# TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

*Protecting Texas by Reducing and Preventing Pollution*

August 16, 2007

TO: Persons on the attached mailing list.

RE: O-Kee Diary
TPDES Permit No. WQ0004108000

**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 Hamilton County Courthouse, 100 North Rice, Hamilton, Texas 76531.

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 in writing and must be **received by** the Chief Clerk's office no later than **30 calendar days** after the date of this letter: You should submit your request 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/cz

Enclosures

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for
O-Kee Diary
TPDES Permit No. WQ0004108000

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**TPDES PERMIT NO. WQ0004108000**

| | | |
|---|---|---|
| **APPLICATION BY JEWEL ALT AND OENE KEUNING, DBA O-KEE DAIRY** | § § § § | **BEFORE THE TEXAS COMMISSION ON ENVIRONMENTAL QUALITY** |

## EXECUTIVE DIRECTOR'S RESPONSE TO PUBLIC COMMENT

The Executive Director (ED) of the Texas Commission on Environmental Quality (TCEQ or Commission) files this Response to Public Comment on the preliminary decision by the ED to approve the application of Jewel Alt and Oene Keuning, dba O-Kee Dairy (Applicant) for a major amendment of its existing Concentrated Animal Feeding Operation (CAFO) Texas Pollutant Discharge Elimination System (TPDES) permit no. WQ0004108000. 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 the Chief Clerk received timely public comments from the City of Waco, represented by Brown McCarroll L.L.P. (Waco), Lonnie and Kaye Lewis, and Dr. Lake Lewis. The Office of the Chief Clerk also received timely public comment in support of the issuing the major amendment to this permit from John Cowan, the Texas Association of Dairies, the Dairy Farmers of America, and Mac Rickels.

This response addresses all such timely public 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 for a major amendment to their CAFO individual permit that would allow it to expand its dairy head capacity from 690 to 999 total head. The facility consists of two retention control structures (RCSs) and six land management units (LMUs). The facility is located at 4745 County Road 207 Hico, Texas 76457 in Hamilton 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 permit application was received on January 24, 2006 and declared administratively complete on September 14, 2006. The Notice of Receipt and Intent to Obtain a Water Quality

Permit was published in the *Hamilton Herald-News* on September 28, 2006. TCEQ staff completed a technical review of the application and prepared a draft permit. The Notice of Application and Preliminary Decision for a Water Quality Permit was published in the *Hamilton Herald-News* on January 4, 2007. A public meeting on the permit application was held on April 19, 2007 and the comment period ended at the conclusion of the meeting. This application is subject to House Bill 801, 76th Legislature, 1999.

## COMMENTS AND RESPONSES

**Comment 1:**

Waco comments that the expansion of this facility constitutes a "new source" under federal law and state law effectively forbids TCEQ from issuing a permit to a new source absent a showing that the conditions of the permit ensure compliance with state water quality standards.

**Response 1:**

40 Code of Federal Regulations (CFR) § 122.4(a) and (d) prohibit issuing a permit if the conditions of the permit do not provide for compliance with the Clean Water Act (CWA) and when the imposition of conditions cannot insure compliance with the applicable water quality requirements. 40 CFR § 122.4(i) also prohibits issuance of a permit to a "new source" if the discharge from its construction or operation will cause or contribute to the violation of water quality standards. The ED does not find that the draft permit violates these provisions.

"New source" is defined in the federal rules at 40 CFR § 122.2. The definition states that a "new source" is:

> Any building structure, facility, or installation from which there is or may be a discharge of pollutants, the construction of which commenced: (A) after promulgation of standards of performance under CWA, § 306, or (B) after proposal of standards of performance in accordance with CWA, § 306, which are applicable to such source, but only if the standards are promulgated in accordance with § 306 within 120 days of their proposal.

According to 40 CFR § 122.29(b), an applicant is a "new source" if it meets the above definition and meets the following criteria:

(i) It is constructed at a site where no other source is located;
(ii) It totally replaces the process or production equipment that causes the discharge of pollutants at an existing source; or
(iii) Its processes are substantially independent of an existing source at the same site (In making this determination, factors to consider include to the extent the new facility is integrated with the existing facility and to the extent the new facility is engaged in the same general activity as the existing source).

The Applicant is applying for an expansion of an existing dairy and the expansion will be constructed at a site where a source is already located. Also, the Applicant does not seek to replace the existing process. The dairy expansion would be integrated with the existing facility.

In the preamble to the EPA's federal CAFO rules, EPA responded to comments that sought to have expanding facilities be treated as "new sources" by stating that was not what they were proposing. EPA cited a scenario very similar to the one presented in this permit application as an example of what was *not* a new source:

> For example, a facility that expands its operations by simply extending existing housing structures by constructing new housing adjacent to existing housing is not typically considered a new source.[1]

Also, EPA does not consider an expansion of a CAFO as a new source in its current CAFO rules and specifically state:

> The Agency, however, decided against proposing to identify facility expansion as a trigger for the application of NSPS [New Source Performance Standards]. Many CAFOs oversize or over-engineer their waste handling systems to accommodate future increases in production. Thus, in many cases, the actual increases in production may not present a new opportunity for the CAFO to install the additional NSPS technologies--e.g. liners. To install liners, these operations would need to retrofit their facilities the same as existing sources would. EPA has explained above that such retrofitting would not be economically achievable in these animal sectors. Similarly, the costs associated with these requirements would represent a barrier to the expansion. Therefore, it would not be appropriate to require these operations, upon facility expansion, to meet the additional groundwater-related requirements that are a part of today's proposed NSPS.[2]

The proposed CAFO expansion does not trigger the prohibition in 40 CFR § 122.4. Also, Texas Water Code (TWC) § 26.503(a) does not prohibit a CAFO in a major sole source impairment zone from increasing the number of animals confined in an existing operation.

**Comment 2:**

Waco comments that there is no demonstration that there are sufficient remaining load allocations in the North Bosque River to allow for discharges from the expansion of this dairy or that existing dischargers were subject to compliance schedules. Waco states that based on EPA's letter dated 12/3/01, the Total Maximum Daily Loads (TMDLs) for the North Bosque did not include any allocation for discharges from RCSs and that no phosphorus load allocations were reserved for future CAFO expansions.

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[1] 68 FR 7176, 7200 (February 12, 2003).
[2] 66 FR 3067 (January 12, 2001).

**Response 2:**

TMDL modeling assumptions do not automatically or directly become permit requirements or conditions. The modeling estimated the overall amount of load reduction to be expected from a combination of management practices and control measures, which were subsequently incorporated into the revised CAFO permit rules. TMDL water quality goals were established on the basis of anticipated reductions to be measured in-stream.

The North Bosque TMDL is based on a percent reduction goal for CAFO sources, to be achieved through improved best management practices (BMPs) required by permits. This is consistent with EPA guidance and goals. The reduction goal does not change if the number of cattle increases; success of the TMDL is to be measured in-stream, not by counting the number of cows.

**Comment 3:**

Waco is concerned that issuance of the proposed permit would defy the assumptions made in the TMDL for phosphorus inputs into the North Bosque River. Waco asserts that the proposed permit undermines each of the following assumptions made in the North Bosque River TMDL:

A) 40,450 dairy cows in the watershed;
B) 50% of solid manure from 40,450 dairy cows would be removed from the watershed;
C) Phosphorus in the diet of permitted cows would be limited to 0.4%;
D) Waste application on existing fields would be limited so that phosphorus never exceeds 200 parts per million (ppm);
E) Waste application rates would be limited to the agronomic rates of the crop; and
F) Initial phosphorus on new fields would be 60 ppm and could not exceed that level.

**Response 3A – Cows in the Watershed:**

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. Permits that are issued must be consistent with the TMDL. While this permit application adds to the number of permitted cows on the facility, the Applicant must construct RCSs that 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 phosphorus levels in soil application areas.

An adaptive management approach is an appropriate means to manage phosphorus loading in the Bosque. The TMDL Implementation Plan (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 improved. The new CAFO rules incorporated more stringent management practices in the watershed in order to address phosphorus loading and regardless of the number of dairy cattle in the watershed, 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.[3] 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.

**Response 3B – 50% Removal of Solid Manure from the Watershed:**

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 BMPs designed to decrease loading, not by capping the number of head or acres of land. Neither the TCEQ rules nor the TMDL I-Plan requires a 50% haul-out of collectible manure. New or existing CAFOs who seek to add head in the watershed are given five options for dealing with 100% of the collectible manure. Those options are found in TWC § 26.503(b)(2) and those options are:

(A) Disposed of or used outside of the watershed;
(B) Delivered to a composting facility approved by the ED;
(C) Applied as directed by the commission to a waste application field owned or controlled by the owner of the CAFO if the field is not a historical waste application field;
(D) Put to another beneficial use approved by the ED; or
(E) Applied to a historical waste application field that is owned or operated by the owner or operator of the CAFO only if:
    (i) Results of representative composite soil sampling conducted at the waste application field and filed with the commission show that the waste application field contains 200 or fewer ppm of extractable phosphorus; or
    (ii) The manure is applied with commission approval, in accordance with a detailed nutrient utilization plan approved by the commission that is developed by:
        (a) An employee of the United States Department of Agriculture's Natural Resources Conservation Service;

[3] 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.)

(b) A nutrient management specialist certified by the United States Department of Agriculture's Natural Resources Conservation Service;
(c) The State Soil and Water Conversation Board;
(d) The Texas Agricultural Extension Service;
(e) An agronomist or soil scientist on the full-time staff of an accredited university located in the state; or
(f) A professional agronomist or soil scientist certified by the American Society of Agronomy.

The nutrient management plan (NMP) submitted with the application reflects the Applicant's present intent to route manure off-site. However, the other disposal methods allowed by TWC § 26.503(b)(2) remain available to the Applicant, subject to modification of their NMP.

**Response 3C – Phosphorus Limit in Diet to 0.4%:**

The TMDL I-Plan states that dairy operators will receive training related to diet control but does not mandate lower phosphorus content in feed. There is no TCEQ rule related to requiring reduced phosphorus content in feed rations. The nutrient content in the annual wastewater and manure samples should reflect the Applicant's efforts to lower phosphorus content in feed rations if the Applicant pursues this BMP in an effort to manage nutrients.

The Applicant is required to implement a comprehensive nutrient management plan (CNMP) and one aspect of that planning process is the consideration for reduced phosphorus in the feed. The Applicant may consider the nutritional needs of his herd in implementing a CNMP.

**Response 3D – Limiting Application so that Phosphorus Never Exceeds 200 ppm:**

TCEQ established rules to implement the TMDL I-Plan and the draft permit is consistent with those rules. Neither the rules nor the TMDL I-Plan cap phosphorus at 200 ppm on LMUs. The model used in development of the TMDL did not provide that soil test phosphorous levels on application fields remain at or below 200 ppm. Predicted soil concentrations after the 39 years of application that were simulated by the TMDL model were not specifically considered in discussions or in development of the TMDL. The draft permit requires implementation of a nutrient management plan. When LMUs test at over 200 ppm of phosphorus, the Applicant must also implement a nutrient utilization plan (NUP) specific to those LMUs that takes into consideration the phosphorus crop removal rate.

**Response 3E – Application Limited to the Phosphorus Needs of the Crop:**

The model used for the TMDL simulated application at the "phosphorus agronomic rate" recommended by U.S. Department of Agriculture and others. Recommended agronomic rates account for some soil storage of phosphorus and may not be identical to the crop phosphorus "need only" application rate. The NMP provided by the Applicant addresses application limitations based on the agronomic needs of the crop. If phosphorus levels rise beyond 200 ppm on LMUs, a NUP must be implemented that will require phosphorus application be based on

crop removal levels, rather than on the agronomic needs of the crop. This is consistent with the TCEQ CAFO rules.

**Response 3F – Phosphorus on New Fields Would Not Exceed 60 ppm:**

TCEQ established rules to implement the TMDL I-Plan and the draft permit is consistent with those rules. The model assumed that new waste application fields began at soil concentrations of 60 ppm for phosphorus as an estimate of typical conditions across the North Bosque watershed. The model did not limit application to the new waste application fields to keep soil phosphorus at or below 60 ppm, and was not able to do so because of model code limitations. Soil concentrations in the simulated new waste application fields would have been something different than 60 ppm after the 39 years of application simulated by the TMDL model, but that was not specifically considered during development of the TMDL. The TMDL is based on meeting in-stream water quality criteria, not soil concentrations. The permit is consistent with nutrient management requirements in the TCEQ CAFO rules.

**Comment 4:**

Waco comments that contrary to the TMDL, the draft permit works as a disincentive for a dairy CAFO to transport waste to a compost facility or out of the watershed. Waco notes that the basic goal of the TMDL strategy is to remove from the North Bosque watershed approximately 50% of the manure produced by the dairies. The expanded use of third party fields with little control of nutrient application encourages dairies to avoid exporting of waste.

**Response 4:**

The permit is consistent with the TCEQ rule requirements for allowing the Applicant to use third party fields. Composting is one of the options available to the Applicant for handling its waste. Sludge may be beneficially utilized by land application to third party fields in accordance with Section VII.A.8(e)(6). Alternatively, Section VII.A.5(a)(7) allows sludge to be disposed by the following method(s):

i. Delivery to a composting facility authorized by the ED;
ii. Delivery to a permitted landfill located outside of the major sole source impairment zone, subject to the requirements of commission rules relating to industrial solid waste;
iii. Beneficial use outside of the major sole source impairment zone;
iv. Put to another beneficial use approved by the executive director; or
v. Application of sludge to LMUs provided that the NMP is revised prior to applications.

The draft permit and TCEQ rules prohibit application on third fields when phosphorus levels reach 200 ppm. The draft permit also sets a tiered application rate based on soil test results consistent with the Natural Resources Conservation Service (NRCS) Practice Standard Code 590.

**Comment 5:**

Waco states that the ED has provided no technical justification that the measures recited in the draft permit will meet the water quality standards for phosphorus and actually attain the reductions in phosphorus loading set forth in the TMDL and TMDL-I Plan for the North Bosque River.

**Response 5:**

The ED disagrees with this comment. TCEQ rules and provisions in the draft permit contain control actions and management measures to address the goals of the TMDL. TCEQ has done and will continue to do instream monitoring, and the issuance of CAFO dairy permits in the Bosque under the new rules will provide for additional protection in order to meet the goals of the TMDL.

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

The TMDL I-Plan also included a recommendation that the CAFO rulemaking consider more stringent requirements for RCSs, in order to reduce overflows from RCSs. In response, the CAFO rules adopted in July, 2004 by the Commission included the following requirements consistent with the TMDL I-Plan to help manage the phosphorus load in the stream:

1. RCSs must be designed to contain the volume associated with a 25 year/10 day rainfall event;
2. A permanent marker, graduated in one foot increments from the maximum sludge accumulation volume to the top of the spillway must be installed;
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 must be developed;
4. Daily monitoring records of wastewater levels must be conducted;
5. Notification of TCEQ of discharges within one hour of discovery;
6. Discharge sample analyses must be submitted to the TCEQ; and
7. A report of discharges must be submitted to the TCEQ regional office, documenting that overflows from cumulative rainfall events were beyond the Applicant's control.

**Comment 6:**

Waco comments that federal effluent limitations for CAFOs were found to be deficient in the *Waterkeeper* case for failing to include the "best conventional pollutant control technology" (BCT) based effluent limitations specifically designed to reduce the discharge of pathogens, including fecal coliform bacteria.[4] These pathogens require TCEQ to use its best professional judgment on a case-by-case basis to set the required technology based limitations.

**Response 6:**

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 stream concentrations to obtain and 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 P-Index approach reduces allowable application of nutrients to levels that are appropriate for reducing and minimizing all pollutants that are constituents of animal wastes.

Additionally, 40 CFR § 122.43(k)(3) allows states to use BMPs to control or abate discharges "when numeric effluent limitations are infeasible." In the case of North Bosque dairies, they are only authorized to discharge in the event of a chronic rainfall event that exceeds the 25-year, 10-day storm event. If and when such an event occurs, the amount of rainfall involved and any resulting discharge will be highly variable both in volume and concentration of waste. Discharges from chronic rainfall events are not comparable to the continuous discharges from municipal wastewater treatment plants or industrial facilities

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[4] See *Waterkeeper Alliance, Inc. v. Environmental Protection Agency*, 399 F.3rd 486 (2nd Cir. 2005).

In the regulation of CAFOs, it is infeasible to develop and apply numeric limitations to infrequent, highly variable potential discharges that may occur at CAFOs. The *Waterkeeper* case found that the NMPs developed by applicants were the equivalent of effluent limitations.

**Comment 7:**

Waco comments that the Applicant, through its contracts regarding the use of third party fields will, in effect, control those fields. Thus, these third party fields should be considered land management units (LMUs) and the exact location and boundaries of these fields identified in the permit application. These fields should also be subject to all other LMU requirements, including land applying in accordance with an NMP and CNMP, etc.

**Response 7:**

TWC § 26.503 provides for disposal practices for dairy CAFOs, which include allowing manure to be put to other beneficial uses, such as land application on third party fields. 30 TAC § 321.42(j)(3) was specifically worded to reflect that "LMUs are not associated with third party fields."[5] The CAFO operator does not control the third party fields under contract with the CAFO. Application on third party fields is optional and represents "excess capacity to provide for more sound waste management by existing dairy CAFOs."[6] Even though an applicant does not control third party fields, the rules provide that an applicant is responsible for any non-compliance with the permit or TCEQ rules on such fields. Additionally, third party fields have a 200 ppm cap on phosphorus. Once a third party field contains phosphorus at 200 ppm or greater, land application must cease. Rates of application are set based on annual soil test levels as long as they are below 200 ppm.

**Comment 8:**

Waco states that the federal courts in the *Waterkeeper* case held that NMPs should be reviewed by the permitting authority, included in the permit, and made available to the public. Thus, Waco comments that TCEQ should apply the court's reasoning to these other types of required plans and must evaluate each prior to permitting and make them available to the public throughout the public comment period: CNMPs, NUPs, RCS management plans, and pollution prevention plans (PPPs). Waco states that TCEQ should suspend consideration of the permit application until the Applicant has submitted its current PPP, CNMP, and RCS management plan and those documents are reviewed and approved by the agency, incorporated into the permit, and made available to the public.

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[5] 29 TexReg 6652, 6658 (July 9, 2004).
[6] *Id.* at 6692.

**Response 8:**

*Waterkeeper* states that if the NMP is not included in permits the public is deprived of the right to assist in development, revision, and enforcement of an effluent limitation. EPA has established nine critical elements to be considered as part of the NMP. Included with the permit application is a table that lists the nine elements and the location of those elements in the file reviewed by the ED and made available to the public. The ED requires North Bosque dairies to submit their NMP with their permit applications and it was technically reviewed and available to the public.

A CNMP is not required by the CWA and is not addressed in the *Waterkeeper* case. TCEQ rules at 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. However, the rules do not require the CNMP to be submitted to TCEQ and the review is not part of the CAFO permitting process. Furthermore, the CNMPs are confidential under state law as part of the local soil and water conservation district's files, unless the Applicant chooses to make the information available to the public. However, most of the information contained in the CNMP is part of the permit technical information packet and available in that form to the public.

NUPs are NMPs that utilizes a crop removal application rate. However, NUPs are not required until annual testing indicates phosphorus in excess of 200 ppm. Based on the language in the statute and rule, the NUP is not considered part of the permit, but may be changed to address changing conditions. TWC § 26.504 requires testing every 12 months to determine whether phosphorus levels exceed 200 ppm. Reaching the 200 ppm level triggers the requirement to develop and implement an NUP. TWC § 26.504(c) states "the operator shall file with the commission a new or amended nutrient utilization plan with a phosphorus reduction component. . . . ." The statute does not require the NUP to be a part of the permit or permit application. 30 TAC § 321.40 tracks the statute, but also states that land application can begin under a NUP 30 days after the NUP is filed with the ED, unless the ED has returned the NUP for not meeting rule requirements. This requirement is also an indication that the NUP is not intended to be part of the permit.

This permit requires that the Applicant implement an RCS management plan and maintain a copy in the PPP as required by 30 TAC § 321.42(g). TCEQ rules do not require review of RCS management plans prior to issuing the permit. The RCS management 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 that the Applicant will maintain wastewater volumes within the design capacity of the structures. The Applicant 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. Until the actual expansion of the RCS system is completed and volumes certified, the RCS management plan cannot be completed and implemented.

The draft permit lists the requirements for what to include in the PPP. The Applicant is required to have documentation for all of the following as part of their PPP: Copy of the CNMP, NMP, NUP (if required), RCS liner certifications, the RCS operation and management plan; and the capacity of each RCS, as certified by a licensed Texas professional engineer. The draft permit specifically allows the Applicant to amend the PPP and lists specific instances when it must be amended, one being within 90 days of receiving written notification from the ED that the plan does not meet permit requirements.

The PPP is not part of the permit review process, but the information contained in the application, technical information packet, and the NMP make up the core content of the PPP. The other items contained in the PPP are not subject to TCEQ review except during site investigations.

**Comment 9:**

Waco questions computations in the permit application regarding the amount of phosphorus that will be produced by the Applicant. Waco computes that over ½ the phosphorus produced by the facility is ignored in the permit. Therefore, the draft permit fails to include plans for how all the phosphorus produced will be handled. Additionally, Waco comments that the calculations in the 12/11/06 NMP would allow the Applicant to land apply up to 3.3 times the phosphorus removal rate on its six LMUs.

**Response 9:**

It is projected that 999 cows will generate 389 lbs. of phosphorus 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 590 Standard does not require that all LMUs be limited to the phosphorus removal rate of application. If the soil test levels for phosphorus are low, the crop nitrogen recommendation or some multiple of the crop phosphorus recommendation is the allowable rate. Only when the soil test levels exceed 200 ppm is the crop phosphorus removal rate of application a requirement.

**Comment 10:**

Waco comments that the NMPs submitted by the Applicant do not calculate the maximum allowable solids application correctly because it is based on an incorrect phosphorus index calculation.

**Response 10:**

United States Department of Agriculture, Natural Resources Conservation Service, Agronomy Technical Note Number 15 *Phosphorus Assessment Tool for Texas* contains the following definition for *Organic Phosphorus ($P_2O_5$) Application Rate*:

> The P organic application rate is the nutrient amount, in pounds per acre (lbs/ac), of phosphorus as $P_2O_5$ from organic sources (manure, poultry litter, lagoon effluent, etc.) that is applied to the soil. The rate ranges from 0 application to greater than 150 lbs/ac $P_2O_5$.

This definition indicates that the phosphorus index should reflect the amount of phosphorus that is applied as opposed to the amount of phosphorus that could potentially be applied based on Maximum Planned Application Rates (MPAR). The rate of application used for the phosphorus index appropriately reflects the planned application. Therefore, the phosphorus index is correct.

**Comment 11:**

Waco asserts that the application rates for LMUs #2-#5 are not properly calculated in the NMP because the rates are based on established crops and the proposed crops have not yet been established.

**Response 11:**

The Applicant indicates coastal Bermuda will be planted in LMUs #1, #2, #3, and #6 and Tritcale in LMUs #4 and #5. Establishment of coastal Bermuda in Hamilton County occurs in a single year. The fertilization recommendations in the NRCS 590 spreadsheet do not have to be reduced for establishment of coastal. The ED does not have any information that indicates the establishment of coastal needs less fertilization than what is listed in the NRCS 590 spreadsheet.

**Comment 12:**

Waco asserts that the application rates for LMU #6 are not properly calculated in the NMP because the application rate exceeds the nitrogen crop requirement.

**Response 12:**

The ED agrees with this comment and for purposes of clarity and accuracy the Applicant was required to submit a revised NMP that re-calculates the application rates for LMU #6. The

revised NMP was submitted by the Applicant, reviewed by the ED and is available to the public in the Applicant's file at the Office of the Chief Clerk and at the Hamilton County Courthouse, 100 North Rice, Hamilton, Texas. The revised NMP properly provides for the nitrogen crop requirement.

**Comment 13:**

Waco comments that the NMP fails to include lab analysis solids from the settling basins and that the NMP should be revised.

**Response 13:**

TCEQ rules do not require analysis of settling basin solids. If settling basin solids are applied to LMUs or third party fields then the draft permit requires an annual sample analysis. Section X.D. of the draft permit states:

> Manure includes slurry from freestall barns, solids from open lots, settling basin solids, bedding, compost, feed, and other raw materials commingled with feces and/or urine. If slurry, compost or settling basin solids are being land applied an annual sample analysis must be provided along with analysis for other manure solids and wastewater.

**Comment 14:**

Waco comments that the water balance in the permit application used to calculate runoff amounts is not realistic and is flawed. Waco contends that the Applicant is converting 24-hour runoff curve numbers to 30-day run off curve numbers and that there is no justification for using 30-day runoff curve numbers in calculating runoff from 10-day events.

**Response 14:**

In 30 TAC § 321.38(e)(3), RCS designs are to be based on certain technical standards developed by NRCS or others. The 30-day runoff curve number was originally utilized by the NRCS as part of reservoir operation studies as described in Texas Engineering Technical Note No. 210-18-TX3, dated March, 1983. Since the early 1990s, the 30-day runoff curve number has been applied by NRCS engineers at the state and national levels to predict average monthly runoff for use in the design of animal waste retention structures. Currently, the 30-day runoff curve number is applied in software developed and used for that purpose by NRCS in Texas and across the nation. The application of the 30-day runoff curve number is an accepted engineering practice for predicting average monthly runoff from average monthly precipitation. The application of the concept to this permit for the purpose of predicting the average monthly runoff from the RCS drainage area and the average monthly runoff from the application fields in the water balance calculations is appropriate. Use of a 1-day curve number for runoff from the application fields could result in a smaller volume requirement for the RCS. The 30-day runoff curve number in the water balance calculations is an appropriate approach. The 25-year, 10-day

storm runoff used in the application was not calculated using the 30-day runoff curve number, but is based on a 1-day runoff curve number.

**Comment 15:**

Waco comments that the methodology for calculating agronomic rates is flawed because the NMP fails to account for the nutrients available to plants in the root zone to satisfy the crop requirement. Instead, application of the annual crop requirement is allowed regardless of the actual soil nutrient content until phosphorus reaches a concentration of 200 ppm.

**Response 15:**

The methodology used by the Applicant for the calculation of waste application for beneficial use follows the requirements of the NRCS 590 Standard as required by the CAFO rules in 30 TAC § 321.42(i). The NMP based on the NRCS 590 Standard does account for nutrients available to plants. The phosphorus index makes current soil test levels for phosphorus a component of that index value that affects the rate of application.

**Comment 16:**

Waco notes that Section VII.A.8. of the draft permit states the certified NMP dated July 21, 2006 will be implemented on issuance of the permit. Waco notes the permit file includes 13 additional or partial NMPs that were submitted to TCEQ and that is difficult to know which portions are being relied on. Waco requests the Applicant submit a complete and certified NMP with each page displaying the same date and the draft permit be updated to reflect the most recently certified NMP.

**Response 16:**

The ED agrees with the comment to the extent that a complete final NRCS 590 spreadsheet output should be included in the application that is signed by the generator of the NMP and include the signature/agreement of the producer. For the purposes of clarity and accuracy, the Applicant submitted a revised and complete certified NMP to address this issue. In response to the comment, Section VII.A.8.(a) was changed and now reads:

> Nutrient Management Plan (NMP) Required. The certified NMP dated July 24, 2007 shall be implemented upon issuance of this permit. The plan shall be updated as appropriate or at a minimum of annually according to NRCS guidance for Practice Standard 590. The operator shall make available to the executive director, upon request, a copy of the site specific NMP and documentation of the implementation.

**Comment 17:**

Waco questions the monitoring of sludge volume in the existing lagoons. Waco notes that the draft permit does not require the Applicant to measure the sludge volume in the lagoons until

three years after the permit is issued. Waco requests that sludge measurement in the lagoons be required when the permit is issued and annually, thereafter.

**Response 17:**

30 TAC § 321.39(c) 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 will help evaluate the accumulation rates prior to reaching the five year design volume. By starting in year three with the measurements, the operator has time to complete new construction and develop and implement an RCS management plan to appropriately manage the sludge volume in the ponds. Furthermore, daily pond marker readings should assist in determining excessive sludge accumulation in any RCS.

**Comment 18:**

Waco is concerned that the NMP is allowed to be based on a single annual sample of wastewater and manure. Waco is concerned that single samples are not representative for evaluating the characteristics of the wastewater and is likely to underestimate the concentrations of phosphorus. Waco recommends that samples of wastewater being land applied should be taken at least once during every irrigation event and should also be obtained from the irrigation pipeline apparatus at a sampling point located after the pump at the source lagoon.

**Response 18:**

The permit provisions for sampling and monitoring are consistent with 30 TAC § 321.36(e) and (g), and with the requirements of the NRCS Practice Standard Code 590. The draft permit requires annual sampling and the NMP must be updated to modify application amounts based on soil testing and wastewater/manure/slurry testing. Sampling and updating of the NMP after every irrigation event would not be practical and is not required under the current version of the CAFO rules.

**Comment 19:**

Waco comments that the permit fails to remove 50% of collectible manure from the watershed as recommended by the North Bosque TMDL. Waco notes that while removal is listed as one of the possible options, there is no indication that any of the manure transferred to other persons will be sent to composting or out of the watershed.

**Response 19:**

New or existing CAFOs who seek to add head in the North Bosque watershed are given five options for dealing with 100% of the collectible manure. Those options are found at TWC §

26.503(b)(2). *See* Response #3B for those options. The NMP submitted with the application reflects the Applicant's present intent to dispose of manure off-site. However, the other disposal methods allowed by TWC § 26.503(b)(2) remain available to the Applicant.

**Comment 20:**

Waco comments that Section VII.8(c)(2) of the draft permit allows land application on land exceeding 200 ppm of phosphorus as long as a NUP has been prepared and approved by TCEQ. Waco notes that even when the phosphorus concentrations exceed 500 ppm, application may continue as long as the NUP contains a phosphorus reduction component. Waco states that land application on fields that exceed 200 ppm of phosphorus should be prohibited in order to be consistent with the TMDL and if not prohibited, be subject to a NUP with a phosphorus reduction component. Waco notes that on page 16 of the North Bosque I-Plan it states that formal enforcement will result if CAFOs apply waste or wastewater to a waste allocation field that has been documented to have exceeded 200 ppm of phosphorus in zone 1 of the soil horizon.

**Response 20:**

The draft permit requirements are consistent with the rules relative to phosphorus reduction in waste application fields. The use of phosphorus based assessments requires action on fields exceed 200 ppm of phosphorus. 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 NUP requirement. The NUP must be approved by the ED prior to land application of any additional manure, sludge, or wastewater in an LMU. Application of manure, sludge, or wastewater to third party fields must stop if a field reaches a phosphorus level of 200 ppm or higher.

The table below illustrates numbers from the Applicant's NMP to compare the crop requirement for phosphorus versus the actual pounds applied. In LMUs #1, #2, #4, #5 and #6 the Applicant is planning to land apply effluent at significantly less amounts than the maximum allowable. LMU #3 will only receive solids.

Nutrient Application

| LMU # | Soil Test P (ppm) | Crop P2O5 Required (pounds/ac.) | Pounds Applied P2O5 (pounds/ac.) | Percentage of Maximum Allowable |
|---|---|---|---|---|
| 1 | 100 | 103 | 42 | 41 |
| 2 | 72 | 103 | 22 | 21 |
| 3 | 8 | 154 | 154 | 100 |
| 4 | 4 | 83 | 25 | 30 |
| 5 | 6 | 83 | 30 | 36 |
| 6 | 16 | 115 | 48 | 42 |

Page 16 of the TMDL I-Plan for the North Bosque does read as indicated by Waco. However, immediately following this statement the TMDL I-Plan 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 for land applying on fields where soils exceeded 200 ppm, unless applied according to an approved NUP.[7] This is consistent with TCEQ rules that require a NUP to land apply on LMUs that exceed 200 ppm of phosphorus and prohibit land application on third party fields that exceed that amount.

**Comment 21:**

Waco states that Section VII.A.8(e)(5)(i)(F) of the draft permit requires soil tests on third party fields after waste is applied. However, it does not require initial sampling prior to applying waste. Therefore, one-time application of wastes can occur on third party fields with no way to determine if the application rates are within the required limits.

**Response 21:**

The ED agrees that the permit language should be modified to make it clear that initial sampling is required on third-party fields. In response to the comment, Section VII.A.9.(b)(1) was modified and now reads:

> Initial Sampling. Before commencing manure sludge or wastewater application to LMUs or third-party fields the permittee shall have at least one representative soil sample from each of the LMUs or third-party fields collected and analyzed according to the following procedures.

**Comment 22:**

Waco states the meaning of the phrase "not exceed the nitrogen application rate" at paragraph VII.A.8(e)(4)(i)(C) of the draft permit is unclear. The term "nitrogen application rate" is not defined in the permit or in 30 TAC, Chapter 321. To impose the appropriate limitation and to make the permit consistent with the remainder of the permit, Waco recommends this phrase be replaced with "not to exceed the nitrogen crop removal rate."

**Response 22:**

The ED declines to make this change because 30 TAC § 321.42(i)(5)(A) requires that land application occur in accordance with the NRCS Practice Standard Code 590. This standard expresses the limit for nitrogen application adequately. Unless otherwise limited, the nitrogen application rate will be limited to the crop nitrogen requirement in the NRCS Practice Standard Code 590.

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

**Comment 23:**

Waco requests revision to the provisions applicable to third party fields at paragraphs VII.A.8(e)(5)(D) and (E) to ensure protections apply when the measured soil phosphorus levels equals values of 50, 51, 150, and 151 ppm. Waco comments that the ED should include language that makes it clear that requirements apply when a value is less than or equal to each of these values.

**Response 23:**

The ED partially agrees with the comment and modifies the following sections of the draft permit to better define the nitrogen application rate and clarify that the ranges include 50, 150, and 200 ppm. Part VII.A.8(e)(5)(i)(C) of the draft permit now reads:

> Land application rates shall not exceed the crop nitrogen requirement when soil phosphorus concentrations 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.

Part VII.A.8(e)(5)(i)(D) of the draft permit now reads:

> Land application rates shall not exceed two times the phosphorus crop removal rate, not to exceed the crop nitrogen requirement, when soil phosphorus concentrations 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.

Part VII.A.8(e)(5)(i)(E) of the draft permit now reads:

> Land application rates shall not exceed one times the phosphorus crop removal rate, not to exceed the crop nitrogen requirement, when soil phosphorus concentrations 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 or equal to 200 ppm phosphorus.

**Comment 24:**

Waco requests revision to the provisions applicable to third party fields at paragraphs VII.A.8(e)(5)(i)(D) and (E) to make it clear that the application rate cannot exceed the annual nitrogen crop removal rate where that value is more restrictive. Waco also requests that language be added to those sections to make it clear when the requirements of NRCS Code 590 are more strict than the requirements in VII.A.8(e)(5)(i)(C)-(E), then NRCS Code 590 should apply.

**Response 24:**

The ED declines to make this change because 30 TAC § 321.42(i)(5)(A) requires that land application occur consistent with the NRCS Practice Standard Code 590. This standard expresses the limit for nitrogen application adequately. Unless otherwise limited, the nitrogen application rate will be limited to the crop nitrogen requirement in the NRCS Practice Standard Code 590. Also, *see* Response #22.

**Comment 25:**

Waco comments that NUPs (when soil phosphorus exceeds 200 ppm) and NMPs should be required for each third party fields and submitted and reviewed during the permit application process.

**Response 25:**

The draft permit limits application on third party fields based on soil test phosphorus levels. A NUP would not be required for a third party field that reaches or exceeds 200 ppm or more of phosphorus because at that level land application must cease. The application limitations on third party fields are consistent with the NRCS Practice Standard Code 590. 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.

**Comment 26:**

Waco requests that Section VII.8(e)(5) of the draft permit be revised to include a requirement that records of crops and crop yields be submitted to TCEQ. Otherwise, the phosphorus crop removal rates cannot be calculated and compliance with the phosphorus application rate limitations cannot be determined.

**Response 26:**

Record keeping requirements at 30 TAC § 321.46(d)(8)(f) state the actual yield of each harvested crop must be recorded on a monthly basis. The information is available to the ED during field investigations and in the annual report submitted to the ED. Crop removal rates are based on yields when the NMP software is used.

**Comment 27:**

Waco comments that the NMP only addresses the first year of the permit term and states that the NMP should be prepared so that it shows the impact of all nutrient management issues over the five year term and whether the operation is sustainable.

**Response 27:**

30 TAC § 321.36(d)(2) states the operator shall create and maintain a site-specific NMP along with documentation of implementation. 30 TAC § 321.36(e) and (g), require annual sampling and the NMP must be updated to modify application amounts based on soil testing and wastewater/manure/slurry testing. Because the NMP is likely to change each year based on site specific sampling results an NMP for the term of the permit would not be relevant. The updated NMP is kept in the PPP and available during field investigations.

**Comment 28:**

Waco notes that Section X.F. of the draft permit requires the Applicant to install and maintain buffers according to NRCS standards. Waco notes that NRCS has practice standards for "filter strips," but not for "vegetative buffers." Therefore, TCEQ should include a definition for "vegetative buffers" in the permit or require that they meet the same standard as "filter strips" in NRCS Code 393.

**Response 28:**

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 and/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.

**Comment 29:**

Waco states that the requirement for "temporary filter strips" in Section X.F is ambiguous. For example, LMUs #4 and #5 have a requirement for 100 feet of vegetative buffer, 33 feet of filter strip, and an additional temporary filter strip of 150 feet. Waco comments that this seems to indicate a need for 100 feet of vegetative buffer and 183 feet of filter strip during the "temporary" period. However, this conflicts with the map in Attachment B of the permit and the footnote is unclear since two of the LMUs have different permanent filter strip requirements (the foot note simply reads "133 to 150 feet total." Waco comments that either the map or Section X.F be changed.

**Response 29:**

The following is an excerpt from an NRCS letter to the Applicant dated December 19, 2006.[8] It demonstrates that using the Revised Universal Soil Loss Equation version 2 (RUSLE 2) provides

[8] The Applicant provided this documentation as part of their plan to manage nutrients.

the equivalent protection of a temporary filter strip for cropland with the final filter strip on the LMUs when converted to permanent grass on the LMUs in question.

> For LMU 4, the sediment delivery once established in permanent grass, in the scenario allowed by the TCEQ rule, is 0.29 tons/acre/year according to RUSLE2, the NRCS approved soil erosion model. The sediment delivery if left in cropland, with contour buffer strips (assuming uniform slopes) and with the planned filter strips is 0.22 tons/acre/year. These 2 numbers are very similar. If left in cropland, simply extending the filter strip to a total of 150 feet reduced sediment delivery to exactly what is estimated for the permanent grassed scenario (0.29 tons/acre/year), which is acceptable by the rule. I feel that this is the best option.

For LMU #5, the same scenario exists. The sediment delivery for established permanent grass is 0.15 tons/acre/year. For cropland with contour buffer strips (assuming uniform slopes) and with the planned filter strips, the sediment delivery is 0.20 tons/acre/year. Allowing for cropland production to continue, but with extending the filter strip to a total of 150 feet, the sediment delivery is 0.16 tons/acre/year. The filter strip is an extension of the buffer in LMU #4 and should be left the same width for planting purposes.

**Comment 30:**

Waco comments that it is not clear where the measurement of the vegetative buffers and filter strips begin in relation to the stream bed. Waco states that the language should specify that measurement is from the banks of the stream, not the centerline and the Applicant should be required to mark the boundary between the application area and the buffer in order to allow adequate enforcement.

**Response 30:**

Filter strips,[9] vegetative buffers, and riparian forest buffers are, by definition, vegetated strip flow lengths. These vegetated strips can only exist as close as the normal water line or at the top of the bank.[10] The Applicant has to maintain the distance from where the vegetation can be established. Field marking of land application areas is not required by the regulations. An adequate compliance determination can be made without requiring marking of buffer widths.

**Comment 31:**

Dr. Lake Davis and Lonnie Davis commented that they were concerned about fly control at the dairy.

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[9] Filter strips are an area of herbaceous vegetation.
[10] Per Practice Standard Code 391.

**Response 31:**

The CAFO rules in 30 TAC, Chapter 321 are designed to require facilities to operate in such a manner as to prevent the creation of nuisance conditions. All waste, including manure, litter, bedding, feed waste and any water contaminated by waste must be collected, stored, treated, and used in compliance with BMPs for handling waste pursuant to their PPP. Fly control should be a component of those BMPs where appropriate. Also, if the Applicant creates a nuisance condition, 30 TAC § 321.43(j)(1)(B) states the operator must take the necessary action to identify and abate any nuisance condition that occurs as soon as practicable or as specified by the ED.

If concerned about potential nuisance conditions, the public may contact TCEQ's Dallas/Fort Worth Region Office at 817-588-5800, TCEQ's Stephenville Special Project Office at 1-800-687-7078, or the statewide toll-free number at 1-888-777-3186. Additionally, you may file a complaint on line at http://www.tnrcc.state.tx.us/complaints/index.cfm. TCEQ's regional staff investigates public complaints and the agency takes appropriate enforcement action if the investigator documents a violation. Finally, the draft permit does not limit the ability to use common law remedies for trespass, nuisance, or other causes of action in response to activities that may or actually do result in injury or adverse effects on human health or welfare, animal life, vegetation, or property, or that may or actually do interfere with the normal use and enjoyment of animal life, vegetation, or property.

The following changes were made to the draft permit in response to comments:

Section VII.A.8.(a) was changed and now reads:

> Nutrient Management Plan (NMP) Required. The certified NMP dated July 24, 2007 shall be implemented upon issuance of this permit. The plan shall be updated as appropriate or at a minimum of annually according to NRCS guidance for Practice Standard 590. The operator shall make available to the executive director, upon request, a copy of the site specific NMP and documentation of the implementation.

Section VII.A.8(e)(5)(i)(C) of the draft permit was changed to state:

> Land application rates shall not exceed the crop nitrogen requirement when soil phosphorus concentrations 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.

Section VII.A.8(e)(5)(i)(D) of the draft permit was changed to state:

> Land application rates shall not exceed two times the phosphorus crop removal rate, not to exceed the crop nitrogen requirement, when soil phosphorus concentrations 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.

Section VII.A.8(e)(5)(i)(E) of the draft permit was changed to state:

> Land application rates shall not exceed one times the phosphorus crop removal rate, not to exceed the crop nitrogen requirement, when soil phosphorus concentrations 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 or equal to 200 ppm phosphorus.

Section VII.A.9.(b)(1) was changed to:

> Initial Sampling. Before commencing manure sludge or wastewater application to LMUs or third-party fields the permittee shall have at least one representative soil sample from each of the LMUs or third-party fields collected and analyzed according to the following procedures.

Respectfully submitted,

Texas Commission on Environmental Quality

Glenn Shankle
Executive Director

Robert Martinez, Director
Environmental Law Division

By _____
Robert Brush
Environmental Law Division
State Bar No. 00788772
Representing the EXECUTIVE DIRECTOR of the
Texas Commission on Environmental Quality

## CERTIFICATE OF SERVICE

I certify that on August 9, 2007 the "Executive Director's Response to Public Comments" for Permit No.WQ0004108000 was filed with the Texas Commission on Environmental Quality's Office of Chief Clerk.

Robert D. Brush, Staff Attorney
Environmental Law Division
State Bar No. 00788772