405 or any condition or limitation implementing any sections in a permit issued under CWA §402, or any requirement imposed in a pretreatment program approved under CWA §402(a)(3) or §402(b)(8);
2. falsifying, tampering with, or knowingly rendering inaccurate any monitoring device or method required to be maintained under a permit; or
3. knowingly making any false statement, representation, or certification in any record or other document submitted or required to be maintained under a permit, including monitoring reports or reports of compliance or noncompliance.

S. The permittee shall comply with all applicable rules and regulations of the commission, including 30 TAC 321, Subchapter B.

T. This permit is granted on the basis of the information supplied and representations made by the permittee during action on an application, and relying upon the accuracy and completeness of that information and those representations. After notice and opportunity for a hearing, this permit may be modified, suspended, or revoked, in whole or in part, in accordance with 30 TAC Chapter 305, Subchapter D, during its term for good cause including, but not limited to, the following:

1. Violation of any terms or conditions of this permit;
2. Obtaining this permit by misrepresentation or failure to disclose fully all relevant facts; or
3. A change in any condition that requires either a temporary or permanent reduction or elimination of the authorized discharge.

U. Acceptance of the permit by the person to whom it is issued constitutes acknowledgment and agreement that such person will comply with all the terms and conditions embodied in the permit, and the rules and other orders of the Commission.

V. In accordance with the Texas Water Code § 26.029(b), after a public hearing, notice of which shall be given to the permittee, the Commission may require the permittee, from time to time, for good cause, in accordance with applicable laws, to conform to new or additional conditions.

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

C. The permittee shall submit the following record to the appropriate regional office and the Enforcement Division (MC 224) by February 15 of each year for the reporting period of January 1 to December 31 of the previous.
   1. date of wasterwater, sludge, slurry and manure application to each LMU;
   2. location of the specific LMU and the volume applied during each application event;
   3. acreage of each individual crop on which wasterwater, sludge, slurry and manure is applied;
   4. basis for and the total amount of nitrogen and phosphorus applied per acre to each LMU, including sources of nutrients other than wasterwater, sludge, slurry and manure on a dry basis;
   5. weather conditions, such as temperature, precipitation, and cloud cover, during the land application and twenty four (24) hours before and after the land application; and
   6. annual nutrient analysis for at least one (1) representative sample of manure, sludge (if applicable), slurry, and wastewater for total nitrogen, total phosphorus, and total potassium.

D. The table below describes the buffers that the permittee is required to install and maintain according to the NRCS practice standards in the referenced code. The map in Attachment B specifically describes the location and distance requirements for all buffers.

LMU #	Vegetative Buffer Setback (feet)	Additional Buffer Setback NRCS Code 393 Filter Strip flow length (feet)
1	Not applicable	
2	100	28-40
3	100	28
4	100	33
5	100	33
6	100	36

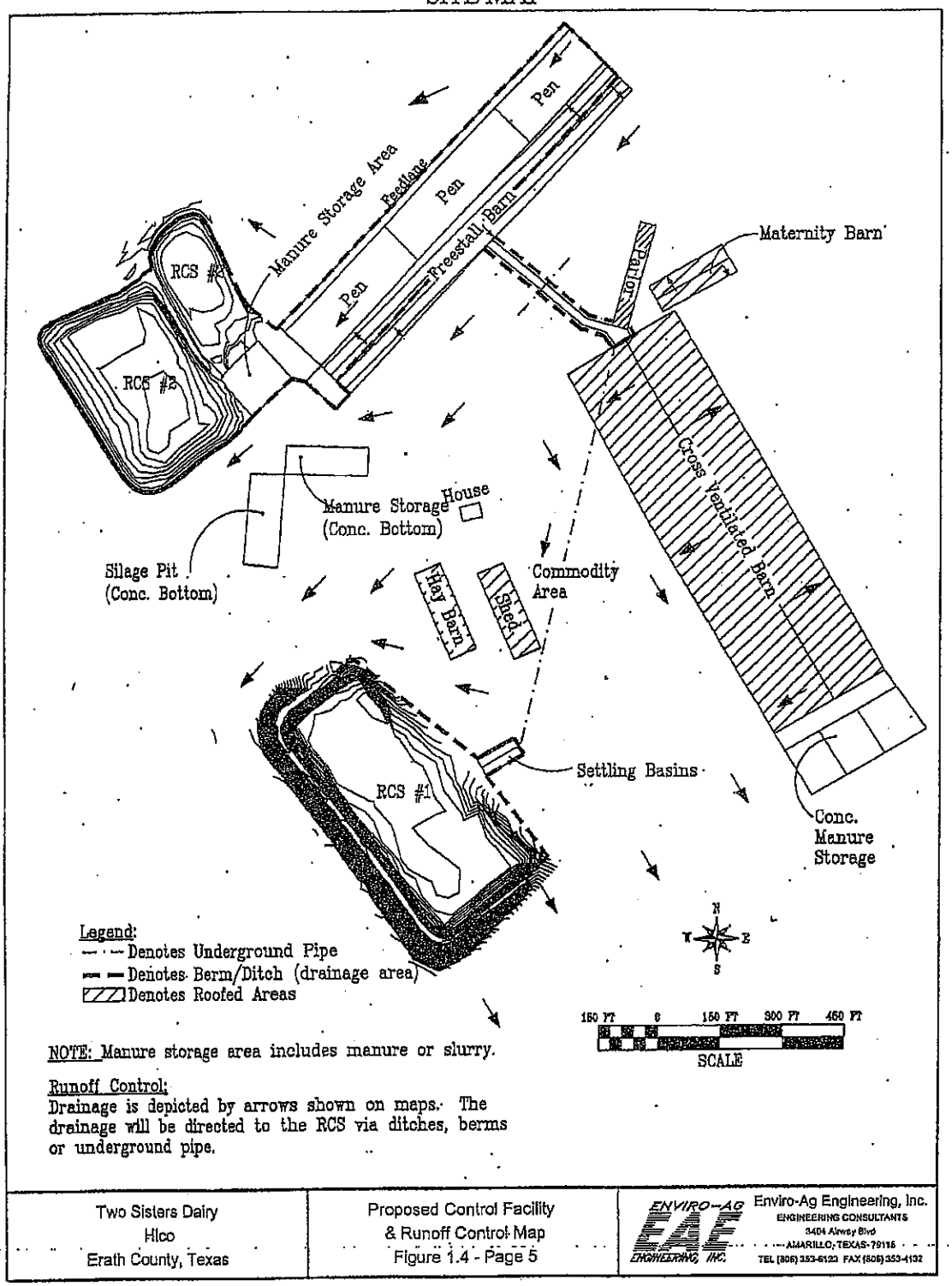
E. The sludge volume in each RCS will be measured and recorded in the PPP as necessary, but at least annually beginning in year two (2) of the permit for RCS #2 and at least annually beginning in year three (3) of the permit for RCS #1.

F. There will be no grazing of livestock on the LMUs for this CAFO unless the NMP reflects grazing and the grazing practices mentioned in the NRCS Conservation Practice Code 393, Filter Strip, are implemented to protect buffers.

G. Settling basin solids.
   1. For the purpose of this permit, settling basin solids shall be defined as manure.
   2. If settling basin solids are land applied, an annual sample must be collected and analyzed in accordance with Section VII.A.9(a), in addition to other manure and wastewater.

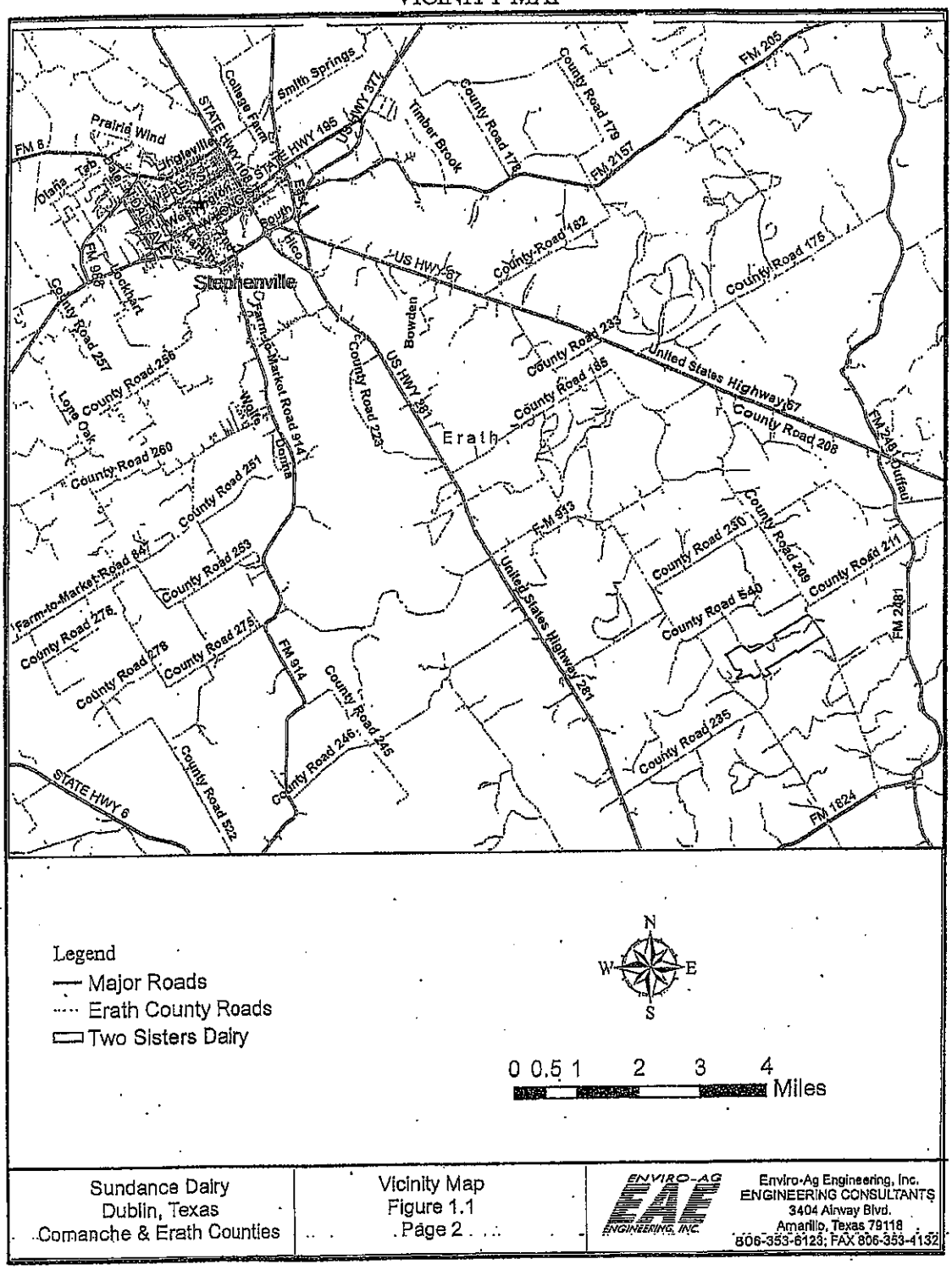
H. All runoff from silage, commodity, manure and hay storage outside the RCS drainage area

ATTACHMENT A
SITE MAP



Two Sisters Dairy Hico Erath County, Texas	Proposed Control Facility & Runoff Control Map Figure 1.4 - Page 5	ENVIRO-AG ENGINEERING, INC. Enviro-Ag Engineering, Inc. ENGINEERING CONSULTANTS 3404 Airway Blvd AMARILLO, TEXAS 79118 TEL (806) 353-6123 FAX (806) 353-4132

ATTACHMENT C
VICINITY MAP



Sundance Dairy Dublin, Texas Comanche & Erath Counties	Vicinity Map Figure 1.1 Page 2	Enviro-Ag Engineering, Inc. ENGINEERING CONSULTANTS 3404 Airway Blvd. Amarillo, Texas 79118 806-353-6123; FAX 806-353-4132

Attachment D

RTC

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Protecting Texas by Reducing and Preventing Pollution

August 27, 2009

TO: Persons on the attached mailing list.

RE: Two Sisters Dairy, LLC/ Two Sisters Dairy
TPDES Permit No. WQ0004866000

Decision of the Executive Director.

The executive director has made a decision that the above-referenced permit application meets the requirements of applicable law. **This decision does not authorize construction or operation of any proposed facilities.** Unless a timely request for contested case hearing or reconsideration is received (see below), the TCEQ executive director will act on the application and issue the permit.

Enclosed with this letter is a copy of the Executive Director's Response to Comments. A copy of the complete application, draft permit and related documents, including public comments, is available for review at the TCEQ Central office. A copy of the complete application, the draft permit, and executive director's preliminary decision are available for viewing and copying at the Vernon City Hall, 1725 Wilbarger Street, Vernon, Texas.

If you disagree with the executive director's decision, and you believe you are an "affected person" as defined below, you may request a contested case hearing. In addition, anyone may request reconsideration of the executive director's decision. A brief description of the procedures for these two requests follows.

How To Request a Contested Case Hearing.

It is important that your request include all the information that supports your right to a contested case hearing. You must demonstrate that you meet the applicable legal requirements to have your hearing request granted. The commission's consideration of your request will be based on the information you provide.

The request must include the following:

(1) Your name, address, daytime telephone number, and, if possible, a fax number.

(2) If the request is made by a group or association, the request must identify:
   (A) one person by name, address, daytime telephone number, and, if possible, the fax number, of the person who will be responsible for receiving all communications and documents for the group; and
   (B) one or more members of the group that would otherwise have standing to request a hearing in their own right. The interests the group seeks to protect must relate to the organization's purpose. Neither the claim asserted nor the relief requested must require the participation of the individual members in the case.

(3) The name of the applicant, the permit number and other numbers listed above so that your request may be processed properly.

(4) A statement clearly expressing that you are requesting a contested case hearing. For example, the following statement would be sufficient: "I request a contested case hearing."

Your request must demonstrate that you are an **"affected person."** An affected person is one who has a personal justiciable interest related to a legal right, duty, privilege, power, or economic interest affected by the application. Your request must describe how and why you would be adversely affected by the proposed facility or activity in a manner not common to the general public. For example, to the extent your request is based on these concerns, you should describe the likely impact on your health, safety, or uses of your property which may be adversely affected by the proposed facility or activities. To demonstrate that you have a personal justiciable interest, you must state, as specifically as you are able, your location and the distance between your location and the proposed facility or activities.

Your request must raise disputed issues of fact that are relevant and material to the commission's decision on this application. The request must be based on issues that were raised during the comment period. The request cannot be based solely on issues raised in comments that have been withdrawn. The enclosed Response to Comments will allow you to determine the issues that were raised during the comment period and whether all comments raising an issue have been withdrawn. The public comments filed for this application are available for review and copying at the Chief Clerk's office at the address below.

To facilitate the commission's determination of the number and scope of issues to be referred to hearing, you should: 1) specify any of the executive director's responses to comments that you dispute; and 2) the factual basis of the dispute. In addition, you should list, to the extent possible, any disputed issues of law or policy.

How To Request Reconsideration of the Executive Director's Decision.

Unlike a request for a contested case hearing, anyone may request reconsideration of the executive director's decision. A request for reconsideration should contain your name, address, daytime phone number, and, if possible, your fax number. The request must state that you are requesting reconsideration of the executive director's decision, and must explain why you believe the decision should be reconsidered.

Deadline for Submitting Requests.

A request for a contested case hearing or reconsideration of the executive director's decision must be **received by** the Chief Clerk's office no later than **30 calendar days** after the date of this letter. You may submit your request electronically at http://www.tceq.state.tx.us/about/comments.html or by mail to the following address:

LaDonna Castañuela, Chief Clerk
TCEQ, MC-105
P.O. Box 13087
Austin, Texas 78711-3087

Processing of Requests.

Timely requests for a contested case hearing or for reconsideration of the executive director's decision will be referred to the alternative dispute resolution director and set on the agenda of one of the commission's regularly scheduled meetings. Additional instructions explaining these procedures will be sent to the attached mailing list when this meeting has been scheduled.

How to Obtain Additional Information.

If you have any questions or need additional information about the procedures described in this letter, please call the Office of Public Assistance, Toll Free, at 1-800-687-4040.

Sincerely,

LaDonna Castañuela
Chief Clerk

LDC/ka

Enclosures

MAILING LIST
for
Two Sisters Dairy, LLC/ Two Sisters Dairy
TPDES Permit No. WQ0004866000

FOR THE APPLICANT:

Anneke Talsma
Two Sisters Dairy, LLC
235 Private Road 1266
Hico, Texas 76457-3508

Michael Martin
Stephenville Office,
580-D West Lingleville Road
Stephenville, Texas 76401

Norman Mullin, P.E.
Enviro-Ag Engineering, Inc.
3404 Airway Boulevard
Amarillo, Texas 79118

PROTESTANTS/INTERESTED PERSONS:

Lauren Kalisek
Bosque River Coalition
Lloyd Gosselink
816 Congress Avenue, Suite 1900
Austin, Texas 78701-2442

FOR THE EXECUTIVE DIRECTOR
via electronic mail:

Michael T. Parr, Staff Attorney
Texas Commission on Environmental Quality
Environmental Law Division MC-173
P.O. Box 13087
Austin, Texas 78711-3087

Maria Snodgress, Technical Staff
Texas Commission on Environmental Quality
Water Quality Division MC-148
P.O. Box 13087
Austin, Texas 78711-3087

FOR OFFICE OF PUBLIC ASSISTANCE
via electronic mail:

Bridget Bohac, Director
Texas Commission on Environmental Quality
Office of Public Assistance MC-108
P.O. Box 13087
Austin, Texas 78711-3087

FOR PUBLIC INTEREST COUNSEL
via electronic mail:

Blas J. Coy, Jr., Attorney
Texas Commission on Environmental Quality
Public Interest Counsel MC-103
P.O. Box 13087
Austin, Texas 78711-3087

FOR THE CHIEF CLERK
via electronic mail:

LaDonna Castañuela
Texas Commission on Environmental Quality
Office of Chief Clerk MC-105
P.O. Box 13087
Austin, Texas 78711-3087

Proposed Amended TPDES Permit No. WQ0004866000

Application by	§	Before the
	§	
Two Sisters Dairy, LLC/ Two Sisters Dairy	§	**TEXAS COMMISSION ON**
	§	
for **TPDES Permit No. WQ0004866000**	§	**ENVIRONMENTAL QUALITY**

EXECUTIVE DIRECTOR'S RESPONSE TO PUBLIC COMMENT

The Executive Director (ED) of the Texas Commission on Environmental Quality (the Commission or TCEQ) files this Response to Public Comment (Response) on the application by Two Sisters Dairy, LLC/ Two Sisters Dairy (Applicant) for a new Texas Pollutant Discharge Elimination System (TPDES) Permit No. WQ0004866000 and on the ED's preliminary decision on the application. As required by Title 30 of the Texas Administrative Code (30 TAC), Section (§) 55.156, before a permit is issued, the ED prepares a response to all timely, relevant and material, or significant, comments. The Office of Chief Clerk timely received comment letters from the Bosque River Coalition (The Coalition). This Response addresses all comments received, whether or not withdrawn. If you need more information about this permit application or the wastewater permitting process, please call the TCEQ Office of Public Assistance at 1-800-687-4040. General information about the TCEQ can be found at our website at www.tceq.state.tx.us.

BACKGROUND

Description of Facility

The Applicant has applied to the TCEQ for a new Texas Pollutant Discharge Elimination System (TPDES) Permit No. WQ0004866000, for a Concentrated Animal Feeding Operation (CAFO), to authorize the Applicant to expand an existing dairy facility to a maximum capacity of 5,500 head, of which 4,000 head are milking cows. The dairy is currently operating as an animal feeding operation (AFO), with a maximum head count of 199 cows. The facility is located on the west side of County Road 209 approximately four miles south of the intersection of County Road 209 and US Highway 67; said intersection is located seven miles east of Stephenville in Erath County, Texas. The facility is located in the drainage area of the North Bosque River in Segment No. 1226 of the Brazos River basin.

Procedural Background

The application was received on August 18, 2008, and declared administratively complete on September 11, 2008. Notice of Receipt of Application and Intent to Obtain a Water Quality Permit (NORI) was published October 17, 2008 in the *Stephenville Empire Tribune*. The alternative language NORI was published in *Tex-Mex Noticias* on October 23, 2008. The TCEQ Executive

Director completed the technical review of the application on November 11, 2008, and prepared a draft permit. Notice of Application and Preliminary Decision for a Water Quality Permit (NAPD) was published December 12, 2008 in the *Stephenville Empire Tribune* and the alternative language NAPD was published in *Tex-Mex Noticias* on January 7, 2009. The comment period closed on February 6, 2009. This application is subject to the procedural requirements adopted pursuant to House Bill 801, 76th Legislature, 1999.

COMMENTS and RESPONSES

COMMENT 1

The Coalition comments the draft permit does not appear to include any conditions recognizing that the unnamed tributary at Little Duffau Creek is just now beginning to recover from the previous owners operation at this site that were harmful to the Creek. The Coalition comments that the draft permit should prohibit the commencement of new operations at this site until the Applicant's proposed RCS modification is complete.

RESPONSE 1

The TMDL I-Plan recognizes that new dairies may begin operating or existing dairies may expand in the watershed. New or expanding operations are required to meet all the new management practices found in the Chapter 321, Subchapter B CAFO rules, which were approved by EPA as meeting all federal requirements for the protection of water quality. The focus of the rules was to reduce nutrient loading by requiring BMPs designed to significantly decrease the potential for discharges. Special provisions applicable to the North Bosque watershed that were not in the previous version of the CAFO rules were designed and adopted to specifically address the TMDL requirements to reduce phosphorus loadings. The operational and management strategies in the rules and draft permit are designed to reduce nutrient loading and be consistent with the North Bosque River TMDL.

The facility is currently operating as an animal feeding operation (AFO) with a maximum of 199 head. AFOs are not required to design or construct RCSs to meet the 25 year, 10 day design rainfall event. This requirement only applies to CAFOs in the major sole source impairment zone. Section X.A.2 of the draft permit requires that all RCS modifications be completed prior to exceeding 199 head. Therefore, at the time the facility increases the number of animals to become defined as a CAFO, the RCSs will be constructed to meet the design requirements of CAFOs in the major sole source impairment zone.

Although the history of the site is related to compliance of the previous owner, the compliance history of the previous owner does not determine the ability of the current Applicant to comply with the requirements of this draft permit.

COMMENT 2

The Coalition comments that the applicant should recalculate the minimum treatment volume so that it uses 5.16 pounds per day per 1000 cubic feet of treatment volume for the volatile solids loading rate.

RESPONSE 2

TCEQ rules recognize design criteria from the American Society of Agricultural and Biological Engineers (ASABE), the National Resources Conservation Service (NRCS) and other sources. ASABE criteria is referenced in the comment. The ED has re-evaluated the applicant's determination of the volatile solids loading rate and due to lack of precision of the ASABE loading rate map, the ED has determined that the loading rate used in the application is acceptable.

COMMENT 3

The Coalition comments that the Applicant did not sample each land management unit (LMU) individually and that the TCEQ should require that the Applicant sample each LMU as now delineated in the application separately and prepare a new and accurate nutrient management plan (NMP) based on these samples before the draft permit is issued.

RESPONSE 3

The LMUs were sampled according to the present LMU shapes rather than future LMU shapes. This should not present a source of inaccuracy as all proposed LMUs are subdivisions of older LMUs. The Executive Summary for the NMP dated 11/7/08 has a table that lists the conversion of LMU designations from the older LMUs to the proposed LMUs as depicted on maps with the NMP. LMUs will be sampled according to the new LMU configuration, if permitted when annual sampling is required. Attachment B of the draft permit delineates the location of each LMU proposed in the application.

COMMENT 4

The Coalition comments that the applicant has submitted data for only one RCS, without indicating which RCS was sampled. The Coalition comments that the TCEQ should require sampling of both RCSs and prepare the NMP based on the two separate samples.

RESPONSE 4

As the facility is currently operating as an AFO, 30 TAC § 321.47(f)(11) governs the manner in which the applicant currently samples wastewater; which requires AFOs to collect and analyze at least one representative sample of wastewater each year. The draft permit does stipulate that annual wastewater sampling be separate for RCS #1 and #2 (*see* Section X.O.).

COMMENT 5

The Coalition comments that the Applicant has not supplied any supporting sources in its application for its estimate of the daily volume of process wastewater. The Coalition requests that the Applicant be required to describe the operation and equipment and the amount of water produced in each activity in order to determine if the 15 gallon per day per head estimate of volume is reasonable.

RESPONSE 5

The ED considers 15 gallons per head per day an acceptable estimate for processed water. The lower range provided in NRCS software is 15 gallons per head per day.

COMMENT 6

The Coalition comments that RCS #2 and #3 are being combined. Unless the levee is at least partially removed and any spillway separating the two RCSs is completely removed, separate volume allocations should be made for RCS #2 and RCS #3. In addition, the Coalition comments that each RCS should have its own pond marker otherwise the site map should accurately depict the combined RCS.

RESPONSE 6

Section X.A of the draft permit requires the Applicant to modify existing RCS #2 and #3 into one RCS that will be called RCS #2. This section also requires that this modification takes place within 180 days of permit issuance and prior to exceeding 199 head. Once this is complete the Applicant is required to install and/or maintain one permanent pond marker in RCS #1 and one in RCS #2. Section VII.A.1(c)(1) of the draft permit requires the Applicant to update the site map to reflect the layout of the facility as needed, which includes RCSs. Additionally, 30 TAC § 321.46(c)(2)(B) requires the operator to verify in the annual report that the site map has been updated to reflect current conditions.

COMMENT 7

The Coalition comments that because the Applicant has represented on the site map and in volume allocations that RCS #1 will receive no runoff other than what falls directly on the settling basin and RCS surface area a special provision in the draft permit should be added prohibiting any runoff from being directed into RCS #1.

RESPONSE 7

The Applicant submitted design plans for the RCS in the permit application to contain rainfall from the 25-year 10-day rainfall event. The drainage area is used in the design calculations to determine the minimum required capacity shown on page 1 of the permit. Section VI.B of the permit states that

the application is incorporated into the permit. Furthermore the drainage area boundaries are delineated on Attachment A by a thick dashed line. The legend on Attachment A explains that the drainage area boundary on the ground will be a berm or a ditch. Also, directional flow arrows represent that runoff outside of the drainage areas will be diverted by the berm/ditch at the drainage area boundary. Therefore, there is no need for a special provision prohibiting runoff from entering RCS #1, as it is already outlined in the design plans and represented accordingly in the draft permit.

COMMENT 8

The Coalition comments that no evaluation was made of existing RCS #1, #2 or #3 to determine whether they are designed to meet the capacity requirements under a 25-year 24-hour design rainfall event. The Coalition comments that the Applicant should demonstrate that the RCSs meet the 25-year 24-hour event or the draft permit should prohibit operations until RCS modifications are complete. Also, the Coalition comments that the TCEQ should require the Applicant to submit a new capacity certification for the existing RCSs, including calculation of sludge accumulation, before the draft permit is issued.

RESPONSE 8

The facility is currently authorized as an AFO under 30 TAC § 321.47 and must comply with the provisions in this section of the CAFO rules, which are enforced by TCEQ Field Investigators. If this permit is issued, the new 25-year, 10-day volume requirements will take effect and the RCSs will be required to be modified within 180 days in accordance to the design in the application. The RCSs must meet the new requirements before the dairy is authorized to exceed 199 head. The required minimum volume allocations are shown in X.A.1 of the draft permit. Section VII.A.3.(a) of the draft permit requires that after completion, liner and capacity certifications for all modified RCSs be maintained in the pollution prevention plan (PPP).

Capacity certifications reflect the total as-built capacity. This maximum volume does not change, unless modifications are made to the RCS. Sludge accumulations, on the other hand, fluctuate, just as the wastewater levels fluctuate. The draft permit requires sludge accumulations to be monitored and recorded in the PPP, as necessary, but at least annually beginning in year three for RCS #1 and at least annually beginning in year two for RCS #2.

COMMENT 9

The Coalition comments that to ensure accurate evaporation volumes in the water balance, Section VII.A.5(a)(2)(iv) of the draft permit should be revised to read "a stage/storage table for each RCS with minimum depth increments of one-foot, including the storage volume and surface area provided at each depth."

RESPONSE 9

The surface area of a RCS is a factor used in designing the required capacity. The expected evaporation surface area used in the water balance was taken as a percentage of the total top of the berm surface area. Surface area will also be a factor in calculating the volume at each depth increment in the stage/storage table for the RCS Management Plan. For operational purpose, it is the volume measurement at each depth increment that needs to be known, not the surface area.

COMMENT 10

The Coalition comments that the draft permit does not require an RCS Management Plan until after the RCS is modified. The Coalition comments that this does not allow for meaningful staff or public review before the plan is implemented. At a minimum, the Coalition recommends revising the draft permit to require the RCS Management Plan to be submitted to TCEQ permitting staff when completed for review and approval. Additionally, the Coalition comments that the draft permit does not appear to require an RCS Management Plan for the existing RCSs before the permit is issued. The Coalition notes that this seems inconsistent with the requirement of 30 TAC § 321.42(g), which requires an RCS Management Plan for all RCSs.

RESPONSE 10

The CAFO rules at 30 TAC § 321.42(g) and the draft permit require that the Applicant implement an RCS Management Plan and maintain a copy in the PPP. TCEQ rules do not require review of RCS management plans prior to or after issuing the permit. This requirement is being implemented through issuance of the permit. *See* 30 TAC § 321.42(a). Until the actual expansion and modification of the RCS system is completed and volumes certified, which takes place after the permit is issued, the RCS Management Plan cannot be completed and implemented.

The purpose of the RCS Management Plan is to assist the operator with proper management of the RCS system and to provide information for the TCEQ regional investigators to determine if the system is being operated in compliance with the permit and the design of the RCS. Submittal of the RCS Management Plan is not necessary to achieve these purposes. The RCS management plan is available to TCEQ investigators during the inspection process.

The draft permit does require an RCS Management Plan for all RCSs authorized in the draft permit. The Applicant has 180 days from the date the permit is issued to make RCS modifications. Until RCS modification is complete, the dairy may not exceed the 199 head currently authorized.

COMMENT 12

The Coalition comments that Section X.1.3 of the draft permit requires that slurry removed from freestall barns must be stored within the drainage are of an RCS and that Site Map in Attachment A of the draft permit shows slurry being stored in two areas not located within the drainage area of an

RCS. The Coalition comments that the two areas should be bermed and the bermed area direct flow into the RCSs and the drainage areas be corrected and the volume allocations be recalculated.

Additionally, the Coalition comments that the cross-ventilated barn is not designated as a freestall barn on the Site map, nor is it referenced in Section X.1 of the draft permit. The Coalition comments that if the cross-ventilated barn is treated as a freestall barn, to avoid dispute, the cross-ventilated barn should be included in Section X.1. of the draft permit.

RESPONSE 12

In response to comment, Section X.I. of the draft permit was revised to more clearly represent the proposed application and to eliminate any discrepancies between Section X.H. and Section X.I. of the draft permit. Also, Section X.I. has been revised to be inclusive of cross ventilated barns. Section X.I. now reads as follows:

Slurry from freestall or cross ventilated barns.

1. For the purpose of this permit, slurry from freestall or cross ventilated barns shall be defined as manure.
2. If slurry from freestall or cross ventilated barns is land applied, an annual sample must be collected and analyzed in accordance with Section VII.A.9(a), in addition to other manure and wastewater.
3. Slurry removed from freestall or cross ventilated barns must be stored within the manure storage areas identified on Attachment A. The manure storage area within the drainage area of RCS #2 must be large enough to prevent overflow of slurry into the RCS. Any overflow of slurry into the RCS shall be recorded in the PPP and notification shall be provided to the regional office within thirty (30) days. Based on review of the information this permit may be formally amended to require additional controls or other requirements

COMMENT 13

The Coalition comments the Applicant calculated the sludge accumulation volume from open lot runoff based on the Kansas Agricultural Field Waste Handbook without providing any of the data or values that were used in this formula or any justification for why an equation developed based on conditions commonly experienced in Kansas is applicable in Texas.

RESPONSE 13

The Applicant used the USDA Agricultural Field Waste Handbook, Kansas, Part 651.1083 to calculate the sludge accumulation volume of open lot runoff. Page 3 of the Fact Sheet described the equation as follows:

(%SC) x (MAR) x (DA) x (SP), where %SC = percent solids content of runoff, MAR = mean

annual runoff (in inches), DA = contributing drainage area (in acres), and SP = sediment storage period (in years). A minimum of one year of sludge storage is required in the RCS. Design sludge volumes in this permit reflect a five (5) year sludge accumulation period.

The method used by the Applicant is one of a limited number of methodologies and is considered acceptable for use in Texas.

COMMENT 14

The Coalition notes the TCEQ has concluded that settling basins meet the definition of RCSs. Further, the Coalition agrees that settling basins do not need to be designed to store runoff from a 25-year 10-day rainfall event. The Coalition comments that to be consistent with 30 TAC § 321.38(e)(2), the Applicant should be required to provide design specifications and construction specifications that have been certified by a licensed Texas professional engineer for the settling basins.

RESPONSE 14

The draft permit requires that documentation describing the sources of information, assumptions, and calculations used in determining the appropriate volume capacity and structural features of each RCS must be included in the PPP.

Settling basins are an optional treatment practice to reduce sludge accumulation in the RCS. If the settling basins do not achieve the removal efficiencies proposed in the design calculations, sludge will accumulate in the RCS at a faster rate than expected. The permit addresses this issue by requiring sludge accumulation in the RCS to be monitored as needed, but at least annually beginning in year three for RCS #1 and year two for RCS #2. The permit also requires the Applicant to maintain the sludge volume at or below the designed sludge volume. Proper sludge management in the RCS will reduce overflows associated with insufficient wastewater storage capacity.

COMMENT 15

The Coalition comments that there is no technical justification in the application to support the Applicant's proposition that it plans to construct settling basins of the type or design that the Midwest Plan Service Structures and Environmental Handbook indicates is necessary to achieve a 50% solids removal efficiency.

RESPONSE 15

The Midwest Plan Service Structures and Environmental Handbook, the Applicant used to derive the settling basin removal rate, states that: "settling basins remove 50%-85% of the solids..." The application is based on 50% removal rate, which falls within the acceptable range in the reference material. The draft permit requires that the PPP include documentation describing the sources of

information, assumptions, and calculations used in determining the appropriate volume, capacity, and structural features of each RCS.

COMMENT 16

The Coalition comments that in order to enforce Section X.M. of the draft permit, it should be revised to require the Applicant to remove solids from the settling basin before the basin reaches half of its maximum capacity. The Coalition comments that solids in the settling basin should be removed at least every 24 days based on an assumption of five-foot depth in the basin and even more frequently if the basin has a shallower depth.

RESPONSE 16

The ED declines to make this change. Settling basins are used to reduce the sludge accumulation in RCSs. The RCSs are designed for five years of sludge accumulation. If the settling basins do not achieve the removal efficiencies proposed in the design calculations, sludge will accumulate in the RCSs at a faster rate than expected. The permit addresses this issue by requiring sludge accumulation in the RCSs to be monitored as needed, but at least annually beginning in year two of the permit for RCS #2, and at least annually beginning in year three of the permit for RCS #1. Taking volume measurements early will help reevaluate the accumulation rates prior to reaching the five-year design volume. The permit also requires the Applicant to maintain the sludge volume at or below the designed sludge volume.

COMMENT 17

The Coalition comments that settling basin solids should be defined as "sludge" and not "manure" as in Section X.H.1.

RESPONSE 17

The ED declines to make this change. Settling basin solids are not "sludge" since there is no sludge volume allocation. Therefore, settling basin solids are defined as "manure." If settling basin solids are land applied, an annual sample must be collected and analyzed in accordance with Section VII.A.9(a) of the permit, in addition to other manure and wastewater.

COMMENT 18

The Coalition comments that the draft permit should be amended to require annual determination of sludge accumulation instead of two or three years following permit issuance.

RESPONSE 18

30 TAC § 321.39(c) and Section VII.A.5(a)(7) of the draft permit prohibits the Applicant from

allowing sludge accumulation to exceed the design volume. This is achieved by removing the sludge according to the design schedule. The design criterion for this dairy is five years of accumulation. The RCS Management Plan will establish accumulation rates in the RCSs, which will identify the current sludge volume in each RCS. Taking volume measurements starting in year three for RCS #1 and year two for RCS #2 will help reevaluate the accumulation rates prior to reaching the five-year design volume.

By starting measurements in year three for RCS #1 and year two for RCS #2, the Applicant will have time to complete modification and expansion of RCSs and to develop and implement an RCS Management Plan to appropriately manage the sludge volume in the ponds. Furthermore, taking daily pond marker readings should assist in determining excessive sludge accumulation in any RCS.

COMMENT 19

The Coalition comments that the draft permit fails to adequately define capacity certification requirements. The Coalition states that Section VII.A.3(a)(2) should make it clear that all capacity certifications require certification of both total as-built capacity and the remaining capacity as a result of sludge accumulation by inserting the following sentence: "Capacity certifications shall include both the total as-built RCS capacity and the remaining RCS capacity due to sludge accumulation."

RESPONSE 19

Capacity certifications reflect the total as-built capacity. This maximum volume does not change, unless modifications are made to the RCS. Sludge accumulations, on the other hand, fluctuate, just as the wastewater levels fluctuate. Sludge accumulations are required to be monitored and recorded in the PPP, as necessary, but at minimum, in year three (3) for RCS #1 and year two (2) for RCS #2 and then annually thereafter.

COMMENT 20

The Coalition comments that the Applicant's settling basins have not been certified by a professional engineer as having no hydrologic connection to waters of the state, nor does the application indicate whether the settling basins are earthen or concrete.

RESPONSE 20

The Applicant stated in a letter dated October 21, 2008 that the settling basins are concrete. In response to the comment, a special provision was added to the permit in Section X.Q. The provision states:

> Within 180 days of issuance of this permit, the permittee shall ensure site-specific documentation is prepared and certified by a licensed Texas professional engineer that shows the concrete basins are free from integrity compromises such as cracking, leaking, or

deterioration. This documentation shall be placed in the PPP and made available to the executive director upon request.

During the annual site inspection, the permittee shall inspect the integrity of the concrete settling basin. Integrity compromises, such as cracking, leaking, or deterioration shall be repaired within 30 days of the inspection. Inspection and maintenance records for the concrete settling basin shall be maintained in the onsite PPP.

COMMENT 21

The Coalition comments that the Site Map indicates the presence of a silage storage pit and manure storage pits with concrete bottoms and without liner certifications for the sides of these pits. The Coalition comments that before the draft permit is issued the Applicant should be required to submit proper liner certifications for the silage and manure pit.

RESPONSE 21

30 TAC § 321.38(g)(3) states: "The operator shall ensure site-specific documentation is prepared that shows that no significant hydrologic connection exists between the contained wastewater and water in the state." The silage pit and manure storage area do not contain wastewater, therefore, liner certifications are not required.

COMMENT 22

The Coalition comments that the Applicant has not submitted any certification of when the RCSs were originally constructed and thus it should be required to reconstruct each RCS in accordance with current embankment construction requirements.

RESPONSE 22

Currently, as an AFO facility, the Applicant is required to meet the rules in 30 TAC § 321.47. In regards to authorizing the RCSs under an individual permit, the draft permit addresses special considerations for existing RCSs in Section VII.A.4, which states:

> An existing RCS that has been properly maintained without any modifications and has no apparent structural problems or leakage is considered to be properly designed with respect to the embankment design and construction and liner requirements of this permit, provided that any required documentation was completed in accordance with the requirements at the time of construction. If no documentation exists, the RCS must be certified by a licensed professional Texas engineer as providing protection equivalent to the requirements of this permit.

Therefore, embankment design and construction of existing RCSs are addressed in the draft permit,

no change was made in response to this comment.

COMMENT 23

The Coalition comments that the application has not demonstrated that RCS #3 has a liner certification and the liner certifications for RCS #1 & #2 should have included documentation regarding hydraulic conductivity testing, taken at the optimum moisture content and thickness of the natural materials underlying and forming the walls of the structure up to the wetted perimeter. Also, the Coalition comments that the draft permit should be revised to prohibit the commencement of operations until the RCS modification is complete as the rules do not allow the use of improperly-certified RCSs at any time.

RESPONSE 23

TCEQ regional investigators can review the current liner certifications during site inspections and determine compliance with TCEQ rules and the existing authorization. RCS #2 and #3 from the previous authorization will become RCS #2. The draft permit requires RCS #1 and RCS #2 to contain the required capacities listed on page 1 of the draft permit. Section VII.A.3(a) of the draft permit also requires documentation of liner and capacity certifications to be completed for the pond modifications prior to use; and requires that documentation be maintained in the on-site PPP. Section X.A.4 requires the Applicant to submit those certifications to the TCEQ within 30 days after completing modifications. Also, note that Section X.A.2 of the draft permit gives the Applicant 180 days after the permit is issued to complete all RCS modifications required by the permit.

COMMENT 24

The Coalition comments that the TCEQ has previously required Applicants to submit a minimum of one floor sample per acre of surface area and a minimum of one sidewall sample per each two acres of surface area. The Coalition believes this is the more appropriate sampling protocol that the TCEQ should require.

RESPONSE 24

The requirement in the draft permit exceeds the requirement of the existing permit and of the rules. Section VII.A.3.(g)(3)(ii) of the draft permit requires the following:

> For each RCS, a minimum of one undisturbed sample shall be collected per plan surface acre at the spillway elevation. For the purpose of determining the number of samples to collect, surface acres shall be rounded up to the next whole acre. Distribution of the samples shall be representative of liner characteristics, and proportional to the surface area of the sidewalls and floor. Documentation shall be provided identifying the sample locations with respect to the RCS liner.

This requirement is considered to provide certifications that will adequately document the permeability of the RCS liners. Therefore, the ED declines to make the change.

COMMENT 25

The Coalition comments that the draft permit contains some procedures and requirements for liner and embankment testing, but it does not adequately address the testing of embankment construction in Section VII.A.3(f)(4). The Coalition comments that TCEQ should: 1) require the field density tests to be based on predetermined moisture-density compaction curves, 2) define the frequency of testing (e.g., number of tests per specific area per lift), 3) require compaction testing on each lift during the construction of the liner (not merely on the last lift after completion of the liner), 4) require documentation and reporting of compaction test locations and results, and 5) require continuous on-site inspection during construction. The Coalition further comments that TCEQ should review compaction testing results to make an independent verification of the certification.

RESPONSE 25

Section VII.A.3(b) of the draft permit requires that the RCSs be designed and constructed in accordance with the technical standards developed by NRCS, ASABE, ASCE, or ASTM. Additionally, the permit identifies specific RCS design, construction, and testing criteria in Section VII.3(f) and (g). The construction requirements for embankment lifts are in Section VII.A.3(f)(2) and are as follows:

> Embankment Lifts. The embankment shall be constructed in lifts or layers no more than eight (8) inches compressed to six (6) inches thick at a minimum compaction effort of 95 percent (%) Standard Proctor Density (ASTM D698) at -1% to +3% of optimum moisture content.

The compaction testing requirements are in Section VII.A.3(f)(4) and are as follows:

> Compaction Testing. Embankment construction must be accompanied by certified compaction tests including in place density and moisture in accordance with ASTM D 1556, D 2167 or D 2937 for density and D 2216, D 4643, D 4944 or D 4959 for moisture, or D 6938 for moisture and density. Compaction tests will provide support for the liner certification performed by a licensed Texas professional engineer as meeting a permeability no greater than 1×10^{-7} centimeters per second (cm/sec) over a thickness of 18 inches or its equivalency in other materials.

More specific liner requirements are included in Section VII.A.3(g) of the permit. The liner must be designed by a licensed Texas professional engineer and documented to have hydraulic conductivities no greater than 1×10^{-7} cm/sec in accordance with ASTM D 5084, or other method approved by the ED, with a thickness of 18 inches or greater or its equivalency in other materials, and not to exceed a specific discharge through the liner of 1.1×10^{-6} cm/sec with a water level at spillway depth.

The ED believes these testing requirements are adequate and protective of water quality.

COMMENT 26

The Coalition comments that Section VII.A.(3)(f)(4) of the draft permit refers to ASTM standard D6938-07, which is no longer in effect and has been superseded by standard D3938-08a. The Coalition recommends that the referenced standard be changed simply to "D6938," and the sentence, "The ASTM standards shall be those that are in effect at the time of construction," be added Section VII.A.(3)(f)(4).

RESPONSE 26

In response to the comment, referenced ASTM standard D6938-07 in Section VII.A.3(f)(4) of the draft permit was changed to D6938. However, the request to include "The ASTM standards shall be those that are in effect at the time of construction" was not added to the section because it is already stated in Section VII.A.3(b) of the permit as follows:

> Design and Construction Standards. The permittee shall ensure that each RCS is designed and constructed in accordance with the technical standards developed by the NRCS, American Society of Agricultural and Biological Engineers, American Society of Civil Engineers, or American Society of Testing Materials that are in effect at the time of construction. Where site-specific variations are warranted, a licensed Texas Professional Engineer must document these variations and their appropriateness to the design.

COMMENT 27

The Coalition comments that the draft permit lacks the required standards for quality of soils used in construction of the RCS. The Coalition states that the draft permit should be revised to describe minimum values for the following quality of soil standards: plasticity index, liquid limit, percent passing 200 mesh sieve, and percent passing one-inch screen.

RESPONSE 27

Section VIIA.3(b) specifies design and construction standards for RCSs. Section VIIA.3(f) and (g) specifies additional design and construction standards relative to liners. Analysis of plasticity index, liquid limits and percent passing a 200 mesh sieve will assist the construction contractor and design engineer in determining if the soil proposed for use as a liner can achieve the compaction, permeability, and specific discharge requirements of the draft permit. The liner design and construction requirements in the draft permit will ensure adequate protection of groundwater and meet the requirements of 30 TAC § 321.38(g).

COMMENT 28

The Coalition comments that a complete list of specific circumstances that would qualify for an extension to the deadline for completing RCS modifications should be included in the draft permit in Section X.A.2.

RESPONSE 28

The conditions that may delay construction of an RCS are numerous and highly variable. The extension request must provide an explanation of the conditions that prevented construction during the specified timeframe. The ED will evaluate the specific reasons on a case-by-case basis to determine whether to grant an extension.

COMMENT 29

The Coalition comments that the permit application does not provide an adequate description of the structural controls, particularly the berms and ditches.

RESPONSE 29

A Runoff Control Map was submitted by the Applicant that clearly identifies the control features directing run-off. This map shows a thick dashed line identified as the diversion berm/ditch.

The permit only authorizes discharges from a properly designed, constructed, operated, and maintained RCS in the event of chronic or catastrophic rainfall events or catastrophic conditions that cause an overflow. Discharges are not authorized under any circumstances from diversion structures.

The permit requires the Applicant to conduct weekly inspections on all control facilities, including the RCS, storm water diversion devices, runoff diversion structures, control devices for management of potential pollutant sources, and devices channeling contaminated storm water to the RCS; and to annually conduct a complete site inspection of the production area. Additionally, the draft permit requires the Applicant to have a licensed Texas professional engineer complete a site evaluation of the structural controls every five years.

COMMENT 30

The Coalition comments that the Applicant has failed to demonstrate the adequacy of its dewatering capability and asks the ED to verify the dewatering capabilities of equipment listed in the application.

RESPONSE 30

TCEQ rules do not require ED review or approval of the equipment an applicant will use to dewater

the RCSs. The draft permit requires that the Applicant ensure that the irrigation system design is capable of removing wastewater from the RCSs on a regular schedule. Equipment capable of dewatering the RCSs must be available and operational whenever needed to restore the operating capacity required by the RCS Management Plan. This gives the Applicant flexibility on the type of equipment used when dewatering.

COMMENT 31

The Coalition comments that the draft permit does not require the annual facility inspection report or five-year evaluation to be sent to TCEQ as required by 30 TAC §§ 321.46(c)(2) and (e)(2). The Coalition notes that the TCEQ has stated in previous response to comments that these rules do not require these records to be submitted to TCEQ. The Coalition comments that they interpret these rules to require filing of the facility inspection and five-year evaluation reports to the Office of Enforcement and Compliance.

RESPONSE 31

The rules cited by the Coalition do not require these records be submitted to the TCEQ. However, 30 TAC § 321.46(d) requires that these records be maintained on site for a minimum of five years from the date the record was created and provided to TCEQ within five days upon written request by the ED. These records should be maintained in the PPP where they are subject to review during site inspections conducted by TCEQ field staff. Failure to conduct an annual site inspection or the five-year evaluation; and to document the findings of both in the PPP or failure to correct the deficiencies identified would be a violation of the permit and would subject the Applicant to potential enforcement action by the Commission.

COMMENT 32

The Coalition comments that the draft permit fails to require the five-year evaluation to certify the adequacy of structural controls. Additionally, the Coalition comments that Section VII.A.10 (b) of the draft permit does not require a certification regarding structural control adequacy prior to permit issuance and that the Applicant should be required to provide a current certification of structural controls before the permit is issued.

RESPONSE 32

The draft permit will require a licensed Texas professional engineer to review the existing engineering documentation, complete a site evaluation of the structural controls, review existing liner and RCS capacity documentation, and complete and certify a report of their findings. The site evaluation would be a comparison of what is required by the engineering documentation and the actual structural controls, as constructed, operated, and maintained. Should the engineer determine that the structural controls are inadequate with respect to the design requirements in the engineering documentation, those findings would be included in the certified report. Licensed Texas professional

engineers are subject to standards of performance as established by the Texas Board of Professional Engineers.

The applicant is currently required to have a site evaluation conducted every five years. However, neither the rules nor the draft permit require the five year evaluation to be submitted to the TCEQ. Instead, the permit requires these records to be maintained onsite and provided to TCEQ personnel upon request.

The permit only authorizes discharges from a properly designed, constructed, operated, and maintained RCS in the event of chronic or catastrophic rainfall events, or catastrophic conditions that cause an overflow. Discharges are not authorized under any circumstances from diversion structures.

The permit requires the Applicant to conduct weekly inspections on all control facilities, including the RCSs, storm water diversion devices, runoff diversion structures, control devices for management of potential pollutant sources, and devices channeling contaminated storm water to the RCS; and to annually conduct a complete site inspection of the production area. Additionally, the permit requires the Applicant to have a licensed Texas professional engineer complete a site evaluation of the structural controls every five years.

COMMENT 33

The Coalition comments that the draft permit fails to require adequate sampling of wastewater and manure, with respect to sample collection and frequency.

RESPONSE 33

The permit provisions for sampling and monitoring are consistent with 30 TAC §§ 321.36(e) and (g), and with the requirements of NRCS Conservation Practice Standard Code 590 (NRCS Code 590). The draft permit requires that representative samples be collected annually for manure, wastewater, and soils. The results of the analyses must be used in determining application rates. Because they are used in determining application rates, the sample collection should be representative of the material, as applied. If manure and wastewater samples are not representative of the materials, as applied, the following year's soil analyses may be higher than expected. This in turn would result in a reduced application rate.

COMMENT 34

The Coalition comments that the draft permit fails to account for proper management of phosphorus production. The Coalition comments that 5,500 cows will produce 1,784 lb/day P_2O_5 which is equivalent to 651,160 lb/yr P_2O_5 and only 9,191 /yr of P_2O_5 will be applied to LMU's or third-party fields as indicated in the NMP. The Coalition states that 641,969 lb/yr P_2O_5 (98.6 percent) will be potentially managed on third-party fields within the North Bosque River watershed without an NMP. The Coalition comments that failure to plan for proper management of this phosphorus will lead to

excess phosphorus distribution within the watershed.

RESPONSE 34

The permit application identifies how much phosphorus is generated and the methods used to utilize or dispose of it. It is projected that 5,500 cows will generate 1,784 lbs. of P_2O_5 per day. The calculation is based on a book value for phosphorus production by dairy cows developed by the American Society of Agricultural and Biological Engineers. It is part of a set of data intended for use in designing facilities to accommodate actual waste production. As long as the phosphorus being land applied or hauled-out is accounted for as required under TCEQ rules, an accounting to reflect what remains in the CAFO production area is not necessary.

The NRCS Code 590 does not require that all LMUs be limited to the phosphorus removal rate of application. If the soil test levels for phosphorus are below 200 ppm, the crop nitrogen recommendation or some multiple of the crop phosphorus recommendation is the allowable rate, depending on the phosphorus risk index. Only when the soil test levels exceed 200 ppm on permitted LMUS, or 50 ppm on third party fields, is the crop phosphorus removal rate of application a requirement.

COMMENT 35

The Coalition notes that the draft permit allows up to 100% of the manure to be land applied within the watershed. The Coalition comments that the draft permit should be revised to require that 50 % of the waste generated by the proposed operation be managed outside of the North Bosque watershed in a manner that is consistent with the goals of the applicable TMDL.

RESPONSE 35

The North Bosque TMDL has a goal of a 50% reduction in in-stream loading. The TMDL and TMDL I-Plan address growth of CAFOs through BMPs designed to decrease loading. Neither the TCEQ rules nor the TMDL I-Plan requires a 50% haul-out of collectible manure.

COMMENT 36

The Coalition comments that multiple NMP's have been submitted and that the draft permit should state the date of the most recent NMP that the facility will operate under for the year following the issuance of the permit.

RESPONSE 36

In response to comment, the date of the most recent NMP has been added to Section V. of the Fact Sheet.

COMMENT 37

The Coalition comments that the applicant uses curve numbers in the Phosphorus index based on LMUs that are protected from grazing and that the applicant should be required to adjust the curve numbers to account for grazing and correct the NMP accordingly.

RESPONSE 37

NRCS staff has indicated that use of the curve number for un-grazed meadows is acceptable for Bermuda hay plus moderately grazed winter ryegrass because the fields are not grazed for a majority of the year. Additionally, the difference in the PI Index resulting from the changes to the curve number to reflect grazing would not result in a change in the P runoff potential and therefore, would not affect the proposed application rates.

COMMENT 38

The Coalition comments that three of the Applicant's LMUs are greater than 40 acres, which is contrary to the Texas A&M University/NRCS Code 590 certification course and Texas A&M guidance. The course and guidance limit the size of LMUs to 40 acres or less. The Coalition recommends subdividing the three oversized LMUs to meet the NRCS Code 590 standard and requiring a revising the LMU map and NMP.

RESPONSE 38

The CAFO rules in 30 TAC Chapter 321 do not require that the soil sampling area define the size of an LMU. Also, the CAFO rules do not specify or limit the size of a LMU. Management considerations are important when determining LMU size.

COMMENT 39

The Coalition comments that the Applicant has not taken into account the phosphorus being recycled to the soil from the manure and the failure to recognize the inapplicability of the NRCS Code 590 standard will result in over-application and buildup of phosphorus in the soil. The Coalition comments that the NMP should be revised to reflect more realistic phosphorus removal rates for grazing.

RESPONSE 39

30 TAC § 321.36(d)(1) and Section VII.A.8(a) of the draft permit requires the operator of a CAFO to develop and implement an NMP certified in accordance with the NRCS Code 590. All nutrient applications follow the NRCS Code 590 as shown by the latest NMP submitted by the Applicant and dated 11/7/08. The NMP incorporates the prescribed application rates in the S-Crops Table. This table and the NMP do account for the effects of grazing in establishing application rates.

COMMENT 40

The Coalition comments that the Applicant's proposed NMP does not include the approximate locations or time of year when soil tests will be taken. The Coalition comments that this information is necessary to properly use Texas NRCS Code 590.

RESPONSE 40

NRCS Code 590 requires the approximate locations where soil tests will be taken; and the timing and frequency of soil sampling. Page 7 of the NMP, in the permit application, states the location as "each field" and frequency as "annually." These statements comply with 30 TAC § 321.36(g) and Section VII.A.9.(b) of the draft permit.

COMMENT 41

The Coalition comments that the NMP does not account for nutrients available to plants in the soil or root zone to satisfy the crop requirement.

RESPONSE 41

NMPs are developed in accordance with NRCS Code 590. NMPs evaluate nutrients in the soil as part of the Phosphorus Risk Index. The allowable application rate, as determined by the NMP, takes both risk factors and soil phosphorus levels into account.

COMMENT 42

The Coalition comments that the draft permit allows land application on land exceeding 200 ppm of phosphorus. The North Bosque River TMDL Implementation Plan (TMDL I-Plan), dated December 2002 (p.16), provides that formal enforcement action will result if CAFOs "apply waste or wastewater to a WAF that has been documented to have exceeded 200 parts per million phosphorus in Zone 1 of the soil horizon." Section VII.A.8(c) (2) of the draft permit appears to be inconsistent with the TMDL I-Plan.

RESPONSE 42

The draft permit requirements are consistent with TCEQ rules relative to phosphorus reduction in waste application fields. The use of phosphorus based assessments requires additional action on fields exceeding 200 ppm. All waste application is limited under the permit provisions to avoid significantly increasing phosphorus runoff into the North Bosque River. An LMU that reaches 200 ppm of phosphorus triggers the Nutrient Utilization Plan (NUP) requirement. *See* 30 TAC § 321.40(k)(3) and Section VII.A.8(c) of the draft permit. A NUP must be approved by the ED prior to land application of any additional manure, sludge, slurry, or wastewater to the LMU. For third party fields, there is no NUP requirement, but land application of all wastewater must cease when a field

reaches a phosphorus level of 200 ppm or higher.

The table below illustrates numbers from the Applicant's NMP to compare the maximum application rate versus the proposed application rate. The plan is based on a goal of maintaining soil test phosphorus levels below 200 ppm, which results in a planned application amount that is less than the maximum allowed under the East Texas Phosphorus Index (application on all LMUs, collectively). NMPs are routinely updated and the values shown below are subject to change.

LMU #	Soil Test P (ppm)	Max Annual P_2O_5 (lbs/ac)	Proposed Annual P_2O_5 (lbs/ac)	% of Max Allowable
1	137	460	55	12
2	56	490	101	22
3	56	202	0	0
4	124	460	55	12
5	129	460	55	12
6	129	350	0	0

Page 16 of the TMDL I-Plan for the North Bosque does read as indicated by the Coalition. However, immediately following this statement the document states that more information is available in the section entitled "Enforcement Program." In that section of the TMDL I-Plan, it states that owners of facilities would be subject to enforcement if they performed land application on fields where soil phosphorus exceeded 200 ppm, unless land application was done according to an approved NUP.[1] This is consistent with TCEQ rules that require an approved NUP prior to any additional land application on LMUs that exceed 200 ppm of phosphorus and prohibit land application on third party fields that exceed that amount.

COMMENT 43

The Coalition comments that the draft permit should be revised to prohibit waste application onto uncultivated fields or in the least, prohibit application on uncultivated fields within 500 feet of a stream since no buffers are required for third-party fields. Additionally, the Coalition comments that a permit provision should be added to require third party field operators to follow NRCS Code 590 if it is more restrictive. The Coalition further comments that according to the draft permit, no NMP is required for third-party fields and in order to determine the appropriate application rates the draft permit should be revised to require an NMP for third-party fields, even if the criteria for the NMP are different than those in NRCS Code 590.

RESPONSE 43

The ED declines to make the requested change to NRCS Code 590 because the CAFO rules do not

1 See "An Implementation Plan for Soluble Reactive Phosphorus in the North Bosque Watershed," December, 2002, page 39:

require that land application on third party fields be consistent with the NRCS Code 590. However, the limitations placed in the draft permit assure that application on third party fields will take into account the potential for phosphorus build-up to occur. Land application on third party fields may not exceed a maximum soil test phosphorus level of 200 ppm. When a third party field tests 200 ppm or higher for phosphorus, all land application on that field must cease.

The application limitations on third party fields are based on soil test phosphorus levels instead of the Phosphorus Risk Index. The restrictions are more conservative than the rules require. Similar to an NMP, as soil phosphorus levels increase on third party fields, the Applicant will have to reduce waste application rates in order to continue land applying on those fields and to prevent those fields from exceeding 200 ppm of phosphorus.

Section VII.A.8(e)(5) provides the requirements for third-party fields. These provisions apply to cultivated and non-cultivated fields, with the exception of (5)(i)(B), which is specific to cultivated fields. Cultivated fields are fields used for row cropping that require the ground to be tilled, disced, or plowed to prepare for seed planting, such as corn, wheat, and oats. Non-cultivated fields are used to grow plants that do not require the ground to be tilled, disced, or plowed, such as Bermuda grass or native grasses. If the requirement in (5)(i)(B) to incorporate manure and sludge was applied to non-cultivated fields, the vegetation would be significantly damaged, thus reducing the yield goal and nutrient uptake. The ED finds that the permit has adequate provisions related to land application on both cultivated and non-cultivated third-party fields.

Section VII.A.8(e)(5)(i)(A) of the permit requires that land application to third-party fields be conducted in accordance with the applicable requirements in 30 TAC § 321.36 and § 321.40. 30 TAC § 321.40(h) requires that "vegetative buffer strips shall be no less than 100 feet of vegetation to be maintained between manure, litter, or wastewater application areas and water in the state." The CAFO operator must maintain the buffer strips in accordance with NRCS guidelines.

COMMENT 44

The Coalition comments that the draft permit should prohibit application of wastewater on third-party fields, unless the owner of the third-party field transports the wastewater from the CAFO by truck.

RESPONSE 44

TCEQ rules do not require a review or approval of the mode of conveyance an applicant will use to transport wastewater to a third party field. The draft permit allows the Applicant to provide wastewater to operators of third party fields, but does not specify the delivery method. This gives the Applicant flexibility on the mode of transportation to be used at the time of transfer to third party fields. Therefore, the ED declines to make the change requested by the Coalition.

COMMENT 45

The Coalition comments that Section VII.A.8(e)(5)(iv) of the draft permit should include a requirement that records of crops and crop yields on third party fields be submitted to the TCEQ quarterly. Similarly, the Coalition comments that Section VIII.B.7 of the draft permit should be revised to include the same in the annual report.

RESPONSE 45

The rules do not require CAFO operators to track yields on third party fields. 30 TAC § 321.42(j) requires CAFO operators to submit records to the appropriate region office on a quarterly basis that contain the name, locations, and amounts of litter or wastewater transferred to operators of third party fields.

The draft permit allows the Applicant to provide wastewater, sludge, and/or manure to third party fields. The third party field operators must adhere to the contract requirements outlined in the draft permit, which include land application at an agronomic rate based on soil test phosphorus. The draft permit establishes a three-tiered approach to application rates on third party fields. The proposed crop and yield goal are used by the third-party operator to determine the application rates. In the event that the yield goal is not achieved, the soil test results will be higher than expected. If soil test results reach 200 ppm, the Applicant cannot provide wastewater, sludge, and/or manure to that third party field operator. Based on these requirements, the ED disagrees that submitting crops and yields on third party fields is necessary.

COMMENT 46

The Coalition comments that the draft permit should prohibit sludge application to third party fields, the Coalition comments that 30 TAC § 321.42(j) only allows manure, litter, and wastewater to be applied to third party fields.

RESPONSE 46

30 TAC § 321.32(49) defines sludge as solid, semi-solid, or slurry waste generated during the treatment of or storage of any wastewater. The term includes materials resulting from treatment, coagulation, or sedimentation of waste in a RCS. 30 TAC § 321.32(56) defines waste as manure (feces and urine), litter, bedding, or feedwaste from animal feeding operations. Therefore, sludge is a product of the treatment, coagulation, or sedimentation of its parent materials, waste, and wastewater. More simply, it is modified manure and wastewater. Therefore, 30 TAC § 321.42(j), which allows dairy operators to transfer manure, litter, and wastewater to operators of third party fields is inclusive of sludge. The draft permit incorporates this rational by explicitly including the term sludge when appropriate.

Appropriate utilization of the nutrients is tied to the BMPs used and is not based on nutrient source.

These BMPs include, but are not limited to, land application at agronomic rates and hydrologic needs of the crop, adherence to buffers between land application areas and water in the state, and the prohibition of discharges from land application areas. Land application on third party fields is not only limited to agronomic rates, but is further limited by soil test phosphorus ranges. For example, land application rates may not exceed the crop nitrogen requirement when soil phosphorus concentration in Zone 1 is less than or equal to 50 ppm phosphorus. Ultimately, land application on third party fields is prohibited once the soil test phosphorus level is equal to or greater than 200 ppm.

COMMENT 47

The Coalition comments that the draft permit fails to require a demonstration of sustainability for the term of the permit.

RESPONSE 47

30 TAC § 321.36(d)(2) and Section VII.A.8(a) of the permit require the operator to create and maintain a site-specific NMP along with documentation regarding implementation of the plan. 30 TAC §§ 321.36(e) and (g) and Section VII.A.8(c)(1) through (5) of the permit require annual sampling and the NMP must be updated to modify application amounts based on soil testing and wastewater testing. A five-year NMP would be impracticable because the NMP is likely to change yearly due to changing climatic and operational conditions; and soil sampling results. It is important that NMPs remain flexible. When the NMP is updated, the new version should be kept with the PPP documentation and available to TCEQ personnel during field investigations.

Long-term sustainability of a field may be a planning consideration, but there are no rule requirements that LMUs be sustainable for the permit term.

COMMENT 48

The Coalition comments that the historical waste application fields should be identified in the application for the permit and in the draft permit.

RESPONSE 48

Section VII.A.9(b)(2) of the permit requires the Applicant to have soil samples collected annually for each current and historical LMU. This provision tracks the requirement in 30 TAC § 321.42(k) that historical waste application fields must be sampled every year, regardless of whether the Applicant eliminates them from the permit.

Special Provision X.P. in the permit requires the Applicant to maintain a map in the PPP that identifies the location of all historical LMUs and reads as follows: "A LMU map showing historical LMUs shall be maintained in the PPP." Fields no longer associated with the dairy facility (historical LMUs) may be used as third party fields so long as all third party requirements in TCEQ rules are

met.

COMMENT 49

The Coalition comments that the Applicant should be required to address runoff containment from silage commodity and hay storage areas not only in the PPP, but in the application as well so that the application can be reviewed to determine if the containment provisions and design are adequate. The Coalition also comments that the maps included in the draft permit should also identify the runoff containment areas and not just the commodity area.

RESPONSE 49

Section X.H. of the draft permit requires that all runoff from silage, commodity, manure, and hay storage outside the RCS drainage area will be contained and that appropriate provisions for that containment be stated in the PPP upon issuance of the permit. Additionally, this provision directly refers to the waste storage areas that are identified on Attachment A, Site Map. The draft permit does not authorize any discharge from the silage, commodity, manure or hay storage areas located outside the drainage area of the RCS. These permit provisions should be sufficient to reduce and/or prevent impacts to water quality from these areas.

COMMENT 50

The Coalition comments that the Section VII.A.8(b) of the draft permit should be revised to require that the comprehensive nutrient management plan (CNMP) be approved and certified prior to permit issuance and not just submitted for approval 60 days prior to permit issuance.

RESPONSE 50

30 TAC § 321.42(s) require all dairy CAFOs in a major sole-source impairment zone to operate under a CNMP approved by the Texas State Soil and Water Conservation Board. Bosque dairy permits required implementation of the CNMP by December 31, 2006, and the Applicant should maintain a copy as part of their PPP. A CNMP is not a requirement for an AFO that operates at or below 199 head in a major sole-source impairment zone. As the Applicant is currently operating as an AFO, a CNMP is not a requirement until the facility exceeds 199 head. However, in response to the comment, Section VII.A.8(b) of the draft permit was revised to read as follows:

> Comprehensive Nutrient Management Plan (CNMP) required. The permittee must develop and implement a CNMP certified by the Texas State Soil and Water Conservation Board (TSSWCB) prior to exceeding 199 head. The CNMP must be submitted for approval to the TSSWCB within sixty days of permit issuance.

COMMENT 51

The Coalition comments that draft permit fails to provide a meaningful definition of vegetative buffers. The Coalition recommends adding the following sentence to Section X.D.: "A vegetative buffer shall meet the criteria of Riparian Forest Buffers defined by NRCS Practice Code 391 or the criteria of Vegetative Filter Strips as defined by NRCS Practice Code 393."

RESPONSE 51

30 TAC § 321.40(h) requires that "vegetative buffer strips shall be no less than 100 feet of vegetation to be maintained between manure, litter, or wastewater application areas and water in the state." Although not defined by TCEQ rules, vegetative buffers are commonly understood to mean vegetation that reduces shock due to contact. NRCS Practice Code 393 refers to Practice Code 391, *Riparian Forest Buffer*. Riparian forest buffers are areas predominantly in trees or shrubs located adjacent to and up-gradient from watercourses or water bodies. One of the purposes of a riparian forest buffer is to reduce excess amounts of sediments, organic material, nutrients, and pesticides in surface runoff. This purpose is the same as that performed by vegetative filter strips according to NRCS Practice Code 393. Citing the practice code is adequate for permit requirements. The practice standard has an adequate definition.

COMMENT 52

The Coalition comments that segments of the river that the CAFO proposes to discharge into are segments that are listed on the State's § 303(d) list and that neither the Applicant nor the TCEQ has demonstrated how the proposed operation will accommodate attainment of bacteria water quality standards.

RESPONSE 52

40 CFR § 122.44(k)(3) allows states to use BMPs to control or abate discharges "when numeric effluent limitations are infeasible." This also applies to bacteria. In the case of North Bosque dairies, once permitted under the 2004 CAFO rules they are only authorized to discharge from a certified RCS in the event of a chronic or catastrophic rainfall event that exceeds the 25-year, 10-day storm event. The BMPs in place to limit the amount of nutrients applied to the LMUs also limit the amount of bacteria that can be applied. Therefore, bacteria applied to LMUs are limited by the BMPs that limit nutrient application.

The requirements in the draft permit satisfy this requirement because the North Bosque River TMDLs are intended to achieve significant reductions in the annual average concentrations and total annual loading of soluble phosphorus in the river. The TMDLs are designed to do this by focusing on controlling soluble phosphorus loading and in-stream concentrations to protect designated uses. The management measures for controlling phosphorus loading will also have some corollary effect on reducing pathogen and bacteria loading, since non-point source nutrient and pathogen loads

largely originate from the same sites and materials; and are transported via the same processes and pathways. Other provisions in the rules and draft permit directed at reducing and minimizing all pollutants, including pathogens and bacteria, that are potential constituents of animal wastes include:

1. Requiring a larger RCS with capacity to contain a designed 25-year, 10-day rainfall event (approximately 60% larger than required to contain the 25-year, 24-hour rainfall event);
2. Establishing an RCS Management Plan;
3. Controlling runoff from manure piles by covering, berming, or requiring that they drain into an RCS;
4. Setting additional minimum buffer distances between land application units and surface water in the state;
5. Prohibiting nighttime land application between 12 a.m. and 4 a.m.; and
6. Requiring a NMP that uses phosphorus transport considerations to determine allowable applications of nutrients. The phosphorus index approach reduces allowable application of nutrients to levels that are appropriate for reducing and minimizing all pollutants that are constituents of animal wastes.

COMMENT 53

The Coalition comments that because this application is for a new permit and the Applicant is not the operator of an "existing CAFO," the draft permit should be revised to delete all references to the use of third party fields as 30 TAC § 321.42(j) limits the use of third party fields to only existing operations.

RESPONSE 53

30 TAC § 321.42(j) was intended to prohibit "new source" dairy CAFOs from the use of third party fields, not to prohibit dairy expansions in the North Bosque watershed from using third party fields. In this case, the Applicant is currently operating a dairy AFO and is seeking a permit to expand that operation into a dairy CAFO and therefore, is not a "new source" under the rules.

COMMENT 54

The Coalition comments that the draft permit should require the Applicant to report information to the TCEQ on third party fields regarding soil testing, areas of application, and application rates. The Coalition also comments that the information should also be included in the annual report along with copies of contracts with applicable third party field operators, statements of compliance with permit requirements for the previous year and a summary of discharges from third party fields or a statements that there has not been any discharge from a third party field.

RESPONSE 54

30 TAC § 321.42(j) and Section VII.A.8(e)(5)(iv) of the draft permit contains the requirements for land application on third party fields in the North Bosque River watershed. It requires that records be maintained that contain the name, locations, and amounts of manure, litter, or wastewater transferred to operators of third party fields and requires that information be submitted to the appropriate TCEQ region office on a quarterly basis. *See* 30 TAC § 321.42(j)(4). Soil sample testing on third party fields must be included in the annual report due February 15th and submitted to TCEQ. *See* Section VIII.B.7(i) of the draft permit.

30 TAC § 321.42(j)(1) requires a written contract between the CAFO dairy operator and the operator of a third party field; and any such contracts should be maintained in their PPP. 30 TAC § 321.46(d) specifies the requirements for recordkeeping at the CAFO. Records must be kept on site for a minimum of five years from the date the record was created and must submit them to TCEQ within five days of a request by the ED.

COMMENT 55

The Coalition comments that the draft permit should clearly state that drainage or discharges of wastewater or manure from third party fields is prohibited. The Coalition further comments that the Applicant should be prohibited from any further use of third party fields if it is determined that the Applicant disposed of waste on a third party field when the most current soil test reflects phosphorus concentrations of over 200 ppm or the application rate established by the permit for third party fields is ever exceeded.

RESPONSE 55

The ED declines to make the suggested changes. Rainfall runoff from third party fields where waste is applied at agronomic rates is not prohibited. Runoff from third party fields where waste is not applied at agronomic rates or applied using proper operational controls is already prohibited. In those instances, runoff would be an unauthorized discharge and subject to TCEQ enforcement action.

There is no basis in the CAFO rules for including a blanket prohibition against delivery of all waste to all third party fields based on a single violation on a single third party field. However, such land application when soil phosphorus is in excess of 200 ppm or land application in excess of the agronomic rate or established application rate would be a violation of the CAFO rules and subject the operator to enforcement action by TCEQ.

COMMENT 56

The Coalition comments that water quality monitoring data shows an increase in Soluble Reactive Phosphorus (SRP) for segment 1226K Little Duffau Creek; and over a period of ten years this sub watershed, with no wastewater treatment plant discharge, indicated nutrient loading. The Coalition

comments that the water quality data shows that this small micro watershed cannot even handle its current phosphorus loadings. Lastly, the Coalition comments increasing the number of cows by 5,500 will not decrease the nutrient loading as the TMDL established a 50% reduction needed in loading and concentration of SRP. The Coalition asks the TCEQ to take into account this important water quality data and consider the impairment of the North Bosque River before authorizing this proposed new permit for 5,500 cows.

RESPONSE 56

The ED disagrees that the water quality data shows that the North Bosque TMDL is not working. This draft permit is intended to implement the TMDL I-Plan for this dairy. Until all CAFO dairy permits in the North Bosque Watershed are issued under the new rules with their enhanced measures to decrease instream loading and time has passed so as to collect representative data, the TCEQ cannot determine whether the current TMDL I-Plan is working or whether additional requirements will be needed to achieve the goals of the TMDL.

The ED also disagrees that an increase in the number of cows at the facility will increase the instream loading. The North Bosque River TMDL for phosphorus is based on narrative water quality criteria and uses BMPs to protect water quality. The TMDL does not limit the number of dairy cows in the watershed. However, permits that are issued must be consistent with the TMDL.

The draft permit requires RCS #1 and #2 to contain the capacities listed on page 1 of the draft permit, which are designed to hold a 25-year, 10-day rainfall event. This will increase the RCS capacity by approximately 60% over the previous standard in earlier versions of the CAFO rules. It is also anticipated the loading will be reduced due to the emphasis the new CAFO rules place on soil phosphorus levels in LMUs.

An adaptive management approach is an appropriate means to manage phosphorus loading in the Bosque. The TMDL I-Plan emphasized this approach to achieve the phosphorus reductions targeted in the TMDL. The CAFO rules in 30 TAC Chapter 321 reflect the necessary adjustments to management practices necessary to, over time, reach the TMDL target. Accordingly, the TMDL is not directly tied to the number of animals permitted in the watershed. It is instead tied to BMPs, including the land application of the nutrients, consistent with management practices that ensure appropriate utilization by the crops.

The model used in the TMDL demonstrated that water quality conditions would improve significantly even with many more dairy cattle in the watershed if management practices were improved. The new CAFO rules incorporated more stringent management practices in the watershed in order to address phosphorus loading. Regardless of the number of dairy cattle, the in-stream water quality goals remain as they were established in the TMDL.

The TMDL I-Plan recognizes that new dairies may begin operating or existing dairies may expand

in the watershed.[2] New or expanding operations are required to meet all the new management practices found in the Chapter 321, Subchapter B CAFO rules, which were approved by EPA as meeting all federal requirements for the protection of water quality. The focus of the rules was to reduce nutrient loading by requiring BMPs designed to significantly decrease the potential for discharges. Special provisions applicable to the North Bosque watershed that were not in the previous version of the CAFO rules were designed and adopted to specifically address the TMDL goal of reducing phosphorus loadings. The operational and management strategies in the rules and draft permit are designed to reduce nutrient loading and be consistent with the North Bosque River TMDL.

CHANGES MADE TO THE DRAFT PERMIT IN RESPONSE TO COMMENT

- Section X.I has been revised and now reads as follows:

  Slurry from freestall or cross ventilated barns.

  1. For the purpose of this permit, slurry from freestall or cross ventilated barns shall be defined as manure.
  2. If slurry from freestall or cross ventilated barns is land applied, an annual sample must be collected and analyzed in accordance with Section VII.A.9(a), in addition to other manure and wastewater.
  3. Slurry removed from freestall or cross ventilated barns must be stored within the manure storage areas identified on Attachment A. The manure storage area within the drainage area of RCS #2 must be large enough to prevent overflow of slurry into the RCS. Any overflow of slurry into the RCS shall be recorded in the PPP and notification shall be provided to the regional office within thirty (30) days. Based on review of the information this permit may be formally amended to require additional controls or other requirements.

- A special provision was added to the permit in Section X.Q. as follows:

  Within 180 days of issuance of this permit, the permittee shall ensure site-specific documentation is prepared and certified by a licensed Texas professional engineer that shows the concrete basins are free from integrity compromises such as cracking, leaking, or deterioration. This documentation shall be placed in the PPP and made available to the executive director upon request. During the annual site inspection, the permittee shall inspect the integrity of the concrete settling basin. Integrity compromises, such as cracking, leaking, or deterioration shall be repaired within 30 days of the inspection. Inspection and

2 See "An Implementation Plan for Soluble Reactive Phosphorus in the North Bosque Watershed," December, 2002, page 26: "New or expanding dairy CAFOs will be required to demonstrate through the application process that they will operate under the nutrient management practices as stipulated in Chapter 321 rules pertinent to a major sole source impairment zone." (Emphasis added.)

maintenance records for the concrete settling basin shall be maintained in the onsite PPP.

- In response to the comment referenced ASTM standard D6938-07 in Section VII.A.3(f)(4) of the draft permit was changed to D6938.

- Section VII.A.8(b) of the draft permit was revised to read as follows:

> Comprehensive Nutrient Management Plan (CNMP) required. The permittee must develop and implement a CNMP certified by the Texas State Soil and Water Conservation Board (TSSWCB) prior to exceeding 199 head. The CNMP must be submitted for approval to the TSSWCB within sixty days of permit issuance.

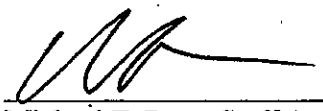
- In response to comment the date of the most recent NMP has been added to Section V of the Fact Sheet.

Respectfully submitted,

Texas Commission on Environmental Quality

Mark R. Vickery, P.G.
Executive Director

Robert Martinez, Director
Environmental Law Division



Michael T. Parr , Staff Attorney
Environmental Law Division
State Bar No. 24062936
P.O. Box 13087, MC 173
Austin, Texas 78711-3087
Telephone No. 512-239-0611
Facsimile No. 512-239-0606
REPRESENTING THE EXECUTIVE
DIRECTOR OF THE TEXAS COMMISSION
ON ENVIRONMENTAL QUALITY

CERTIFICATE OF SERVICE

I certify that on August 25, 2009, the "Executive Director's Response to Public Comment" for Permit No. WQ0004866000 was filed with the Texas Commission on Environmental Quality's Office of the Chief Clerk.

Michael T. Parr, Staff Attorney
Environmental Law Division
State Bar No. 24062936

TEXAS
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QUALITY

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CHIEF CLERKS OFFICE

Attachment E

Compliance History

Compliance History Report

Customer/Respondent/Owner-Operator:	CN603059130	Two Sisters Dairy, LLC	Classification: AVERAGE	Rating: 3.00
Regulated Entity:	RN104994611	TWO SISTERS DAIRY	Classification: AVERAGE	Site Rating: 3.00
ID Number(s):	WASTEWATER AGRICULTURE	PERMIT		WQ0004866000
Location:	235 PRIVATE ROAD 1266, HICO, TX, 76457			
TCEQ Region:	REGION 04 - DFW METROPLEX			
Date Compliance History Prepared:	October 15, 2009			
Agency Decision Requiring Compliance History:	Enforcement			
Compliance Period:	October 15, 2004 to October 15, 2009			

TCEQ Staff Member to Contact for Additional Information Regarding this Compliance History

Name: Bonham Phone: 239 - 1000

Site Compliance History Components

1. Has the site been in existence and/or operation for the full five year compliance period? Yes
2. Has there been a (known) change in ownership/operator of the site during the compliance period? No
3. If Yes, who is the current owner/operator? N/A
4. If Yes, who was/were the prior owner(s)/operator(s) ? N/A
5. When did the change(s) in owner or operator occur? N/A
6. Rating Date: 9/1/2009 Repeat Violator: NO

Components (Multimedia) for the Site :

A. Final Enforcement Orders, court judgements, and consent decrees of the state of Texas and the federal government.

N/A

B. Any criminal convictions of the state of Texas and the federal government.

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.)

N/A

Date: 01/07/2009 (721472) CN603059130
Self Report? NO Classification: Moderate
Citation: 30 TAC Chapter 321, SubChapter B 321.31(b)
Description: Failure to operate an AFO in such a manner as to prevent the creation of a nuisance or a condition of air pollution as mandated by Texas Health and Safety Code, Chapter 341 and Chapter 382. 321.32(b)

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