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October 5, 2009

VIA HAND DELIVERY

Ms. LaDonna Castañuela
Chief Clerk
Texas Commission on Environmental Quality
12100 Park 35 Circle
Bldg. F – 1st Floor
Austin, Texas 78753

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY
2009 OCT -5 PM 1:55
CHIEF CLERKS OFFICE

Re: Request for Hearing for Osve Dairy:
TPDES Permit No. WQ0003682000 (2402-4)

Dear Ms. Castañuela:

Please accept this letter submitted on behalf of my client, the Bosque River Coalition (the "Coalition"), a Texas non-profit corporation, consisting of property owners located in the vicinity of the dairy that is the subject of draft TPDES Permit No. WQ0003682000 (the "Draft Permit") for Joseph Osinga, Jennifer Osinga, Bert Velsen, and Heidi Velsen / Osve Dairy (hereinafter, the "Dairy" or "the Applicant"). The purpose of this letter is to request a contested case hearing regarding the Draft Permit. The Coalition also hereby requests that it be placed on the mailing list so that it may remain informed on the status of the Draft Permit.

CONTESTED CASE HEARING REQUEST

Pursuant to specific requirements of a request for a contested case hearing under Title 30, Sections 55.201, 55.203, 55.205 and 50.115 of the Texas Administrative Code, those same requirements being set forth in the September 3, 2009 Decision of the Executive Director on the Draft Permit, the Coalition offers the following:

Hearing Request Requirements

General Requirements

The Coalition requests a contested case hearing. The Applicant is Joseph Osinga, Jennifer Osinga, Bert Velsen, and Heidi Velsen / Osve Dairy, and the Draft Permit is TPDES Permit No. WQ0003682000.

The Coalition is a Texas non-profit corporation represented by the undersigned and Lauren Kalisek. Therefore, all communications should be directed to either at the following:

Lloyd Gosselink Rochelle & Townsend, P.C.
816 Congress Avenue, Suite 1900
Austin, Texas 78701
(512) 322-5810 (phone)
(512) 472-0532 (facsimile)

Requirements for a Group or Association

The Coalition was formed for the purpose of furthering the protection and enhancement of water quality in the Bosque River watershed. The Coalition seeks to protect the water quality of the Bosque River watershed—an interest germane to the organization's specific purpose. Neither the claim asserted nor the relief requested requires the participation of individual members in this case. Members of the Coalition, as discussed below, qualify as affected persons and have standing in their own right to request a contested case hearing.

Requirements for an Affected Person

Ms. Mary W. Casselman is a member of the Coalition, with property located immediately adjacent to the property boundaries of the Dairy. Ms. Casselman qualifies as an affected person under Title 30, Section 55.203 of the Texas Administrative Code with a personal justiciable interest not common to the general public in that her 209-acre property abuts the Dairy property. Because of her close proximity to the Dairy operations, she has been previously impacted by operations at this site, and is concerned about further impacts to her property by the Dairy.

Ms. Casselman uses her property both as her homestead and as an on-site residential recovery center. Ms. Casselman is concerned that odor from the proposed operation will adversely affect her clients' enjoyment of her property during their treatment. The irrigation of waste that presently occurs at the Dairy seriously affects her own use and enjoyment of her property, particularly on windy days. In addition, runoff from the Dairy has infiltrated stock tanks on her property, killing all the fish therein from nutrient overload. Ms. Casselman is concerned that the deficiencies in the Draft Permit, as described below, will result in the Dairy's continued impairment of her ability to use and enjoy her private property.

Given Ms. Casselman's history of impacts from operations at this site, she clearly meets the requirements as an affected person for an application to significantly increase such operations. Please see the enclosed map at Attachment A for reference purposes.

Disputed Issues of Fact

The Coalition bases its request for hearing on the following disputed issues of fact. In accordance with Title 30, Section 50.115(c) of the Texas Administrative Code, the issues set

forth below are disputed questions of fact that were raised during the public comment period and that are relevant and material to the decision on the application.

1. Whether the Applicant has used the appropriate screen separator efficiencies in its minimum treatment volume and sludge volume calculations (Executive Director's Response to Public Comment ("RTC") No. 5).
2. Whether Retention Control Structure ("RCS") No. 1 and No. 2 are properly designed, and will be appropriately operated, to prevent further degradation of water quality (RTC No. 6).
3. Whether the Applicant's proposal to route all contaminated storm runoff from the open lots into RCS No. 1 does in fact satisfy TCEQ rules regarding storm water runoff containment (RTC No. 6).
4. Whether the provisions in the Draft Permit that would allow the Applicant to substantially modify RCS No. 1 and No. 2 after permit issuance by removing the berm that separates the two RCSs is sufficiently protective of water quality (RTC No. 6).
5. Whether the Applicant's estimated 20 gallons per head per day of process generated wastewater will adequately account for all wastewater generation at the facility (RTC Nos. 9, 10 and 11).
6. Whether the Applicant can in fact contain stormwater runoff during the period of time after permit issuance before the Applicant is required to complete its proposed RCS enlargement (RTC Nos. 12, 13 and 26).
7. Whether evaporation volumes used in the water balance can be accurately determined by requiring an RCS stage/storage table that shows only storage volume at increments of one-foot of depth (RTC No. 14).
8. Whether the failure to require, and fully review, an RCS Management Plan for each RCS the Applicant would be entitled to use after permit issuance poses an unreasonable risk to water quality (RTC Nos. 15 and 16).
9. Whether the Applicant's proposed location of manure stockpiles will undermine water quality (RTC No. 16).
10. Whether the Draft Permit accounts for all pen areas intended for use by the Applicant (RTC No. 16).
11. Whether the Draft Permit provisions regarding the storage of slurry within RCS drainage areas are adequately protective of water quality (RTC No. 17).
12. Whether settling basins are properly designed, regulated, and certified to protect water quality (RTC Nos. 18 and 19).
13. Whether the sludge accumulation rate employed by the Applicant is properly calculated, and will be adequately regulated, to protect water quality under the Draft Permit (RTC Nos. 20 and 22).
14. Whether settling basin solids are properly characterized and regulated to protect water quality under the Draft Permit (RTC No. 21).

15. Whether capacity certification and requirements for RCSs are properly described and established in the Draft Permit to ensure water quality is protected (RTC No. 23).
16. Whether the Draft Permit requires sufficiently comprehensive settling basin certifications to be adequately protective of water quality (RTC Nos. 24).
17. Whether RCS No. 3 is designed, and was constructed, in a manner that renders it sufficiently protective of water quality between the time of permit issuance and the time the Applicant eventually modifies the RCS (RTC Nos. 25 and 26).
18. Whether the liner certification and testing requirements in the Draft Permit are sufficiently protective of water quality (RTC No. 27).
19. Whether RCS construction soil qualities are appropriately articulated in the Draft Permit to ensure adequate protection of water quality (RTC No. 30).
20. Whether the conditions for granting extensions to the RCS compliance schedule should be included within the Draft Permit (RTC No. 32).
21. Whether an adequate description of structural controls exists in the Draft Permit (RTC No. 33).
22. Whether the Applicant has demonstrated adequate dewatering capacity (RTC No. 34).
23. Whether monitoring, reporting, and evaluation requirements under the Draft Permit will ensure that water quality is protected (RTC No. 35).
24. Whether the Applicant is able to demonstrate that its proposed structural controls are adequately designed to properly protect against water quality degradation (RTC No. 36).
25. Whether sampling of wastewater and manure under the Draft Permit is adequate to protect water quality (RTC No. 37).
26. Whether the Draft Permit properly manages phosphorus production (RTC No. 38).
27. Whether the Applicant's proposed LMU's are properly sized (RTC No. 41).
28. Whether the Applicant has established proper boundaries for LMU No. 2 (RTC . No. 42).
29. Whether the Applicant's projected crop yields for its LMUs are reasonable (RTC No. 43).
30. Whether the NMP adequately identifies soil test locations and timing (City of Waco Comment No. 48 [please note that the Executive Director provided no response to this comment]).
31. Whether agronomic rates are properly calculated in the NMP (RTC No. 44).
32. Whether the Draft Permit sufficiently restricts the application of phosphorus to be adequately protective of water quality (RTC Nos. 45 and 46).
33. Whether the Draft Permit provisions regarding waste application on noncultivated fields are adequate to protect water quality (RTC No. 47).
34. Whether the Draft Permit provisions regarding wastewater application on third-party fields are adequate to protect water quality (RTC No. 48).

35. Whether the Draft Permit provisions regarding use of third party fields are adequate to protect water quality (RTC No. 49).
36. Whether the Applicant should be required to prepare an NMP for third-party fields (City of Waco Comment No. 55 [please note that the Executive Director provided no response to this comment]).
37. Whether phosphorous crop removal rates from third-party fields are adequately regulated under the Draft Permit to prevent degradation of water quality (City of Waco Comment No. 56 [please note that the Executive Director provided no response to this comment]).
38. Whether manure and wastewater application on third party fields will be properly managed and regulated to prevent degradation of water quality (RTC No. 50).
39. Whether the Draft Permit should require the NMP to address the five-year permit term as opposed to just the first year (RTC No. 51).
40. Whether the historical waste application fields should be identified in the application or the Draft Permit (RTC No. 52).
41. Whether the Draft Permit provisions relating to silage, commodity, manure and hay storage area runoff are in fact "sufficient to reduce and/or prevent impacts to water quality from these areas" (RTC No. 53).
42. Whether the Draft Permit provides meaningful definition of vegetative buffers (RTC No. 54).
43. Whether provisions of the Draft Permit will allow attainment of bacterial water quality standards (RTC No. 55).
44. Whether the Draft Permit has been designed to adequately account for the Applicant's demonstrated lack of compliance with applicable TCEQ rules (RTC No. 56).
45. Whether the Draft Permit establishes adequate reporting requirements for third party fields (RTC No. 58).
46. Whether the Draft Permit provides adequate protection of water quality from drainage or discharge from third party fields (RTC No. 58).
47. Whether the Draft Permit is sufficiently protective of environmental health as to prevent further degradation of water quality in receiving streams (RTC Nos. 5, 6, 9, 10, 12, 13, 14, 20, 22, 23, 26, 27, 33, 34, 35, 36, 37, 38, 39, 41, 42, 44, 45, 46, 47, 48, 50, 51, 54, 55, 56, and 58).
48. Whether the Draft Permit will authorize activities that may adversely affect the health and well being of Coalition members, including Ms. Casselman (RTC Nos. 12, 13, 26, 33, 38, 39, 42, 45, 51, 55, 56, and 58).

Based upon the foregoing, the Coalition hereby requests a contested case hearing and requests that a hearing be held to determine compliance with Texas Surface Water Quality Standards, Title 30, Chapter 307 of the Texas Administrative Code, and concentrated animal feeding operation requirements, Title 30, Chapter 321 of the Texas Administrative Code. I appreciate your consideration of these comments and the contested case hearing request as well as the Coalition's request to be maintained on the mailing list of the above-referenced Draft

Permit. If you have any questions or concerns, do not hesitate to contact me or Lauren Kalisek at (512) 322-5847.

Sincerely,

Martin C. Rochelle

MCR/ldp
2402\04\Osve\ltr091005jth
ENCLOSURES

cc: Attached Mailing List (via regular mail)


Legend
= Permit Applicant's Facility
= Coalition Member's Property
4339 ft
© 2009 Tele Atlas
Image © 2009 DigitalGlobe
Image USDA Farm Service Agency
©2009 Goo

CERTIFICATE OF SERVICE

I hereby certify that on this the 5th day of October, 2009, a true and correct copy of the foregoing was sent via first-class mail, electronic mail, facsimile, or hand-delivery to the following persons:

FOR THE APPLICANT:
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Jennifer Sheree Osinga
Bert Marcel Velsen and Heidi Velsen
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Amarillo, Texas 79118-7741

PROTESTANTS/INTERESTED PERSONS:
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Hico, Texas 76457-3738

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BY

2008 DEC 15 PM 2:22
CHIEF CLERKS OFFICE

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

December 15, 2008

VIA HAND DELIVERY

Ms. LaDonna Castañuela
Chief Clerk
Texas Commission on Environmental Quality
12100 Park 35 Circle
Bldg. F – 1st Floor
Austin, Texas 78753

Re: Comments on Draft Permit for Osve Dairy:
TPDES Permit No. WQ0003682000 (2402-04)

Dear Ms. Castañuela:

Please accept these written comments on behalf of my client, the City of Waco ("City"), concerning the above-referenced draft TPDES permit ("Draft Permit") for Joseph Osinga, Jennifer Osinga, Bert Velsen and Heidi Velsen / Osve Dairy (hereinafter "the applicant"). Please feel free to contact me at my law firm, Lloyd Gosselink Rochelle & Townsend, P.C., 816 Congress Avenue, Suite 1900, Austin, Texas 78701, phone number (512) 322-5847, fax number (512) 472-0532, concerning any aspect of these comments or the Commission's responses to same.

WRITTEN COMMENTS

The City appreciates the Commission's preparation of the Draft Permit and this opportunity to provide comments, and it hereby provides several comments to the terms and conditions of the Draft Permit, as follows:

1. Removal Rates for Screen Separator

The applicant applied two different efficiencies for its screen separator in the storage volume calculations.[1] The applicant used 24.3 percent for calculating the minimum treatment volume and 19.4 percent for calculating the sludge volume. The calculations need to be corrected.

[1] Table 2.2a.

2. Manufacturer Data for Screen Separator

The applicant indicated that it based its efficiency estimation for the screen separator on AGPRO manufacturer data. However, it provided no actual data in the application in support of its estimation. The applicant did not provide information regarding the model it intends to install. The City believes this information is important in assessing the potential impacts of the applicant's proposed operation. The City recommends that the TCEQ require the applicant to provide the model information and submit the data that the applicant relied upon in its estimation of screen separator efficiency so that this important component to its operations can be effectively evaluated. In this particular instance, it is even more important since the applicant has used two different values for the same screen separator as indicated in the previous comment.

3. Individual Volume Allocations for RCS No. 1 and RCS No. 2

The applicant did not include individual volume allocations for RCS No. 1 and RCS No. 2. This system is a multiple cell lagoon operating in series. It will not, as the applicant has argued in its response to a Notice of Deficiency (NOD), operate as a single pond. The structures are clearly separated by a levee with a spillway. It would seem virtually impossible to implement Draft Permit provisions VI.C.2 and VII.A.5(a)(5) without any individual volume allocations for these two RCSs. ANSI/ASAE EP403.3 FEB04 standards and good engineering practice requires that the treatment volume and sludge accumulation be contained in the first lagoon of a multi-stage system. The volume allocations should be re-calculated based on these requirements and individual allocations made for each RCS.

4. Minimization of Contaminated Storm Water Runoff Entering RCS No. 1

The information disclosed by the applicant indicates that runoff from the open lots will flow only into RCS No. 1. This would appear to contradict Title 30, Section 321.43(j)(3)(B)(i) of the Texas Administrative Code, which requires a multi-stage lagoon system, like the one proposed by the applicant, to be designed in such a way that the contaminated storm water runoff is routed into a secondary RCS. Such a design feature serves to minimize the amount of contaminated storm water runoff entering the primary lagoon. The applicant has admitted that, due to purported physical limitations of the site, it is not possible to divert runoff around RCS No. 1 and into RCS No. 2. It would appear, based on the applicant's own statements, that it will have difficulty satisfying TCEQ rules regarding storm water runoff containment. It has pointed to no exception to Title 30, Section 321.43(j)(3)(B)(i) that would render its design acceptable. The TCEQ should require the applicant to redesign the facility in a manner that satisfies the applicable rules.

5. Facility Design Prior to Preparation of Draft Permit

The Draft Permit allows the applicant to remove the berm separating RCS No. 1 and RCS No. 2 after permit issuance, thereby allowing the applicant to combine two RCSs into one . The

City is concerned about the prudence of such a measure in the Draft Permit. It would seem more appropriate to require the applicant to determine the number and sizes of RCSs, and how each will be expected to operate, before an application is deemed technically, if not administratively, complete. If the two RCSs are combined into one, the treatment volumes calculated for RCS No. 1 and RCS No. 2 cannot simply be combined to calculate the treatment volume for the aggregated RCS. The new capacity will have to be calculated based on, among other things, the additional organic shock loading to the RCS from the open lot runoff. The TCEQ should remove all provisions from the Draft Permit that would allow the applicant to combine RCS No. 1 with RCS No. 2. If the applicant has a need or desire after permit issuance to combine the two RCSs, it should be required to follow the traditional course and seek authorization for such a change through a permit amendment application.

6. Consideration of Volatile Solid Loadings from Runoff

As discussed above, the applicant has represented that RCS No. 1 will receive process wastewater and open lot runoff. The open lot runoff will increase the volatile solids loading to the RCS to a level above what it would normally receive from process wastewater alone. Because this RCS will be used for treatment, the minimum treatment volume design should be adjusted to account for the shock loading from the additional volatile solids, or the RCS will be organically overloaded during rainfall events.

7. Soil Data

The applicant collected annual soil samples on August 29, 2007. All of the results of these samples were reported except those taken for LMU No. 2. Another soil sample from LMU No. 2 was collected on October 3, 2007. The result of this soil sample was reported. All soil sampling data should be submitted, and the applicant should explain why the sample collected from LMU No. 2 on August 29, 2007 was not reported.

8. LMU No. 2B

The applicant collected annual soil samples on August 29, 2007 from LMU No. 2B. This LMU, however, does not appear in the application, nor is it referenced in the Draft Permit. The applicant should provide a map showing the boundaries of this and all LMUs that were sampled on August 29, 2007.

9. Documentation of Process Generated Wastewater Volume

The applicant represents that, based on site-specific data, the daily volume of process wastewater is estimated to be 20 gallons per head. However, the applicant did not provide any of this data in its application. To provide a meaningful opportunity for interested parties to review and assess the reliability of the applicant's daily volume estimates, the applicant should be required to make this site-specific data available to the public and TCEQ staff review.

10. Fresh Water Used as Manure Flush Water

The applicant indicates that it will use recycled effluent as the "primary" source water for flushing manure from its freestall barns. The applicant, however, does not disclose in the application what other water source it will rely upon for removing manure from freestall barns. this omission leaves open the possibility that the applicant will rely upon fresh water for its secondary source. Flush water will be the single largest source of wastewater generation at the proposed facility. If the amount of water used for barn flushing is not properly quantified, the total volume of process-generated wastewater will likely be significantly underestimated. This obviously would have a significant effect on the water balance. The applicant's process wastewater estimation leaves room for it to use only a small amount of fresh water for manure removal. The TCEQ should require the applicant to quantify the total amount of fresh water that it will use for manure removal, and it should revise the Draft Permit to include a provision that limits the applicant to this volume.

11. Effluent Recycling for Manure Flush Water

As referenced above, the applicant has represented that recycled effluent will be used for manure removal. It has not provided the location of the recycle lines on the site map submitted with its application, however. Additionally, the waste flow chart shown in the application does not indicate that either the freestall barns or the milking parlor will have access to recycled effluent. Such information is necessary for proper evaluation of the application and should be provided.

12. Runoff Containment Prior to Expansion

Although the applicant proposes to enlarge its RCSs to accommodate a 25-year 10-day rainfall event, it nevertheless must have facilities in the interim that will contain runoff from a 25-year 24-hour rainfall event. It does not appear that any evaluation has been made of the RCSs to determine if they will contain runoff from a 25-year 24-hour rainfall event. The City requests that TCEQ undertake such an evaluation before the Draft Permit is issued.

13. Demonstration of Adequate Existing Capacity

Sludge accumulation in the existing RCSs is probably so great that the they no longer can maintain the minimum treatment volume or contain even the 25-year 24-hour rainfall event. The capacity certification for RCS Nos. 1 and 2, sealed December 28, 2002, indicates that no sludge accumulation has occurred. The capacity certification for RCS No. 2, sealed December 28, 2002 shows sludge accumulation exceeding the capacity reserved for sludge. Photos of RCS No. 1 and RCS No. 2, taken on May 28, 2008, seem to demonstrate that each RCS suffers from obvious sludge accumulation, to the level that their respective capacities have been significantly

reduced.[2] RCS No. 1 most likely cannot maintain the minimum treatment volume in its May 2008 condition. And the combined capacity of the RCS No. 1 and No. 2 will, in all probability, be insufficient to contain runoff from a 25-year 24-hour rainfall event. The capacity certification for RCS No. 3, sealed June 2, 2003, indicates a sludge accumulation of over 20 percent of the total as-built capacity. Given the amount of time that has elapsed since this capacity evaluation was conducted, it is quite possible that RCS No. 3 no longer has adequate capacity. The TCEQ should require the applicant to conduct a new capacity certification, including a calculation of sludge accumulation, before the Draft Permit is issued.

14. RCS Surface Areas in the Stage/Storage Table of the RCS Management Plan

Draft Permit Provision VII.A.5(a)(2)(iv) requires a stage/storage table that shows only storage volume at increments of one-foot of depth. The RCS surface area, however, is also an integral part of properly calculating the evaporation in the monthly water balance. Without a stage/surface area table, there is no way to accurately calculate evaporation, and no way for the TCEQ to determine if the RCS Management Plan and the water balance proposed in the application is valid. Since no stage/surface area data has been provided in the application for the RCSs (existing or proposed), the Draft Permit should also require the calculation of surface area for each one-foot of depth. The City recommends that Draft Permit Provision VII.A.5(a)(2)(iv) be revised as follows: "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." If the TCEQ does not require surface areas to be provided at each depth, the City would appreciate an explanation of how TCEQ can determine if the evaporation volumes used in the water balance are accurate.

15. Review of RCS Management Plans

The Draft Permit requires that the applicant prepare an RCS Management Plan and place it in the Pollution Prevention Plan (PPP) after the RCS is modified, but it does not provide for any review of this plan by the TCEQ either before the Draft Permit is issued, or before the plan is implemented after issuance. This precludes any opportunity for formal review by the TCEQ and any meaningful public review of its adequacy. The water balance and RCS Management Plan are each important in properly sizing the RCS. The water balance and RCS Management Plan must account not only for monthly rainfall runoff, but also the storage requirements and supplemental irrigation necessary to enable supplying sufficient water to the crops during the high water demand months of the summer. Otherwise, the projected crop yields will not be met.

[2] Attachment 1.

The Draft Permit allows the RCS Management Plan to be reviewed only during annual field inspections. As a practical matter, this setting does not provide adequate time for field inspectors to properly evaluate the validity of such a plan. Additionally, in some instances, the TCEQ inspectors may not have the proper engineering background and training necessary to make such an evaluation. The TCEQ should require the applicant's RCS Management Plan to be submitted before permit issuance. At a minimum, the Draft Permit should require that the applicant submit its RCS Management Plan to the TCEQ permitting staff for review and approval upon permit issuance.

16. RCS Management Plan for the Existing RCSs

The Draft Permit does not require an RCS Management Plan for the existing RCSs. The applicant, however, intends to use the existing RCSs after permit issuance until it has completed construction of its proposed modified RCSs. The absence of an RCS Management Plan for the existing RCSs during the interim period is inconsistent with the language of Title 30, Section 321.42(g) of the Texas Administrative Code, which requires, without exception, an RCS Management Plan for each RCSs that will be used at a permitted facility.

17. Location of Manure Stockpiles on Site Map

The flow chart in the application indicates that manure will be stored in stockpiles at the facility, but the applicant has not identified the location of these stockpiles on its Site Map.[3] The City surmises that the stockpile area is located at the area shown on Attachment 2. However, it is not clear whether this area actually has berms to divert runoff to the RCSs. The site map should be revised to show the location of these stockpiles.

18. Identification of All Pen Areas on Site Map

The site map shows the location of only two pen areas. A review of recent aerial photos of the current facility shows that there are other pen areas that should have been included on the site map.[4] The pens and open lot areas should be clearly identified on the site map. Likewise, so that the areas used in the drainage calculations can be confirmed, the site map should also show the adjacent areas (including specification of ground cover) between the pens and control structures. Without showing and labeling these areas on the site map, inspectors are likely to have much difficulty verifying the adequacy of ground cover during their field inspections. Without adequate ground cover, of course, the assumptions made in the application will be unreliable.

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[3] Attachment A and B in the Draft Permit.
[4] *See* Attachment 2 .

19. Regulation of Slurry from Freestall Barn

Draft Provision X.G.3 requires a slurry storage area "large enough to prevent overflow into settling ponds and/or RCSs." Because slurry has a fluid consistency, and thus cannot be stacked like dry manure, it requires a storage basin (*i.e.*, an RCS with appropriate liner requirements) to prevent it from migrating into the settling basins during rain events. The site map, however, does not indicate the presence of any slurry storage basins at the facility. Without any provision in the Draft Permit for the necessary slurry storage, any RCS that might be constructed in the future would require a permit amendment. Draft Permit Provision X.G.3 should be revised to clarify that slurry storage will require a permit amendment.

20. Settling Basin Design Specifications and Capacity Certification

The TCEQ has previously concluded that settling basins are, by definition, RCSs. Title 30, Section 321.38(e)(2) of the Texas Administrative Code requires the applicant to submit certified design specifications and completed construction specifications for each RCS. The rule provides no exception for settling basins. The applicant, however, has submitted no properly certified design specifications or completed construction specifications for its proposed settling basins. The City requests that the applicant be required to submit these important certifications before permit issuance.

21. Settling Rates

The applicant has indicated that the settling basins will remove 50 percent of the solids. It points to removal efficiency estimates published in the Midwest Plan Service Structures and Environment Handbook. The settling basin (weir notch or dewatering) removal efficiencies described in the Midwest Plan Service Structures and Environment Handbook are based on the use of specific standards for settling basin design. The applicant has not provided any information in the application that demonstrates its settling basins are designed and constructed in accordance with the Midwest Plan Service Structures and Environment Handbook design criteria. The TCEQ should require the applicant to provide this data so that the applicant's removal rates can be justified.

Without further demonstration from the applicant to the contrary, the information it has provided in the application strongly suggests that its estimated 50 percent solids removal rate is unreasonable. The applicant intends to employ screen separators that are designed to remove larger particles of solids before the water enters the settling basins. What is produced after this initial screened separation are smaller suspended particles that are not nearly as easily settled. Without some accounting in the settling basin design for the initial removal of the larger particles through screen separation, the applicant's settling basins are unlikely to achieve a 50 percent removal rate. Again, the TCEQ should require the applicant to provide the design information necessary to justify its purported 50 percent removal efficiency before permit issuance.

22. Schedule for Solids Removal in Settling Ponds

Draft Permit Provision X.N. requires that the solids in the settling basin be removed on a "regular and consistent basis so as to assure attainment of the 50 percent designed removal efficiency." Given the importance of effective solids removal in maintaining settling basin removal efficiency, the Draft Permit should provide more specific guidance regarding efficiency maintenance. The Midwest Plan Service Structures and Environment Handbook referred to by the applicant recommends removing solids after every major rainfall event, or 3 to 4 times a year, depending on the type of settling basin employed. While the applicant has provided no information in the application that suggests it has employed the appropriate settling basin design to achieve a 50 percent removal efficiency, it nevertheless claims to have such capability. The City suggests that the Draft Permit be revised to include a provision consistent with the Midwest Plan Service Structures and Environment Handbook recommendations—*i.e.*, "Solids from the settling basin shall be removed after every rainfall event in excess of one inch and at a minimum of four times per year."

23. Designation of Solids from the Settling Basin

Draft Permit Provision X.H.1 states that "settling basin solids shall be defined as manure." However, Title 30, Section 321.32(49) of the Texas Administrative Code defines sludge to mean "solid, semi-solid, or slurry waste generated during the treatment of and/or storage of any wastewater. The term includes material resulting from treatment, coagulation, or sedimentation of waste in a retention control structure." Since settling basin solids are clearly materials resulting from the sedimentation of waste in an RCS, the Draft Permit should be revised to reflect the fact that settling basin solids are appropriately classified as sludge. In Draft Permit Provision X.H.2, the TCEQ appears to acknowledge that the differences between settling basin solids and manure by requiring settled solids to be sampled separately. The TCEQ has previously commented that it differentiates between settling basin solids and sludge because of the absence of any long term sludge storage allocation. To the extent that the TCEQ relies on the same justification for Draft Permit Provision X.H.1, the City challenges this reasoning on several grounds. First, there is no distinction in the TCEQ's definition of sludge between long-term or short-term storage of solids. Second, the solids are a product of treatment (*i.e.*, sedimentation), not just storage. Third, the applicant has provided no information in the application that would suggest that these solids will not be stored for a long period of time. A general provision requiring that that the applicant "regularly" remove settling basin solids would still provide an opportunity for the applicant to store the solids long term since "regular" removal could still mean once every five years.

24. Monitoring of Sludge Accumulation in RCSs

The buildup of sludge is one of the most common causes of reduced capacity in an RCS. Because the water levels in storage RCSs are usually kept higher than the sludge levels, daily pond marker readings typically provide marginal utility in determining excessive sludge

accumulation. Once an accumulation problem manifests itself, it can take years to get it corrected and the capacity re-certified. Notwithstanding the importance of combating sludge accumulation, the Draft Permit does not require measurement of the sludge volume in RCS No. 3 until the third year of operation after permit issuance. The photo in Attachment 1 provides a clear example of the importance of routine sludge accumulation management. The Draft Permit should be revised to require the sludge accumulation in RCS No. 3 to be determined annually, as is required for RCS No. 1 and RCS No. 2.

25. Capacity Certification and Requirement Description

Draft Permit Provision VII.A.3(a)(2) should clarify that all capacity certifications require certification of both total as-built capacity and the remaining capacity as a result of sludge accumulation. The TCEQ could make this clarification by revising Draft Permit Provision VII.A.3(a)(2) to include the following sentence: "Capacity certifications shall include both the total as-built RCS capacity and the remaining RCS capacity due to sludge accumulation."

26. Certification of Concrete Settling Basin Structural Integrity

The site map (Attachment A in the Draft Permit) shows two proposed settling basins, but no information in the application indicates whether the basins will be earthen or concrete. The applicant must provide a certification of hydrologic disconnect between any concrete settling basin and waters of the state. Any concrete settling basin must also be certified that, based on demonstrated evidence, it will contain no significant leaks. Before the Draft Permit is issued, the TCEQ should require the applicant to disclose whether the two proposed settling basins will be earthen or concrete. For any concrete settling basins proposed, the applicant should be required to submit the appropriate certifications of structural integrity.

27. Reconstruction of RCS No. 3

Because RCS No. 3 was not included in the December 10, 2002 registration, it does not appear that it is an authorized RCS. Before the Draft Permit is issued, the applicant should be required to demonstrate that RCS No. 3 was built in accordance with the current liner and embankment standards specified in Draft Permit provisions VII.7.A(3)(f) and VII.7.A(3)(g).

28. Liner Certifications Prior to RCS Modifications

The City acknowledges that each RCS will have liners certified when the RCSs are modified. However, as indicated in the NODs issued on this application, the current certifications are inadequate. Nevertheless, the TCEQ appears to allow the applicant to rely on inadequately certified RCSs after permit issuance until the RCSs are finally modified. Without TCEQ identifying any specific exception that allows an operator to employ inadequately certified RCSs in a CAFO operation, it would appear that the rules prohibit the use of such structures at all times.

29. Adequate Liner Testing Specifications in the Permit

In verifying the hydraulic conductivity certification of a liner, the TCEQ has in the past required applicants to submit a minimum of one floor sample per acre of surface area plus one sidewall sample for every two acres of surface area. In the Draft Permit, however, the TCEQ is requiring only one sample to be taken for each acre of surface area, which can be distributed between the sidewalls and floor. The City believes that the previously instituted sampling requirement is the more appropriate standard for this proposed operation: a minimum of one floor sample per acre of surface area and a minimum of one sidewall sample for every two acres of surface area.

30. Embankment Testing Specifications

Title 30, Section 321.38(g) of the Texas Administrative Code requires that the TCEQ identify in the Draft Permit the required design specifications for all RCSs, including procedures and minimum requirements for liner and embankment testing. With the qualification articulated in the previous comment, the City applauds the TCEQ for proposing Draft Permit Provision VII.A.3(g)(3). This provision appropriately addresses the City's concerns related to liner testing. It does not, however, address the City's concerns regarding embankment construction testing. Specifically, the City would recommend that the TCEQ revise Draft Permit Provision VII.A.3(f)(4) to provide as follows: 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 on the last lift after completion of the liner), 4) require documentation of compaction test locations and results to be provided to the TCEQ, and 5) require continuous on-site inspection during construction.

RCS embankment integrity plays a substantial role in protecting environmental and human health. The City strongly believes that the TCEQ must have an opportunity to review the compaction testing results so that staff may make an independent assessment of the certification's reliability.

31. Compaction Testing Standards in Effect at the Time of Construction

Title 30, Section 321.38(e)(3) of the Texas Administrative Code requires RCS construction to satisfy standards in effect at the time of the project construction. Draft Permit Provision VII.A.3(f)(4) refers to ASTM standard D6938-07. This standard is no longer in effect. It has been superseded by standard D3938-08a. The City recommends that the referenced standard "D6938-07" should be changed simply to "D6938," and the following sentence be added to Draft Permit Provision VII.A.3(f)(4): "The ASTM standards shall be those that are in effect at the time of construction."

32. Standards for the Quality of Soils

Title 30, Section 321.38(g)(1) of the Texas Administrative Code requires that the TCEQ describe in the Draft Permit the standards for quality of soils used in construction of the RCS. No such standards appear in the Draft Permit, however. The City believes 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.

33. Permit Provision Numbering

The Draft Permit skips from provision VII.A.3(g)(3) directly to VII.A.3(g)(5)—provision VII.A.3(g)(4) was omitted. The Draft Permit should be revised to reflect the correct numbering, or it should be revised to include the omitted provision, with an opportunity for meaningful public review and comment.

34. RCS Compliance Schedule Extensions

The compliance schedule in Draft Permit Provision X.A.2 allows the applicant to obtain multiple extensions to the deadline for completing RCS modifications. Based on the experience with other dairies in the watershed which have a similar provision in their permits, extensions are granted more often than may be warranted A deadline is not of much value if the CAFO can simply say that a contractor could not be found. This type of excuse would not be allowed in other program areas. A list of specific circumstances that would qualify for an extension (*e.g.*, a documented period of extended bad weather) should be added to the Draft Permit. Additionally, if applicants are having problems finding contractors, the TCEQ should consider developing a list of qualified contractors to assist permittees in this regard.

35. Description of Structural Controls

The production area site maps (Attachment A and B in the Draft Permit) provide an outline of the drainage areas, but they do not provide any description of structural controls or if any berms and ditches exist. If the dashed line represents berms or ditches, no information has been provided regarding the size of the berms and ditches (*i.e.*, width, height, depth).

The berms and ditches are necessary components to preventing contaminated runoff from leaving the site. A field inspector can observe whether berms and ditches are present, and can judge the height, depth and width of the structures, but an inspector may not have the training or time needed to assess whether the structures have been adequately engineered to contain flows. An inspector certainly could not make such an assessment without first performing the necessary surveying and making the necessary engineering calculations, something that is sure to not happen in the field. Some means must, therefore, be given to the inspector to evaluate compliance. From a different perspective, without having an adequate description of structural

controls, the operators will not be able to determine their own compliance or correctly judge the need for repairs if, for example, a berm deteriorates over time as a result of settling, the action of a distracted worker, or runoff erosion. The application and the Draft Permit should each describe these berms and ditches in sufficient detail and construction method so that TCEQ inspectors can determine if the facility is in compliance, and so that the operator can make adequate repairs when necessary.

36. Demonstration of Dewatering Capability

The applicant has indicated that it has a dewatering capacity of 500 gpm for its center pivot system and 300 gpm for its walking big gun. It is not clear whether the 500 gpm applies to both pivots or whether the dewatering capacity for one of the two sprinklers has been omitted. Nevertheless, the applicant submitted no information in the application that would justify this asserted dewatering capacity. Specifically, there is no information in the application regarding the pump models, their horsepower, or the dynamic head employed for these pumping systems. Without this basic information, there is no way to verify the accuracy of the stated pumping capacities. Most likely, the applicant has based its stated pumping capacity on a rated flow, which, of course, does not take into account head losses in the piping and irrigation nozzles. Title 30, Section 321.38(f) of the Texas Administrative Code requires that "[a]n irrigation system or other liquid removal system used by an AFO must be designed to ensure that the system is capable of dewatering the RCSs on a regular schedule." The applicant has provided no design information to demonstrate that it has the dewatering capacities claimed.

Before the Draft Permit is issued, the TCEQ should require that the applicant describe the location of each pump and transfer line, the rated capacities of the pumps, the calculated head losses in the transfer lines and irrigation nozzles, and the actual delivery capacities of its dewatering system so that a true evaluation of dewatering capability can be performed.

37. Annual Facility Inspection Report

Draft Permit Provision VII.A.10(a)(5) requires an annual site inspection. However, this provision does not require any report of the findings to be prepared and sent to the TCEQ as required by Title 30, Sections 321.46(c)(2) and (e)(2) of the Texas Administrative Code. The TCEQ in previous responses to comments has stated that these rules do not require these records to be submitted to TCEQ. Rule 30 TAC § 321.46 (c) (2) states "[a] complete inspection of the facility, including the CAFO, the associated control facilities, and LMUs shall be completed by the CAFO operator and a report documenting the findings of the inspection made at least once per year." Rule 30 TAC § 321.46 (e) (2) states "CAFO operators shall provide all other reports required by this subchapter to the Office of Compliance and Enforcement, Enforcement Division." It is difficult for the City to understand how the TCEQ can construe these rules any other way than requiring the Annual Facility Inspection Report to be sent to the TCEQ. The Draft Permit Provision VII.A.10(a)(5) should be revised to require that the applicant prepare a site inspection report and submit it annually to TCEQ's Office of Enforcement and Compliance.

38. Five-Year Evaluation Report

Draft Permit Provision VII.A.10(b) requires the Five-Year Evaluation Report to be maintained in the PPP. However, this provision does not require the report to be sent to TCEQ. This would appear to be in conflict with Title 30, Section 321.46(e)(2) of the Texas Administrative Code. For the reasons discussed in the previous comment, Draft Permit Provision VII.A.10(b) should be revised to require that the applicant submit the five-year evaluation report to TCEQ's Office of Enforcement and Compliance.

39. Requiring the Five-Year Evaluation to Certify the Adequacy of Structural Controls

Draft Permit Provision VII.A.10(b) requires a five-year evaluation to be maintained in the PPP. This evaluation requires a licensed Texas professional engineer review the existing engineering documents, complete a site evaluation of the structural controls, review existing liner documents, and complete and certify a report of the engineer's findings. The provision does not, however, require the engineer to certify that the controls are adequate. In addition to certifying a report of findings, the Draft Permit should be revised to require that the engineer certify structural control adequacy. Otherwise, the mere fact that a report of findings was prepared might lead to the incorrect conclusion that the controls were adequate. For example, the engineer might certify that berms were present and were of a certain height. This would not, however, provide any information as to whether the berms were adequate. The TCEQ in previous responses to comments has stated that "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." Unfortunately, this facility has no engineering documentation for the berms, but simply a map showing their location. A certification of adequacy should be required.

40. Certification of Structural Controls

Draft Permit Provision VII.A.10(b) requires a licensed Texas professional engineer to complete a site evaluation of the structural controls once every five years and certify a report of findings, but as discussed in the previous comments, the provision does not require any certification before permit issuance that the structural controls are adequate. The structural controls, particularly the berms, are a necessary component to the prevention of contaminated runoff from leaving the site. If the berms are not sized properly, runoff will leave the facility during significant rainfall events. Without this certification, it is impossible to ensure that each berm is constructed and functioning properly. The applicant should be required to provide a current certification of structural controls before the Draft Permit is issued.

41. Sampling of Wastewater and Solids

The Draft Permit requires only one annual sample to be collected for wastewater, "dry" manure, slurry, and settling basin solids. The NMP and future application to third-party fields are based on these single annual samples. If not representative, these single samples can

dramatically skew phosphorus loading estimates. Therefore, it is critical that the samples be taken using protocols that will produce the most reliable results. Wastewater is typically sampled from the surface of an RCS. Taking a sample from the surface of a quiescent RCS, however, will result in significantly different sample concentrations than if the sample were taken from the irrigation pipeline. When an irrigation pump in the RCS is operating, sludge in the bottom of the RCS is agitated and becomes mixed with the wastewater. Since this sludge contains high levels of phosphorus, the wastewater that is actually being used to irrigate the fields contains much higher levels of phosphorus than will be measured at the surface. This sampling flaw undermines the reliability of the assumptions used in the NMP. The concentration of phosphorus in the RCS also varies according to the antecedent rainfall or drought conditions, which may cause varying degrees of dilution or concentration. RCS samples should be obtained from the irrigation pipeline following the pump, rather than from the surface of the RCS, to provide a more reliable measure of what is actually being applied to the field.

Additionally, RCS samples should be taken more often than once per year (preferably at least once during each irrigation event). Wastewater treatment plants often take samples daily. There is no practical reason why one sample per irrigation event—which may last for several days—should not be required. At a minimum, when irrigating, one sample per week or month should be required. An average of the sampling events over the year could be used to update the NMP.

Similar issues are presented with manure, slurry, and settling basin solids. The City believes that more than one annual sample of these materials should be taken (preferably one each month or one from each transport event). Relying exclusively on annual samples of these materials can lead to significant errors in calculating the amount of nutrients applied to the land. Because moisture content plays such an important role in calculating the amount of nutrients applied, the calculated nutrient application rate will be significantly underestimated if the solids are sampled while having a high moisture content but are applied later when they have a much lower moisture content. A requirement similar to that for sludge in Draft Permit Provision X.L., which requires an analysis for each haul off, should be required for manure, slurry, and settling basin solids.

42. <u>Phosphorus Production Management</u>

The manure production tables in the application indicate that the total phosphorus produced by the proposed 1600 cows is 358 lb/day P_2O_5. This is equivalent to 132,292 lb/year P_2O_5 (358 x 365). The NMP (dated May 29, 2008) indicates that the amount of phosphorus to be applied to the LMUs is only 7,411 lb/year P_2O_5. This leaves 124,881 lb/year P_2O_5 in the manure, slurry, sludge, and wastewater that must be managed. Neither the application nor the Draft Permit provide any specific indication or instruction regarding where these solids and wastewater may be applied. Although composting and transport out of the watershed are each listed as a possible option, there is no indication either approach will be used. This means that the Draft Permit allows for a total of 124,881 lb/year P_2O_5 (94.4%) from manure, slurry, sludge, and

wastewater to be managed on third-party fields within the North Bosque River watershed with no NMP and little oversight. If all of the 124,881 lb/year P_2O_5 from solids and wastewater is applied to third-party fields in the watershed that have soil concentrations of less than 151 ppm P, then approximately 844 additional acres (assuming three coastal cuts) will have phosphorus applied at application rates ranging between the nitrogen crop requirement rate and twice the crop phosphorus removal rate. An application at two times the crop phosphorus removal rate (not to exceed the nitrogen rate) will result in an increase of the soil P in these additional acres of 16 ppm per year. The cumulative impact will be substantial. Additionally, these acres will be virtually unregulated by TCEQ.

It is unfortunate that the TCEQ would allow 94.4 percent of the phosphorus (124,881 lb/year P_2O_5) to be applied throughout the watershed with less oversight than the "regulated" LMUs at the facility. The City is concerned that a failure to plan for proper management of this phosphorus will lead to excess and unmanaged phosphorus distribution within the watershed, resulting in further degradation of water quality in the North Bosque River and Lake Waco.

43. Solid Manure Removal from the Watershed

The TMDL for the North Bosque watershed recommends removal of 50 percent of the manure in order to meet the water quality goals. The CDM Erath County Animal Waste Management Study performed for BRA in September 1998, and the SWAT modeling that was done in support of this TMDL, each assume that 50 percent of the solid manure (38.1 percent of the total manure production) was to be removed from the watershed. If this manure is not removed from the watershed, the modeling shows that the water quality goal will not be met. The Draft Permit, however, allows 100 percent of the manure generated through the proposed operation to be applied in the watershed. There is no requirement for removal of 50 percent of the solid manure. Neither the applicant nor the TCEQ have demonstrated how allowing 100 percent of the manure to be applied within the watershed is consistent with the goals of the TMDL.

44. Specifying Date for NMP

Draft Permit Provision VII.A.8(a) indicates that the NMP submitted in the application will be implemented upon permit issuance. Multiple NMPs have been submitted for this facility, however, making it unclear which one is the effective NMP and, thus, should be reviewed. Unlike many of the earlier individual permits issued in the North Bosque River watershed, this permit does not contain the date of the NMP to be implemented. The TCEQ has indicated in other responses to comments that a date is not needed because the technically complete application will only contain the final version of the NMP. However, files may be missing or misplaced including the most current NMP. The Draft Permit should be revised to simply indicate the date of the effective NMP so that there is no confusion which NMP this facility will operate under for the year following permit issuance.

45. LMU Size Limit

Texas NRCS Code 590 requires sampling to be conducted in accordance with Texas A&M University ("TAMU") guidance.[5] According to TAMU guidance, LMUs are required to be 40 acres or less in size. At 70 acres, LMU No. 2 exceeds this requirement. To ensure compliance with Title 30, Section 321.42(i)(5)(A) of the Texas Administrative Code, LMU No. 2 should be subdivided and new soil sampling should be conducted on the smaller LMUs. A revised LMU map and NMP should then be prepared.

46. LMU No. 2 Boundaries

The applicant has failed to establish proper boundaries for LMU No. 2. As seen in Attachment 3, the LMU No. 2 pivot is spraying water into brush and trees in the adjacent property. For reference, Attachment 4 shows the locations of the LMUs, as represented by the applicant, superimposed over a 2004 NAIP aerial photo. In addition to the trees shown in Attachment 3, which can also be seen on the eastern edge of LMU No. 2 in Attachment 4, there are additional trees that can be seen on the western edge of LMU No. 2 in Attachment 4. The applicant should be required to shorten the length of the LMU No. 2 pivot system.

47. Demonstration of Crop Yields

The reliability of the applicant's crop yield projections depend entirely on the reliability of assumptions regarding soil types, water availability, and availability of nitrogen. The reliability of the applicant's NMP is directly tied to the reliability of its projected crop yields. Even though the PPP has for years required that the operator maintain records of the actual annual yield of each harvested crop, the applicant has provided no information to justify its crop yield projections. Texas NRCS Code 590 requires that the NMP be based on realistic crop yield goals.[6] To ensure compliance with Title 30, Section 321.42(i)(5)(A) of the Texas Administrative Code, the applicant should be required to demonstrate the reliability of its crop yield projections by submitting the historical annual yield of its harvested crops.

48. Documenting Soil Test Locations and Time of Samplings

Texas NRCS Code 590 requires that the NMP document the approximate soil test locations and the time of year that samplings will be conducted.[7] The applicant's NMP does not include this information. To ensure that the NMP satisfies Title 30, Section 321.42(i)(5)(A) of the Texas Administrative Code, the applicant should be required to revise its NMP to include this important information.

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[5] p. 590-2.
[6] p. 590-7.
[7] p. 590-7.

49. Agronomic Rate Calculation

The basic agronomic rate calculation methodology being used by the applicant in its NMP would appear to be flawed because the NMP does not account for the nutrients available to plants in the root zone to satisfy the crop requirement. Instead, the NMP allows application of the annual crop requirement, regardless of the actual soil nutrient content, until the soil reaches a concentration of 200 ppm P. Even at this level, the NMP allows continued application of nutrients despite there being available more than four to seven times the amount of nutrients necessary for optimum growth. The phosphorus index provides little protection against overloading because it does not account for soil nitrogen. More importantly, the phosphorus index does not take into account the increase in soil phosphorus once the soil phosphorus exceeds 60 ppm P.

As an analogy, the TCEQ more properly makes the agronomic rate calculations when determining agronomic rates for the application of biosolids. For biosolids permit applications, the TCEQ requires that the agronomic rate calculations take into account the nutrients in the soil by taking the crop requirement and subtracting the nutrients available in both the 0-6 inch and 6-24 inch soil depths for the most recent year. Only the amount of nutrients needed to satisfy the overall crop requirement for that year may be applied. If the amount of nutrients in the soil exceeds the crop requirement, no additional nutrients can be added during that year. The nutrients in biosolids are not any different from the nutrients in dairy waste. The Draft Permit should allow application of only that quantity of nutrients that will support optimum crop production (*i.e.*, beneficial use).

Plant available nitrogen, not phosphorus, is the nutrient that most often needs to be added as fertilizer to increase crop yields. Dairy waste is of course composed of a considerable phosphorus component. The fact that crops need additional nitrogen does not *per se* justify the addition of phosphorus in a watershed, like the Bosque, that is impaired for phosphorus. If the crops need additional nitrogen and not phosphorus, the nitrogen should be added using a source that is low in phosphorus (*e.g.*, commercial fertilizer).

50. Waste and Wastewater Application to Fields Exceeding 200 ppm P

The North Bosque River TMDL Implementation Plan, dated December 2002, states 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."[8] Draft Permit Provision VII.A.8(c)(2) negates this enforcement action by allowing application to continue as long as a NUP has been prepared and approved by the TCEQ. Soil phosphorus concentrations can continue to rise as long as they do not exceed 500 ppm. Application can continue in fields with a soil phosphorous concentration above 500 ppm as long as the NUP contains a phosphorus reduction component. To be consistent with the language and

[8] p. 16.

spirit of the TMDL, application of waste and wastewater to fields in excess of 200 ppm, and particularly to fields in excess of 500 ppm, should be prohibited. At a minimum, fields in excess of 200 ppm should be required to have a NUP containing a phosphorus reduction component subject to Draft Permit Provision VII.A.8(c)(5).

Further, regardless of the language in the TMDL, the 200 ppm phosphorus is four to seven times the amount of phosphorus needed for optimum growth of the proposed crops (*i.e.*, four to seven times the agronomic need). NUPs are intended to ensure that manure, litter, and wastewater is all beneficially used. The definition of "beneficial use" in the rules is the "application of manure, litter, or wastewater to land in a manner that does not exceed the agronomic need or rate for a cover crop." It is difficulty to comprehend how the application of waste to soil that contains four to seven times the agronomic need could be considered a beneficial use of the waste.

51. Application of Supplemental Phosphorus

Based on the information supplied in Table 11 of the NMP, the applicant is planning to apply 80, 30, and 30 lb/acre P_2O_5 as supplemental phosphorus to LMU Nos. 2a, 4bW, and 4bE, respectively. However, LMU No. 2a currently contains 55 ppm P (252 lb/acre P_2O_5), LMU No. 4bW contains 56 ppm P (256 lb/acre P_2O_5), and LMU No. 4bE contains 57 ppm P (261 lb/acre P_2O_5). The crop requirement for these LMUs is only 205 lb/acre P_2O_5. Supplemental nutrients are typically added in the form of inorganic commercial fertilizer. Such a practice is questionable in a watershed like the Bosque that is impaired for phosphorus. The applicant should be required to follow the NRCS Code 590 requirements for commercial fertilizer. This standard precludes use of commercial phosphorus fertilizers on fields like these LMUs that exceed the crop requirement for phosphorus.

52. Regulation of Manure Application on Third-Party Fields

Draft Permit Provisions VII.A.8(e)(5)(i)(B) requires incorporation of manure on cultivated fields within 48 hours after land application. It provides no restrictions regarding application of manure on non-cultivated fields, however. Because of the significant damage to vegetation and reduction in yield and nutrient uptake that is typically associated with manure application to non-cultivated fields, the City believes the application of manure on non-cultivated fields should be prohibited altogether. At a minimum, application of manure on non-cultivated third-party fields should be prohibited within 500 feet of a stream.

53. Regulation of Wastewater Application on Third-Party Fields

According to the Technical Information Packet, the applicant plans to apply wastewater to third-party fields. There does not seem to be any way that wastewater can be applied using any portion of the CAFO's irrigation system, since using this type of system would require the applicant to exercise some control over the third-party field (*e.g.*, control of the pumping rate

from the RCS), which, of course, is prohibited under the third-party fields rules. The Draft Permit should prohibit application of wastewater on third-party fields unless the owner of third-party field transports the wastewater from the CAFO by truck.

54. NRCS Code 590 Requirements on Third-Party Fields

Although the criteria for application rates on third-party fields are more restrictive than for LMUs in most instances, it is possible for third-party fields to meet the requirements of Draft Permit Provisions VII.A.8(e)(5)(i)(C-E) yet fail to meet the requirements of NRCS Code 590. For example, NRCS Code 590 requires that the application rate never exceed the annual crop P requirement in fields with a P-Index rated of "Very High." Draft Permit Provision VII.A.8(e)(5)(i)(C) allows application at the nitrogen crop requirement rate when the field is less than 50 ppm P, irrespective of the P-index. Because the NRCS Code 590 standard is the most restrictive of the two, it should be the prevailing standard in this instance. It otherwise would seem unreasonable to allow application at the nitrogen rate to a field with a Very High P-index rating even if it does have less than 50 ppm P. Fields with a Very High P-index have the highest vulnerability as sources of P loss in surface runoff. Accordingly, Draft Permit Provisions VII.A.8(e)(5)(i)(C-E) should be revised to include a statement that the application rate is not to exceed the requirements of NRCS Code 590.

55. NMP for Third-Party Fields

Under Draft Permit Provision VII.A.8(e)(5)(i)(A), no NMP is required for third-party fields. Because an NMP is the necessary tool for determining the appropriate application rates, the applicant will have a difficult time satisfying the requirements of Draft Permit Provisions VII.A.8(e)(5)(i)(C-E) without preparing an NMP. The applicant should be required to prepare an NMP for third-party fields if the criteria are different than those in NRCS Code 590.

56. Reporting of Crop Yields on Third-Party Fields

While Title 30, Section 321.46(d)(8)(F) of the Texas Administrative Code requires recording the actual yield of each harvested crop in the PPP, it does not require the yield information to be reported. Similarly, Draft Permit Provision VIII.B.7 does not require reporting of this information in the annual report. Draft Permit Provision VII.A.8(e)(5)(iv) should be revised to require that records of crops and crop yields on third-party fields be submitted to the TCEQ quarterly. Draft Permit Provision VIII.B.7 should also be revised to include a requirement that records of crops and crop yields be submitted to the TCEQ in the annual report. Otherwise, the phosphorus crop removal rates cannot be calculated making compliance with the phosphorus application difficult to determine. If the TCEQ believes that the crop yields should not be reported in the annual reports, the City would appreciate an explanation of how it intends to determine compliance with the application rates.

57. Prohibiting Sludge Application to Third-Party Fields

Draft Permit Provision VII.A.8(e)(5) allows sludge to be applied to third-party fields. This would appear to be inconsistent with Title 30, Section 321.42(j) of the Texas Administrative Code, which allows only manure, litter, and wastewater to be applied to third-party fields.

58. Demonstration of Sustainability for the Term of the Permit

The applicant's NMP addresses only the first year of operations after permit issuance. It does not address the subsequent years of the five-year permit term. The applicant should be required to prepare a five-year NMP that shows the impacts of all nutrient management issues over the entire life of the permit. Additionally, the Draft Permit should be revised to establish an overall maximum application rate that allows the facility to operate in a sustainable manner over the permit term. An annual NMP could then be used to make necessary adjustments to the annual application schedule and to individual field applications based on annual soil sampling and crop production.

The TCEQ has previously indicated that because an NMP is likely to change each year based on site-specific sampling, an NMP for the term of the permit would not be relevant. The City does not agree with this. In fact, EPA does not agree with this for it is proposing that NMPs be developed for the term of the permit in its new rules.[9] While the NMP may change each year based on site-specific sampling results, an NMP for the term of the permit would be a useful prediction tool for what can be expected to occur in the fields, assuming the wastewater and manure sampling is representative. As a practical matter, the applicant should be required to demonstrate that, based on projected application rates, it has enough land to sustain its operation for the five-year term of the permit.

59. Identification of Historical Waste Application Fields

Title 30, Section 321.42(k) of the Texas Administrative Code requires that soil samples be taken in historical waste application fields, as well as in active LMUs. The analytical results of these soil samples must then be furnished to the TCEQ. Although Draft Permit Provision X.O. requires a map of the historical fields to be maintained in the PPP, the applicant has not identified any historical fields in the application. Since active LMUs are identified in the Draft Permit, it would seem logical and efficient to include the historical fields in the Draft Permit, as well. The names and locations of the historical fields should be included in the Draft Permit. This information will better confirm to the public that the rules requiring sampling are being met and enforced.

[9] 73 Fed. Reg. 70418.

60. Containment of Runoff from Silage, Commodity, and Hay Storage

Draft Permit Provision X.I requires containment of runoff from silage, commodity, and hay storage outside of the RCS drainage area. While provisions for containment are to be placed in the PPP, this information was not included in the application. The appropriate provisions for containment should be part of the application so that they can be properly reviewed to determine if the containment provisions and design are adequate.

61. Definition of Vegetative Buffers

Draft Permit Provision X.D requires that the applicant install and maintain buffers according to NRCS standards. While the NRCS does have practice standards for "filter strips",[10] the NRCS has no practice standards for "vegetative buffers." The buffers specified in the Draft Permit contain both filter strips and a "vegetative buffer setback." Without a definition and standard for "vegetative buffer," the term is unnecessarily vague. The TCEQ has previously indicated that it considers a vegetative buffer to be vegetation that reduces shock due to contact, It has also indicated that a Riparian Forest Buffer,[11] which is referenced by Filter Strips,[12] qualifies in this respect. Despite the TCEQ's interpretation of these important terms, the Draft Permit does not define vegetative buffer in this manner, and it provides no specific guidance on satisfying the "vegetation that reduces shock due to contact" standard. If the TCEQ interprets "vegetative buffers" in the North Bosque River watershed to mean Filter Strips, as defined by NRCS Practice Code 393, or Riparian Forest Buffers, as defined by NRCS Practice Code 391, then this interpretation should be memorialized in the Draft Permit. Without defining these terms, the City believes that the TCEQ will be unnecessarily hindered in its efforts to enforce its informal interpretations. The City suggests resolving this matter by simply adding the following sentence to Draft Permit Provision 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."

62. Non-Attainment of Bacterial Water Quality Standards

This CAFO discharges into Segment No. 1226, which is currently listed on the 303(d) list (impaired and threatened waters) for non-attainment of bacteria water quality standards. Neither the applicant nor the TCEQ has demonstrated how this permit will support attainment of bacteria water quality standards. Other than by the general statement on p.13 of the Fact Sheet that "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," the Draft Permit does not indicate how the bacterial issues that plague the North Bosque River watershed will be addressed. The TCEQ

[10] Code 393.
[11] Code 391.
[12] Code 393.

should demonstrate how the bacteria water quality standards will be attained under the permit provisions, rather than simply seeking to reduce further impairment.

With respect to the first element referenced in the Draft Permit—the RCS storage capacity requirements—the increased storage capacity requirement should indeed decrease the amount of bacteria discharged during chronic or catastrophic rainfall events. However, chronic and catastrophic rainfall events are not typical for this area, and even if such reductions could be expected with some frequency, the TCEQ has not quantified the amount of reduction that could be expected. Non-attainment of bacterial water quality standards is typically observed during non-chronic and non-catastrophic rainfall events. Non-attainment during these other conditions should also be addressed.

With respect to the second element—nutrient management practices—neither the applicant nor the TCEQ has demonstrated that nutrient management practices will have any effect on bacteria. While bacteria and pathogen loads originate from the same sites and materials as nutrients, and are transported via the same streams and rivers, the processes and removal mechanism for bacteria are far different from those for nutrients. Much of the nutrients from CAFOs is removed by harvesting growing crops. No information has been presented that suggests bacteria are removed by growing crops, nor that bacteria can be effectively captured by the soil or "filtered out" in grass. Bacteria undergo different process in the streams and rivers. They are not removed by algae, and bacteria have a potential for regrowth. Additionally, a review of the applicant's NMP indicates that the application rates will be limited, based on the nitrogen concentrations in the wastewater, just as they have been in the past. Therefore, the Draft Permit does not appear to provide any additional limitation on the application rate, and hence the amount of bacteria being applied, over what has been allowed under the previous authorization.

With respect to the third element—increased TCEQ oversight of operational activities—the TCEQ's efforts to oversee operational activities is commendable, but oversight is an enforcement matter, and thus is a reactive approach. There has been no demonstration by the TCEQ how specific oversight will eliminate the bacteria non-attainment, nor how any attributable reductions can be quantified.

With respect to the fourth element—requirements of the TMDL Implementation Plan—the Implementation Plan addresses only phosphorus, not bacteria.

63. <u>Consideration of Compliance Record</u>

It does not appear that the applicant has been the subject of enforcement action by the TCEQ for its current operation. However, an objective review of the information submitted in the application, as well as the photos attached to these comments, indicates that the current operation may be struggling with compliance issues, as noted in preceding comments related to construction of an unauthorized RCS (RCS No. 3), failure to maintain proper sludge volume, and

failure to maintain proper crops on LMUs (*i.e.*, irrigating beyond the limits of LMU No. 2). The TCEQ should consider the current ability of the applicant to comply with applicable rules before issuing the Draft Permit.

64. Diversion of Runoff from Roofs

The applicant has indicated that all runoff from roofs within the drainage area will be diverted and will not enter the RCSs. All of the applicant's runoff calculations are based on this premise. However, the Draft Permit does not require that these diversions be made. Unless this diversion requirement is included in the Draft Permit, inspectors will likely be unaware of it. Without these diversions, however, the RCS will be dramatically undersized. The City requests that the following provision be included in the Draft Permit: "There will be no runoff from roofs entering RCS No. 1 or RCS No. 2 at any time."

65. Reporting for Third-Party Fields.

The Draft Permit and Commission rules allow for the disposal of wastewater or manure by the use of third-party fields not owned, operated, controlled, rented or leased by the applicant. Both the Draft Permit and Commission rules limit the use of third-party fields to only those for which a soil test phosphorus analysis shows a level less than 200 ppm and which require initial and annual soil sampling. In addition, the Draft Permit sets out land application rates for such fields. However, the Draft Permit does not include provisions that require the applicant to report information regarding land application rates and soil testing to the Commission to ensure compliance. The Draft Permit only requires that the applicant submit records to the regional office containing the "name, locations, and amounts of wastewater, sludge, and/or manure transferred to operators of third party fields."[13] It is not apparent how compliance with the Draft Permit provisions regarding third-party fields can be determined without further information on soil testing, areas of application, application rates, etc. The inclusion of additional provisions regarding reporting for third-party fields to clarify that information needed to determine compliance will provide for better enforcement. For example, such provisions could include revision of VII.A.8.(e)(5)(iv) to state that:

> [t]he permittee shall submit records to the appropriate regional office quarterly that contain the name, locations, and amounts of wastewater, and/or manure transferred to operators of third-party fields, a copy of any initial or annual soil analyses, land application locations, dates and times, and nutrient concentration of applied materials, rates, acreage of application area, and crops and crop yields for the preceding quarter.

In addition, it would be beneficial if this information is also included in the annual report to the Office of Enforcement pursuant to 30 Tex. Admin. Code § 231.36(j), along with (i) copies of contracts with the applicable third-party field operators; (ii) a statement that application rates

[13] Draft Permit VII.A.8(e)(5)(iv).

in any third-party field met permit requirements during the previous year; and (iii) a summary of discharges from third-party fields or a statement that there has been no discharge from any third-party field. If such information is included, the performance of the operator with respect to use of third-party fields for the previous year may be reviewed in a holistic manner with all necessary information available.

66. Control of Third-Party Fields

The Draft Permit prohibits discharges except as provided by the permit and federal regulations. The Draft Permit authorizes discharges from RCSs whenever "chronic or catastrophic rainfall events or catastrophic conditions cause an overflow."[14] The Draft Permit also prohibits the "drainage of wastewater, sludge and manure from an LMU" unless authorized under certain conditions.[15] However, the Draft Permit, although allowing the application of waste on third-party fields, is silent with respect to drainage or discharges from third-party fields. It is important that the Draft Permit clearly state that drainage or discharges of wastewater or manure from third-party fields is prohibited. Otherwise, there does not appear to be any control regarding the over-application of waste on third-party fields. Better control of third-party fields is very important because such fields do not benefit from the use of RCSs, NMPs, or other protections imposed on LMUs. In addition, the Commission should consider prohibiting the applicant's further use of any third-party field if it is determined that it has ever disposed of waste on a third-party field when the most current soil test reflects phosphorous concentrations of greater than 200 ppm or the application rate established by permit for a third-party field is ever exceeded. The use of third-party fields should be considered to be a privilege that should be revoked if it is ever abused.

The City of Waco hereby requests that the Executive Director consider these comments in evaluating the Draft Permit which has been proposed to Joseph Osinga, Jennifer Osinga, Bert Velsen and Heidi Velsen / Osve Dairy. The City appreciates the opportunity to submit these comments and the consideration it hopes the Executive Director and Commission staff will give to them.

Sincerely,

Lauren Kalisek

LJK/tkj
ENCLOSURES

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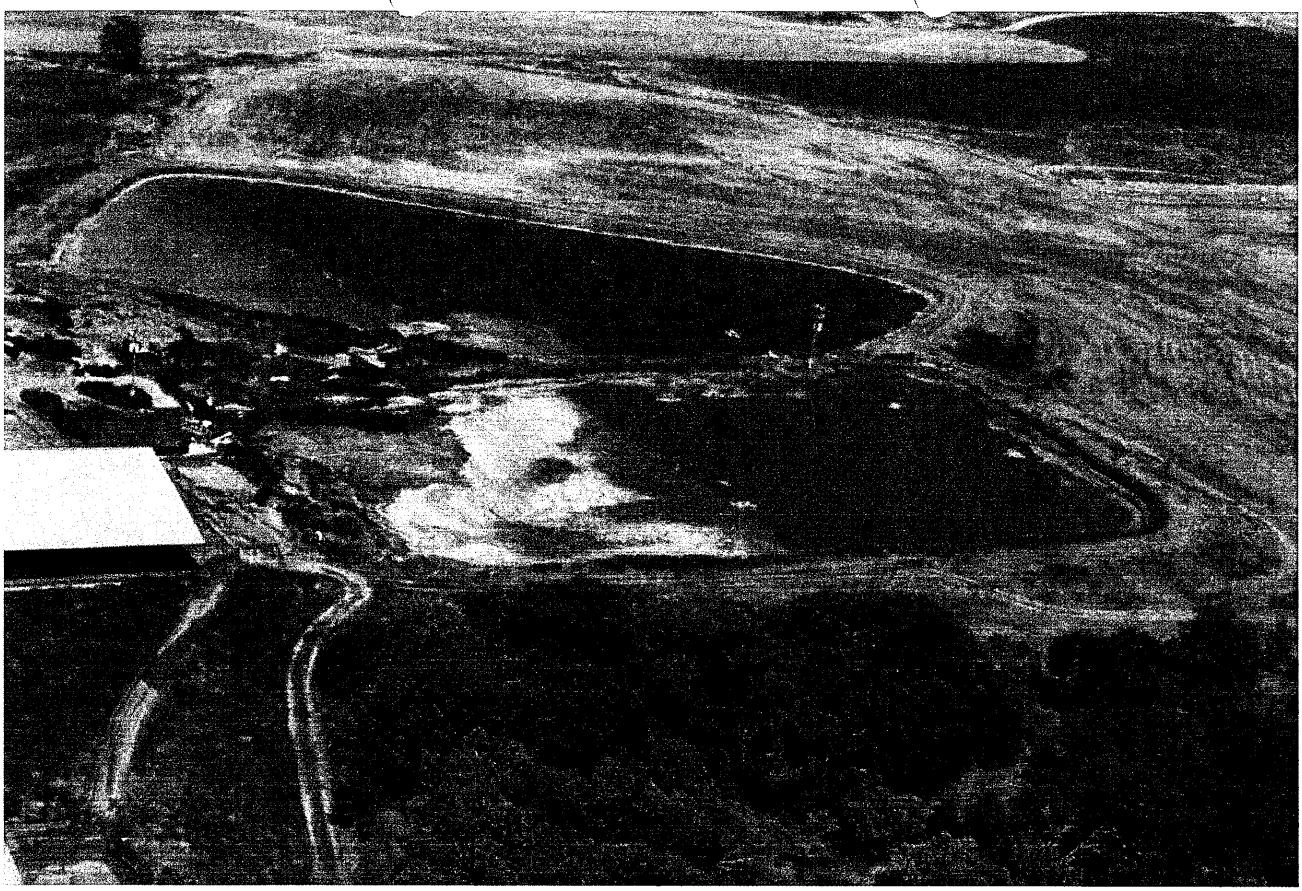
[14]A "chronic or catastrophic rainfall event" is defined at 30 Tex. Admin. Code § 321.32(10) as a "series of rainfall events that do not provide opportunity for dewatering a retention control structure and that are equivalent to or greater than the design rainfall event or any single rainfall event that is equivalent to or greater than the design rainfall event."

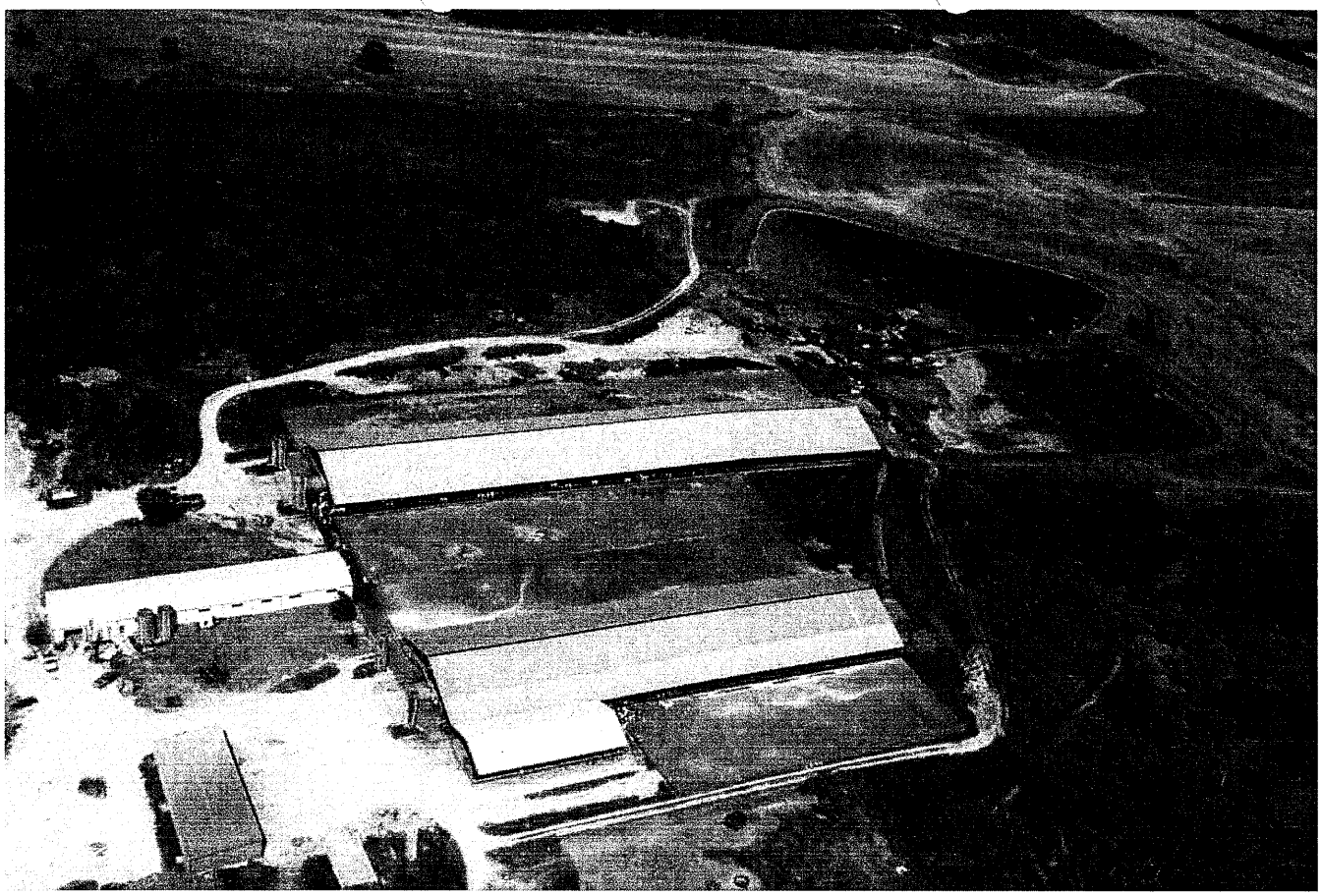
[15]Draft Permit VII.A.8.(f)(2)(i).

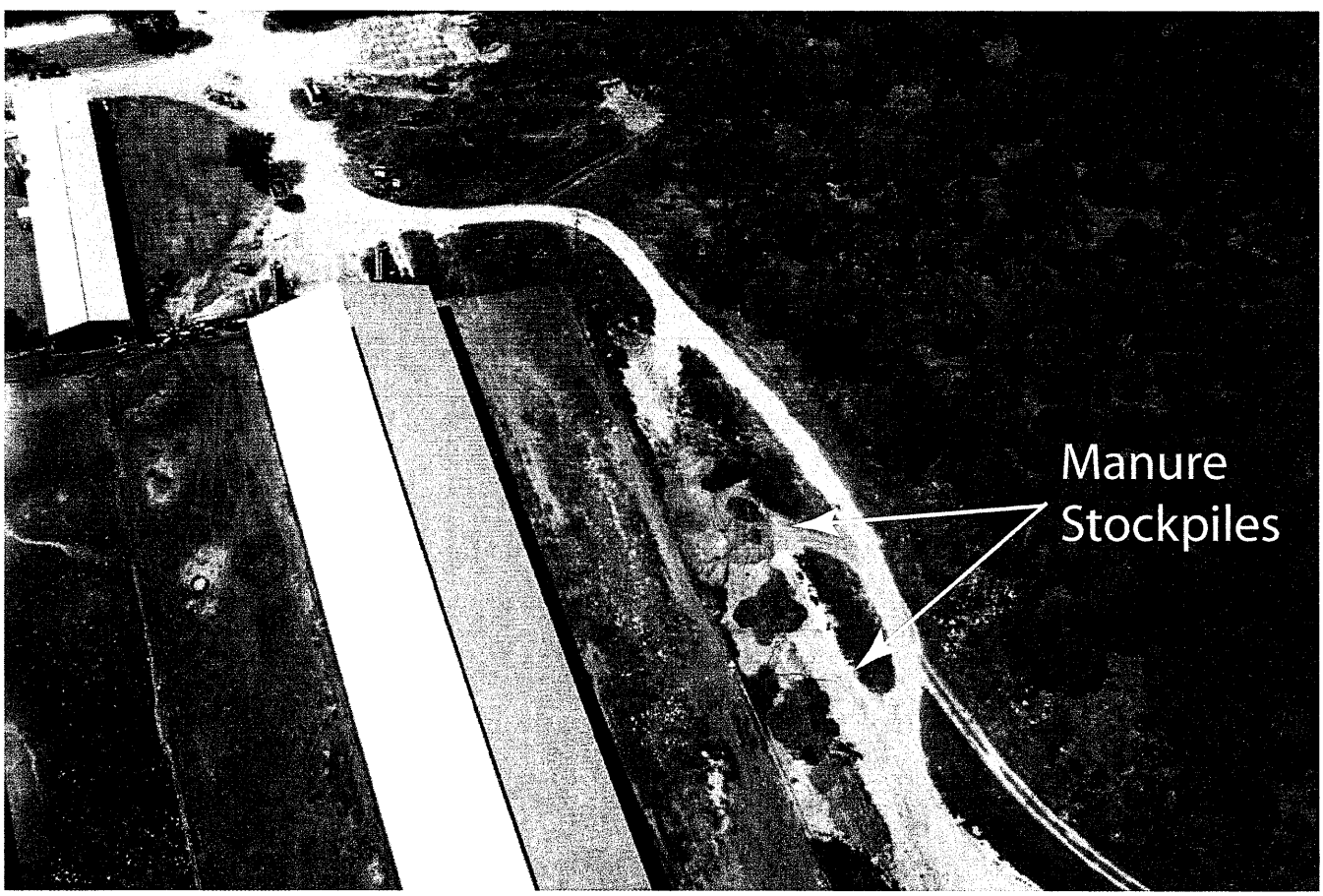
cc: Applicant Joseph Osinga, Jennifer Osinga, Bert Velsen and Heidi Velsen / Osve Dairy
Ms. Leah Hayes, City Attorney, City of Waco
Mr. Wiley Stem
Mr. Bruce Wiland

bcc: Mr. Kerry Haliburton
Mr. Martin Rochelle
Mr. Jason Hill



ATTACHMENT 1





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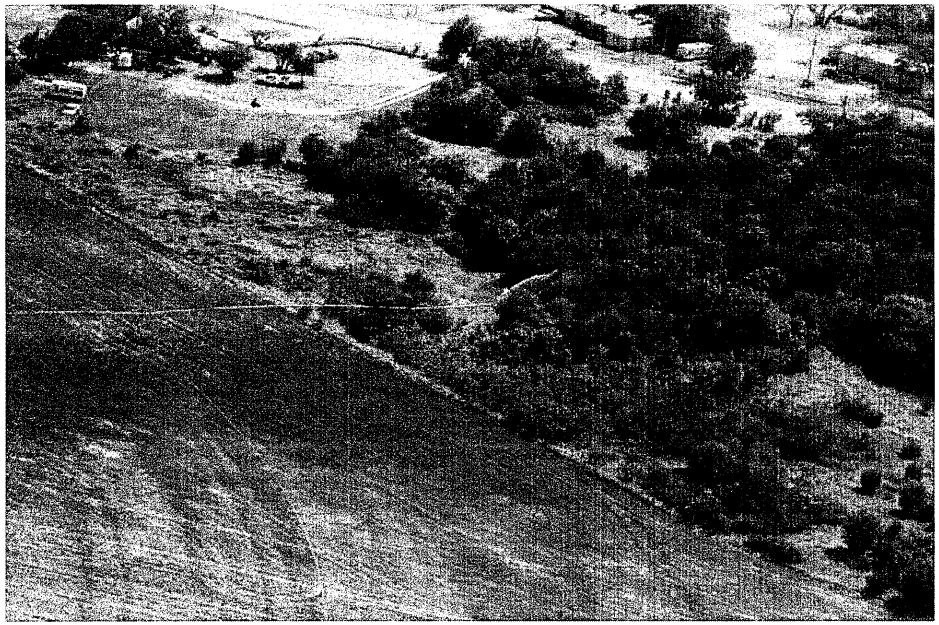

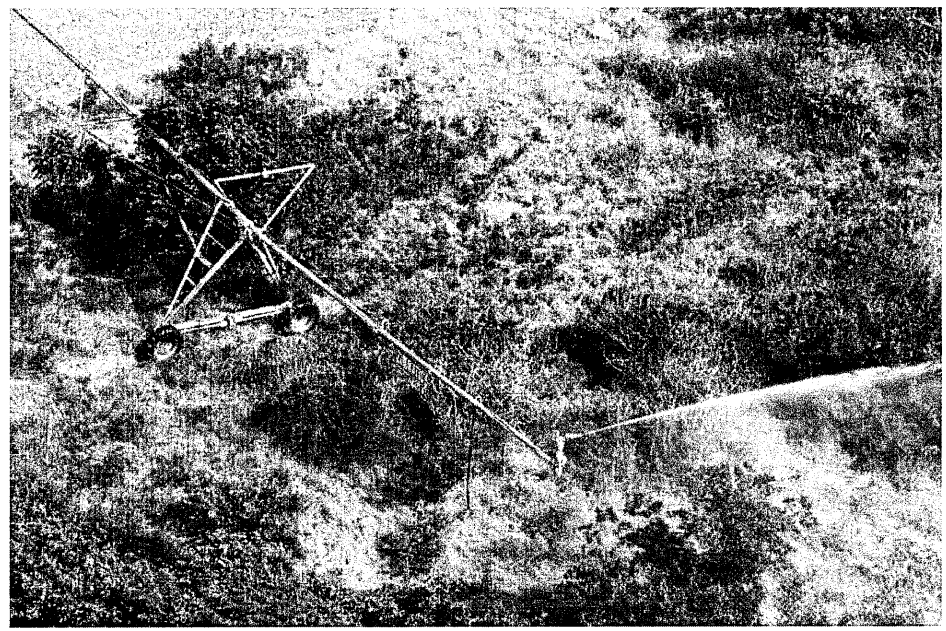

ATTACHMENT 3

ATTACHMENT 4