

Kathleen Hartnett White, *Chairman*

Larry R. Soward, *Commissioner*

Glenn Shankle, *Executive Director*



## TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

*Protecting Texas by Reducing and Preventing Pollution*

September 25, 2006

TO: Persons on the attached mailing list.

RE: Rancho Del Lago, Inc.  
Permit No. WQ0014615001

### **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 Blanco County Courthouse, 101 East Pecan, Johnson City, Texas.

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

### **How To Request a Contested Case Hearing.**

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

The request must include the following:

- (1) Your name, address, daytime telephone number, and, if possible, a fax number.
- (2) If the request is made by a group or association, the request must identify:
  - (A) one person by name, address, daytime telephone number, and, if possible, the fax number, of the person who will be responsible for receiving all communications and documents for the group; and
  - (B) one or more members of the group that would otherwise have standing to request a hearing in their own right. The interests the group seeks to protect must relate to the organization's purpose. Neither the claim asserted nor the relief requested must require the participation of the individual members in the case.
- (3) The name of the applicant, the permit number and other numbers listed above so that your request may be processed properly.
- (4) A statement clearly expressing that you are requesting a contested case hearing. For example, the following statement would be sufficient: "I request a contested case hearing."

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

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

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

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

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

### **Deadline for Submitting Requests.**

A request for a contested case hearing or reconsideration of the executive director's decision must be 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

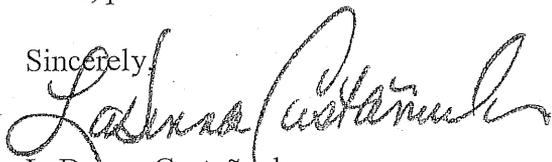
### **Processing of Requests.**

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

MAILING LIST

for

Rancho Del Lago, Inc.

Permit No. WQ0014615001

FOR THE APPLICANT:

J. R. Newman  
Rancho Del Lago, Inc.  
P.O. Box 2202  
Canyon Lake, Texas 78133

Michael Lucci, P.E.  
Hill Country Engineering  
7927 Vista Montan  
San Antonio, Texas 78256

PROTESTANTS/INTERESTED PERSONS:

Sarah Baker  
Save Our Springs Alliance  
P.O. Box 684881  
Austin, Texas 78768

FOR THE EXECUTIVE DIRECTOR:

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

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

FOR OFFICE OF PUBLIC ASSISTANCE:

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

FOR PUBLIC INTEREST COUNSEL:

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

FOR THE CHIEF CLERK:

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

TCEQ PROPOSED TCEQ PERMIT NO. WQ0014615001

APPLICATION BY  
RANCHO DEL LAGO, INC.  
PERMIT NO.  
WQ0014615001

§  
§  
§  
§  
§

BEFORE THE  
TEXAS COMMISSION ON  
ENVIRONMENTAL QUALITY

CHIEF CLERK'S OFFICE  
SEP 21 11:41:03

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

---

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

---

The Executive Director (ED) of the Texas Commission on Environmental Quality (the commission or TCEQ) files this Response to Public Comment (Response) on the Rancho Del Lago, Inc.'s (Applicant) application and ED's preliminary decision. As required by 30 Texas Administrative Code (TAC) Section (§) 55.156, before a permit is issued, the ED prepares a response to all timely, relevant and material, or significant comments. The Office of Chief Clerk timely received comment letter from the following person: Ms. Sarah M. Baker with Save Our Springs Alliance, on behalf of Ms. Shirley Beck and Mr. Ron Harris. Ms. Baker also included an engineer's (Mr. Venhuizen) assessment of the site in a letter dated March 2, 2006. 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](http://www.tceq.state.tx.us).

**BACKGROUND**

Description of Facility

The Applicant has applied to the TCEQ for a new permit that would authorize the discharge of treated domestic wastewater at a daily average flow not to exceed 100,000 gallons per day (gpd) in the interim I phase, 200,000 gpd in the interim two phase, and 400,000 gpd via surface irrigation of 100 acres of public access landscape and a golf course. The wastewater treatment facility will serve a residential subdivision.

The Rockin' J Ranch Subdivision wastewater treatment facility will consist of an activated sludge process plant using the complete mix mode in all phases. The interim I phase will include a bar screen, aeration basin, final clarifier, and chlorine contact chamber. The interim II phase will include an additional aeration basin, and the final phase will include two more additional aeration basins (for a total of four aeration basins) and an additional final clarifier as well. The facility will also include one storage pond with a total surface area of 13.5 acres and a total capacity of 137.2 acre-feet for storage of treated effluent prior to irrigation. The facility has not yet been constructed.

This permit will not authorize a discharge of pollutants into water in the state. The wastewater treatment facilities will be located approximately 3.9 miles southeast of the intersection of State Highway 281 and Farm-to-Market Road 32 in Blanco County, Texas. The disposal site will be located approximately 3.2 miles southeast of the intersection State Highway 281 and Farm-to-Market Road 32 in Blanco County, Texas. The facility and disposal site are located in the drainage basin of Upper Blanco River in Segment No. 1813 of the Guadalupe River Basin.

#### Procedural Background

The permit application for a new permit was received on April 18, 2005 and declared administratively complete on June 27, 2005. The Notice of Receipt and Intent to Obtain a Water Quality Permit (NORI) was published on July 27, 2005 in the *Blanco County News*. The Notice of Application and Preliminary Decision (NAPD) for a Water Quality Permit was published on February 1, 2006 in the *Blanco County News*. The public comment period ended on March 3, 2006. This application was administratively complete on or after September 1, 1999; therefore, this application is subject to the procedural requirements adopted pursuant to House Bill 801, 76th Legislature, 1999.

#### **COMMENTS AND RESPONSES**

##### **COMMENT 1:**

Ms. Baker states that the Applicant's adjacent landowner map conflicts with the recently filed plats with Blanco County, showing a different configuration of the proposed golf course abutting Ms. Beck's property on the eastern edge of Applicant's property line. Additionally, Ms. Baker is concerned that the recent plats include added lots and Living Unit Equivalents (LUEs) to the subdivision. Ms. Baker is concerned that the draft permit limitations will not accommodate the LUEs and could result in plant failure.

##### **RESPONSE 1:**

The application states that the subdivision is a master planned community and at completion will contain 1250 total lots. With an expected household wastewater generation rate of 300,000 gpd, the wastewater to be generated at buildout will be 375,000 gpd, which was rounded to 400,000 gpd for the proposed final phase. The expected wastewater generated from the proposed subdivision at full build-out is not permitted to exceed the proposed final phase flow. If additional LUEs are subsequently added which cause the actual flow to exceed the permitted daily average flow, the Applicant must seek a major amendment for the increase in flow and upgrade the wastewater treatment facility for expansion to accommodate the additional flow.<sup>1</sup> If the Applicant seeks to increase capacity and applies for a major amendment, the public will be notified and given an opportunity for review and comment.

##### **COMMENT 2:**

Ms. Baker states that there is confusion about the exact location for the proposed irrigation fields, treatment plant site, and holding ponds due to the Applicant's varied proposals in different jurisdictions. Ms. Baker questions whether the variations in locations for the irrigation fields warrant

<sup>1</sup> 30 TAC §305.126 (a)

new soil analyses, slope information, and vegetative analyses.

**RESPONSE 2:**

If the proposed irrigation fields, treatment plant, and holding ponds are in fact installed in a different location other than what was shown in the permit application, the Applicant may be subject to enforcement action by obtaining the permit through misrepresentation or failure to disclose fully all relevant facts.<sup>2</sup>

**COMMENT 3:**

Ms. Baker believes that the spring on Ms. Beck's property may be within 500 feet of the Applicant's proposed irrigation fields. Irrespective of whether hydrological conductivity exists between the fields and the spring, Ms. Baker is concerned that the increased nutrients could run off the irrigation fields and pollute the spring on Ms. Beck's property.

**RESPONSE 3:**

The draft permit, in Special Provision 20, requires that the Applicant maintain a minimum 500-foot buffer zone from the proposed effluent irrigation site to all springs as provided for in 30 TAC §309.13(c)(3). This requirement shall be a design criterion in the final engineering design of the proposed effluent irrigation system. The commission is prohibited from issuing, amending, or renewing a permit if a facility does not meet the buffer zone requirements of §309.13.

The permit prohibits discharges to water in the state, including both ground and surface water, and contains safeguards to minimize risks to nearby water sources. For one, land application may not take place during rainfall events or when the ground is frozen or saturated according to Special Provision No. 9, which minimizes the risk of effluent leaving the application area. Further, Special Provision No. 8 requires that irrigation practices be managed to prevent ponding of effluent or contamination of ground and surface waters. Cover crops in the irrigation area will also be managed to ensure nutrient uptake and prevent pathways for wastewater surfacing. Discharges to ground or surface water constitute a permit violation and are subject to TCEQ enforcement action.

**COMMENT 4:**

Ms. Baker is concerned that potential runoff or leaching from the Applicant's proposed irrigation activities may potentially harm wildlife on Ms. Beck's property which is maintained as a wildlife preserve, in particular a unique endangered salamander and a Golden-cheeked warbler.

**RESPONSE 4:**

The draft permit does not authorize the discharge of pollutants into water in the state. Conditions have been added to the draft permit to prevent the potential migration of treated effluent off the Applicant's irrigation land. Such conditions include a prohibition against irrigating on areas with a slope greater than twelve percent. In addition, the proposed application rates in the draft permit are below the hydraulic application rate calculated at the time a water balance was performed, to ensure

---

<sup>2</sup> 30 TAC 305.44(b) requires that all application signatories attest to the veracity of the application information and acknowledge that there are significant penalties for submittal of false information, including the possibility of fine and imprisonment for knowing violations.

proper uptake of treated effluent by the cover crop. As long as the Applicant operates within the permit conditions, offsite migration of treated effluent is not expected, as well as potential effects on adjacent properties.

The Applicant must additionally comply with all applicable state and federal regulations, including regulations concerning threatened or endangered species. The U.S. Fish and Wildlife Service or the Texas Parks and Wildlife Department have jurisdiction over and can provide assistance regarding the presence of threatened or endangered species or habitat. The U.S. Fish and Wildlife Service may be contacted by mail at 10711 Burnet Road, Suite 200, Austin, Texas 78758-4460 or by telephone at 512-490-0057. The Texas Parks and Wildlife Department may be contacted by mail at 4200 Smith School Road, Austin, Texas 78744 or by telephone at 1-800-792-1112. These agencies are included in the mailing list for this application.

**COMMENT 5:**

Ms. Baker states that according to the application, the treatment plant and holding pond abut Ms. Beck and Mr. Harris' properties. Ms. Baker is concerned that the proximity of the plant and pond to Ms. Beck and Mr. Harris' properties will subject them to nuisance odors, light and noise from the facility, and generally will limit their ability to enjoy the property.

**RESPONSE 5:**

The draft permit contains buffer zone requirements, as required by 30 TAC §309.13, and are designed to abate and control a nuisance of odor. The Applicant, as stated in the application, can meet the buffer zone requirements by owning and maintaining a 150-foot buffer zone between the treatment units to the nearest property line.

The TCEQ is not authorized to address the issues of noise pollution or visual effects that may be caused by the Applicant's activities. The permit limitations prohibit the creation of a nuisance odor condition that would interfere with the landowner's use and enjoyment of his property. If the Applicant's activities create a nuisance condition, the TCEQ may be contacted to investigate whether a permit violation has occurred. Potential permit violations may be reported to TCEQ Region 11 Office in Austin at (512)339-2929, or by calling the state-wide toll-free number at 1-888-777-3186. Citizen complaints may also be filed online at the following website: <http://www.tceq.state.tx.us/enforcement/complaints/index.html>.

**COMMENT 6:**

Ms. Baker is concerned that the practice of irrigating wastewater on a golf course may exponentially increase the pollution risks when the soils are over-watered. Ms. Baker is concerned that the irrigated wastewater will combine with landscaping fertilizers and pesticides on the golf course and risk polluting surface and groundwater. Ms. Baker suggests that the draft permit incorporate special provisions limiting or prohibiting additional nutrients being applied to the irrigation fields.

**RESPONSE 6:**

The draft permit addresses and places limitations on surface irrigation for the designated acreage. Neither commingling of effluent with landscaping chemicals or migration to surface or groundwater is expected or permitted according to the draft permit limitations. To prevent runoff, treated effluent

shall not be applied for irrigation when the ground is saturated or frozen, according to Special Provision No.9. Any discharges to ground or surface water constitute a permit violation and are subject to TCEQ enforcement action.

**COMMENT 7:**

Ms. Baker states that the calculations of wastewater irrigation evaporation and nutrient loadings appear to assume uniform application when in reality distribution is uneven, as is uptake of water and nutrients. The permit application fails to consider the possibility of uneven uptake due to design limitations of spray irrigation, clogging, slope, sunlight, depth and makeup of soil, temperature as well as other factors.

**RESPONSE 7:**

The proposed application rate shall not exceed 4.48 acre-feet per year per acre of effluent irrigated in the final phase. The application rate is set below the actual water consumptive needs and nitrogen requirements of the cover crop. The irrigation area consists predominantly of grass and is expected to have relatively uniform uptake. Operating within the permit conditions, the irrigation of treated effluent is not expected to result in ponding or runoff due to the consumptive rate of the cover crop. The spray irrigation system must also be designed to provide a uniform water distribution.<sup>3</sup> Due to the requirements for the spray irrigation system, consumptive rate of the cover crop, and application rate, the uptake of treated effluent is expected to be relatively uniform and not result in ponding or runoff of effluent.

**COMMENT 8:**

Ms. Baker is concerned that improper use of maintenance machinery onsite could lead to broken sprinkler heads and irrigation lines, causing oversaturation of soils and untreated runoff. Ms. Baker recommends that the draft permit incorporate restrictions on the weight and type of maintenance machinery and that golf course and sewer plant personnel be trained so as to avoid damaging the irrigation system.

**RESPONSE 8:**

Maintenance of the irrigation fields as well as personnel training will be incorporated in a crop management plan, which the Applicant must submit no later than 90 days after permit issuance. Special Provision No. 22 of the draft permit will take into consideration best management practices for irrigation. Upon issuance of the draft permit and approval of the crop management plan by the TCEQ, the maintenance and management practices of the irrigation fields will constitute an enforceable term of the permit.

**COMMENT 9:**

Ms. Baker states that the proposed irrigation system does not provide adequate monitoring for soil saturation, runoff, and leaching of contaminants into the soil. Ms. Baker asks that lysimeters are added to the irrigation zone and monitored frequently. Ms. Baker further states that the lysimeters should be monitored according to the ratio of wastewater volume entering the treatment plant and area being irrigated at that time. Ms. Baker further states that soil moisture content monitors should

---

<sup>3</sup> 30 TAC §309.20(b)(5)(B)(i)

also be added to the irrigation zone and tied into the plant monitoring system to automatically prevent irrigation when the soil is saturated.

**RESPONSE 9:**

The TCEQ regulations do not require that applicants for a water quality permit utilize lysimeters for soil moisture monitoring. Soil monitoring provisions are included in the draft permit, Special Condition No. 14 for soil samples from root zones of irrigation area, to be taken from December to March and for results to be submitted annually to the TCEQ. The soil analyses measure a variety of parameters to ensure that treated effluent is being taken up and utilized by the crop cover. Provisions also exist in the draft permit to prevent pooling of treated effluent or runoff. The Applicant is additionally required to submit a separate engineering report with water balance and storage volume calculations, method of application, irrigation, efficiency, and nitrogen balance.

The Applicant has proposed to develop the golf course according to U.S. Golf Association (USGA) building criteria, which contain separate criteria for soil moisture monitoring and analysis of plant health.

**COMMENT 10:**

Ms. Baker states that the draft permit does not indicate whether there are automatic controls or alarms for high water levels in the effluent storage tank or pump disablement. Ms. Baker states that the draft permit should be modified to incorporate alarms and automatic notification for these conditions.

**RESPONSE 10:**

The draft permit has provisions for storage of effluent, in particular for a storage pond with a clay lining and a capacity of 137.2 acre-feet. The storage pond is required to have a membrane lining with a minimum thickness of 30 mils, including an underdrain leak detection system. The storage pond must also be certified by a professional engineer prior to utilization.

Specifications for high and low water level alarms, along with other system instrumentation, are considered in the detailed engineering design stage. The Applicant indicates, though, that the irrigation system will be designed to disable the pumps should a low-pressure condition occur. Further, the Applicant states that high water alarms and pump disablement features will be incorporated throughout the treatment facility units.

**COMMENT 11:**

Ms. Baker states that according to the draft permit, the Applicant must contract for sludge disposal at another location not owned by the Applicant. Truck transportation of sludge from the facility to the disposal location will negatively impact neighboring landowners and risks their health and safety. Increased truck traffic during construction of the facility will negatively impact Ms. Beck, Mr. Harris, and other neighboring landowners.

**RESPONSE 11:**

The TCEQ does not have jurisdiction over traffic issues in the wastewater permitting process. If problems occur on county roads, the county is responsible for taking action. If problems occur on

the Applicant's site, then the Applicant must control the dust, per the general Air Quality rules in 30 TAC §101. Noise from the vehicular traffic is covered by state and local ordinances. In the event that adjacent landowners are adversely affected by the Applicant's transportation of sludge, the draft permit does not limit the ability of nearby landowners 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 effect on human health or welfare, animal life, vegetation, or property.

**COMMENT 12:**

Ms. Baker states that the Kentucky Branch Creek flows directly through the Applicant's proposed irrigation areas. Ms. Baker is concerned that there exists inadequate space, soil, vegetation, and other natural features between the proposed irrigation site and the creek to allow for proper attenuation of effluent from pollution.

**RESPONSE 12:**

Buffer zones exist in the draft permit to protect sensitive features from being potentially affected by the application of treated effluent. For example, Special Provision No. 18 of the draft permit requires a minimum 50-foot buffer where application of effluent is prohibited on either side of all creeks, streams, or tributaries of Kentucky Branch Creek. In addition, Special Provision No. 20 requires a 500-foot buffer zone from the effluent irrigation site to all springs, as provided in 30 TAC §309.13(c)(3). The draft permit does not allow discharges into water in the state; discharges to ground or surface water occur constitute a permit violation and are subject to TCEQ enforcement action.

**COMMENT 13:**

Ms. Baker states that the Blanco County filings indicate that as presented, the sewage treatment plant, and irrigation fields may not be constructed in the location described by the Applicant and in accordance with the permit; consequently, Ms. Baker suggests that the draft permit should not be issued until the exact and final location for all wastewater facilities are determined.

**RESPONSE 13:**

The TCEQ regulations do not prevent the processing and issuance of a permit until exact and final locations for all wastewater facilities are determined. The required contents of a permit application, as stated in 30 TAC §305.45, include a "topographic map, ownership map, county highway map, or a map prepared by a registered professional engineer or a registered surveyor which shows the facility and each of its intake and discharge structures and any other structure or location regarding the regulated facility and associated activities." Additionally, the regulations require that the map depict the approximate boundaries of the Applicant's land to be used and sufficiently display each water in the state, roads, nature of land (developed or undeveloped), location of waste disposal activities not in the application, ownership of adjacent tracts, to name a few. The Applicant may designate the final location of wastewater facilities prior to permit issuance; however, if the locations change after permit issuance the Applicant must notify the TCEQ and amend the application.

**COMMENT 14:**

Mr. Venhuizen does not see a demonstration that the Applicant possesses either the technical or management expertise to execute the activities necessary to meet the permit requirements.

**RESPONSE 14:**

TCEQ rules do not require a prior demonstration of expertise to execute the activities necessary to meet the water quality permit; however, TCEQ does require that the plant is designed by a professional engineer and the Applicant must use a certified operator to operate the plant. By applying and signing the draft permit, upon issuance the Applicant becomes responsible for abiding by the permit limitations and certifying that the appropriately authorized individuals have designed and are operating the plant. Failure to abide by the permit requirements constitutes an enforceable violation.

**COMMENT 15:**

Mr. Venhuizen states his concern that the Applicant has not demonstrated a revenue stream and/or dedicated funds to assure fiscal capability to carry out the permit requirements.

**RESPONSE 15:**

The TCEQ regulations do not require a demonstration of fiscal responsibility by water quality permit applicants. An application fee is required for all permits and once paid and granted, the permit shall be issued for a period of three to five years. After permit issuance, the Applicant is responsible for adequately maintaining the facility and remaining in compliance with the permit conditions and regulations. Failure to do so, including financial irresponsibility, exposes the Applicant to potential enforcement action and constitutes cause for termination or suspension of the permit.

**COMMENT 16:**

Mr. Venhuizen believes that the Applicant's demonstration in the draft permit does not show how the soils used will be sufficient for the purpose of irrigation of treated effluent.

**RESPONSE 16:**

Information about the irrigation site soils were taken from the Natural Resources Conservation Service (NRCS), which identifies the types of soils in Blanco County and also identifies limitations of the soils for water uptake. Soil analyses identified as Eckrant 11A, 11B, and 11C; Krum 24A, 24B, and 24C; and Purves 38A, 38B, and 38C represent soil the soil sampling depths 0-6, 6-18 and 18-30. The data provided by NRCS indicate that the subject soils have a saturated permeability rate greater than the proposed application rate of treated effluent, meaning that that even during saturated conditions the soil will be able to handle the application rate of effluent application. Additionally, the data indicate that the top inches of subject soils can accommodate the proposed volume of treated effluent to be applied. The soil's ability to hold water and the saturated permeability rate indicate that even at the proposed maximum application rate, the irrigation of treated effluent should not result in ponding or runoff.

**COMMENT 17:**

Mr. David Venhuizen would like the Applicant to demonstrate adequate dispersal area presuming that the area remains unimproved, or alternatively to present a plan for improving the soils in the area. He also states that simply overseeding areas is quite unlikely to result in a uniform stand of Bermuda grass, especially since the soil depths are very shallow.

**RESPONSE 17:**

The adequacy of rooting depth is addressed in Response No. 27. Uniformity of the species of grass stand is not a regulatory requirement, yet if the cover crop is overseeded with Bermuda grass uniformity of grass stand is expected due to the nature of Bermuda grass growth. Additionally, conditions exist in the draft permit to ensure uptake of treated effluent and include monitoring requirements to assess whether treated effluent is being taken up by the crop cover. Special Provision No. 22 in the draft permit requires that the Applicant submit a crop management plan for review and approval prior to irrigation with treated wastewater, which would specify the type of crop cover and pounds of seed to cover the irrigation area. The TCEQ staff will look at the proposed cover crop and pounds of seed to determine whether the irrigation area will be adequately covered to help ensure uptake of treated effluent.

**COMMENT 18:**

Mr. Venhuizen states that there is no apparent nitrogen reduction capability in the proposed treatment process. The level of total nitrogen typically observed in domestic wastewater is 40 - 60 milligrams per liter (mg/l) with levels tending toward the top end for Texas. Mr. Venhuizen takes issue with the effluent nitrogen concentration stated at 10 mg/l rather than at least 40 mg/l for the proposed treatment process. Mr. Venhuizen further suggests that if the Applicant wishes to claim that the treatment system would indeed produce an effluent that has a significantly lower concentration than 40 mg/l of total nitrogen, then the TCEQ should include total nitrogen in the effluent set, at the concentration claimed in the land application analysis.

**RESPONSE 18:**

Based on its treatment plant manufacturer's estimate and Metcalf & Eddy (1991), the influent will have a total nitrogen concentration of 40 mg/l. A 25% reduction in total nitrogen can be achieved, according to Metcalf & Eddy (1991) Table 11-3. The Water Environment Federation Manual of Practice 8 (1998) provides an explanation for nitrogen removal in the activated sludge process. Before application, the application materials indicate an effluent total nitrogen concentration estimated at 30 mg/l, instead of the previously stated 10 mg/l. Assuming the nitrogen concentration is at 30 mg/L for the effluent, this would be well within the agronomic nutrient needs of the cover crop; for this reason, a total nitrogen in the effluent set is not warranted.

**COMMENT 19:**

Mr. Venhuizen claims that if the application is indeed uniform throughout the year, the majority of the effluent applied in the winter months would leach through the soil, or pond and runoff, violating the permit limits.

**RESPONSE 19:**

The water balance should be viewed as a tool from which information such as the effluent needed by the root zone for a particular month given the system efficiency can be obtained for irrigation management. The water balance should also be used in conjunction with the storage calculations in managing effluent application. If the effluent supplied is greater than the effluent needed by the root zone, part of the effluent supplied should be directed to storage to be drawn later to supply a deficit. Consequently, providing an effluent storage is part of the requirements of draft permit condition. Also, application of treated effluent may not be applied when the ground is frozen or saturated,

according to Special Provision No. 9.

**COMMENT 20:**

Mr. Venhuizen claims that the Soil Analysis Report provided by the Extension Service provided a recommended application of 20, 25, 30 pounds per acre (lb/acre) of nitrogen for a crop of bluestem (grazing or hay). Mr. Venhuizen states that the Applicant has not indicated that they are prepared to grow the crop. Mr. Venhuizen also noted that the area depicted could not be cultivated without improvement, yet the land application analysis presumes that an application rate of 40 lb/acre of nitrogen would be applied, which is purported to be supported if the crop were "turf fairways, athletic fields, etc."

**RESPONSE 20:**

The application contains soil analyses and states that the irrigation area will be improved to a recreational land use as a golf course. The crop management plan will be submitted by the Applicant no later than 90 days after permit issuance and must include the type of cover crop to be utilized on the irrigation fields. There has not been an indication that bluestem crop will be utilized for the irrigation areas; the Soil Analysis Report states recommended applications for various types of cover crop regardless of whether it is utilized for the particular irrigation area.

**COMMENT 21:**

Mr. Venhuizen suggests that the Applicant should be required to provide a nitrogen analysis, which represents a more realistic situation. The nitrogen analysis would presume nitrogen uptake of the existing plant cover or the plant cover for which an explicit plan to install is offered, a presumption of at least 40 mg/l total nitrogen concentration in the system effluent, and monthly application rates that match the presumption in the monthly water balance calculations.

**RESPONSE 21:**

30 TAC §309.20(b)(3)(C) requires that the annual liquid loading not exceed that which would introduce more nitrogen than is annually required by the crop plus 20% volatilization. In a letter dated April 7, 2006, the Applicant provided an expected monthly application rate, using an effluent total nitrogen of 30 mg/l, as a function of the average monthly effluent application rates listed in Column 10 of Table 1, Monthly Water Balance, of the permit application. Using the formula provided in the regulations, the application rate, makeup of subject soil, and consumptive rate of the cover crop, the TCEQ staff has found that the 30 mg/L concentration of nitrogen in the treated effluent will be adequately taken up by the cover crop.

**COMMENT 22:**

Mr. Venhuizen states that there is major spring within several hundred feet of the dispersal area boundary and would like assurance from the Applicant that nitrogen would not leach at rates above the background level of total nitrogen presently in the spring flow and/or that the water leached from the dispersal area would not feed into the spring.

**RESPONSE 22:**

Special Provision No. 20 in the draft permit requires that the Applicant maintain a minimum of 500-foot buffer zone from the effluent application site to all springs in accordance with 30 TAC

§309.13(c)(3). Also, the proposed effluent application rate is less than the vertical rate water moves through the soils under saturated conditions. The application rate is low enough that it affords sufficient retention time for the proposed vegetated irrigation area to evapotranspire the applied treated effluent. Vertical movement of nitrogen in the soil can only move as fast as the application rate of the added effluent. Since the application rate is less than the vertical movement of water in the soil under saturated conditions and the results of the water balance for this proposed site indicate that the added effluent will be evapotranspired, movement of nitrogen is not expected beyond the root zone.

**COMMENT 23:**

Mr. Venhuizen claims that the monthly water balance does not account for the contribution of rainfall to the storage reservoir in Table 1.

**RESPONSE 23:**

TCEQ staff performs the water balance and storage calculations using net evaporation (evaporation minus rainfall), instead of gross evaporation values. The resulting hydraulic application rate is greater than the proposed effluent application rate, while the proposed storage is almost twice the calculated storage requirement. Therefore, the monthly water balance does account for rainfall to the storage reservoir.

**COMMENT 24:**

Mr. Venhuizen notes that the proposed dispersal area may not be completely available. Mr. Venhuizen asks how much of the actual area will be available for dispersal since the main stem of Kentucky Branch of the Blanco River flows through the area in question.

**RESPONSE 24:**

The total available area outside of the natural flow paths, excluding a 50-foot buffer on either side of the Kentucky Branch and its tributaries and slopes greater than twelve percent, has been calculated to be approximately 114.65 acres. The total available area is greater than the required 100 acres in the draft permit.

**COMMENT 25:**

Mr. Venhuizen notes that areas with slopes in excess of twelve percent may not be used as dispersal area and that there appears to be areas with slopes greater than twelve percent within the area specified by the Applicant as the dispersal area.

**RESPONSE 25:**

Special Provisions 21 and 22 prohibit irrigation with treated wastewater on areas with slopes greater than twelve percent. The NRCS require slopes in irrigation areas of no greater than fifteen percent; therefore, the proposed slope of no greater than twelve percent is a conservative requirement for slope. The application materials contain a topographic map from which slopes of the irrigation area were ascertained. If the irrigation areas were to exceed the permitted twelve percent slope in some areas, it remains below the NRCS' recommended fifteen percent.

**COMMENT 26:**

Mr. Venhuizen inquires about the specific hardware that would be used to execute the irrigation process, specifically how the hardware will be designed and controlled to provide uniform coverage over the dispersal area at the proper application rates. Mr. Venhuizen also inquires how the application rates would be determined so that runoff and pooling would be prevented.

**RESPONSE 26:**

At the engineering design stage, more detailed information about the hardware will be available; a detailed engineering plan must be submitted after permit issuance but before construction of the facility. In designing the treatment and irrigation facilities, the Applicant will adhere to the permit conditions, such as the effluent application rate, effluent limitations, buffer zone provisions, and irrigation practices.

**COMMENT 27:**

Mr. Venhuizen notes that the only factor considered was saturated hydraulic conductivity of the soils, which presumes the presence of a significant depth of soil and the Applicant has not demonstrated a significant depth of soil. Mr. Venhuizen also states that TCEQ presumes the annual average application rate in their calculations; however, as effluent would be stored during winter months and application volume would increase in summer, the application rate would have to increase and/or the application time would have to increase accordingly. Mr. Venhuizen states that the Applicant has not demonstrated sufficiently that application of treated effluent will not cause runoff or pooling of effluent.

**RESPONSE 27:**

The proposed application rate of treated effluent is less than the saturated conductivity rate of the soil. The presence of adequate soil depth has been identified by NRCS data and provided by site-specific soil samples by the Applicant as described in Response 16. The parameters provided in the application and NRCS data assume that if the Applicant operates within the permit limitations, that ponding or runoff of treated effluent will not occur. The application rate was based on the daily average flow rate proposed by the Applicant of 400,000 gallons per day. A total annual volume was calculated to determine the height of the water column.

Further, Special Provision 8 of the draft permit requires that irrigation practices shall be designed and managed so as to prevent ponding of effluent or contamination of ground and surface waters and to prevent the occurrence of nuisance conditions in the area. The Applicant's signature constitutes acknowledgment and agreement of compliance with all the terms and conditions embodied in the permit and the rules and other orders of the Commission. Failure to comply with the permit conditions constitutes an enforceable violation.

**COMMENT 28:**

Mr. Venhuizen wants confirmation of the following statement: "The water balance prepared by TCEQ staff confirms that an effluent application rate of 4.48 acre-feet per year per acre irrigated is possible at the proposed site and the storage calculations confirm that 110 days of storage is adequate for the proposed facility."

**RESPONSE 28:**

The TCEQ staff water balance and storage calculations are on file. The permit application file may be viewed at the TCEQ Office of the Chief Clerk, Bldg. F, 12100 Park 35 Circle, Austin, Texas 78753. A review of the water balance and storage calculations shows how the data above were derived.

**COMMENT 29:**

Mr. Venhuizen would like to know how the sludge management process would be managed so as to preclude the odor problem, pointing out that the contents of the sludge digester would be "disturbed" fifteen times during each removal event.

**RESPONSE 29:**

One of the alternatives to abate and control an odor nuisance is by providing a 150-foot buffer zone between the proposed wastewater treatment plant units and the property line. In addition, at the operational level, the Applicant shall comply with the draft permit's provision "to minimize or prevent any discharge or sludge use or disposal or other permit violation which has a reasonable likelihood of adversely affecting human health or the environment." The Applicant will observe this guideline in sludge management at the plant and shall prepare a sludge management implementation plan at detailed engineering design stage. The Applicant proposes aerobic sludge digestion, which consists of continuously aerating the sludge without the addition of new food other than the sludge itself. The provision of oxygen, through aeration, stabilizes the sludge and addresses odor problem as well. Further, the digested sludge draw off would be at the bottom of the digester and the sludge would then be transferred using a hose to a truck for hauling so that the potential for odor during transfer is eliminated.

**COMMENT 30:**

Mr. Venhuizen asks about the design features of the system that may minimize collection main leak, manhole overflow, and lift station failure. Mr. Venhuizen also asks about the level of management that would be applied to address these "vulnerabilities" and the implication to the overall ability of the system to perform "as advertised."

**RESPONSE 30:**

As indicated in Response 26, these analyses should be conducted at the detailed engineering design stage. The draft permit requires that prior to the construction of the interim I, interim II and final phase treatment facilities, the Applicant shall submit to the TCEQ a summary transmittal letter in accordance with the requirement in 30 TAC §317.1. This transmittal letter includes a certification by the design engineer that the plans and specifications are in compliance with all requirements of 30 TAC Chapter 317, Design Criteria for Sewerage Systems, and shall bear the signed and dated seal of the registered professional engineer responsible for the design. The design engineer is held to the Professional Conduct and Ethics to protect the health, safety, property and welfare of the public in the practice of the profession. In addition, 30 TAC Chapter 317 requires the testing of installed sewer pipe for leak and deflection and a separate testing for manholes for leakage. In the case of lift station, 30 TAC Chapter 317 requires that the pumping capacity will be such that the peak flow can be pumped to the desired destination with the largest pumping unit out of service.

**COMMENT 31:**

Mr. Venhuizen notes that the application clearly defines the function of the dispersal system to "disposal," implying that the point of the management system is to control a nuisance rather than to manage a resource. He also claims that while it is purported that the dispersal area would eventually be a golf course, the irrigation of which could be a beneficial reuse, there is no indication that this would eventually happen.

**RESPONSE 31:**

Although portions of the permit application that pertain to the utilization of the effluent are entitled "Land Disposal of Effluent" (Worksheets 3.0 and 3.1), to be consistent with the title of 30 TAC Subchapter C: Land Disposal of Sewage Effluent, the intent is not to dispose of "nuisance," but to "utilize effluent to supply the growth needs of the cover crop" (30 TAC §309.20(b)), which is clearly beneficial use of the effluent. Hence, the permit requires the submission for evaluation of a set of water balance and storage calculations, annual cropping plan, soil map and soil analysis, among others. It is the TCEQ staff's understanding that the front nine holes of the golf course are currently under construction.

**COMMENT 32:**

Mr. Venhuizen questions the ability of the proposed treatment process to operate so as to consistently and reliably produce any given level of effluent in the face of diurnal flow variations and during period when considerably less than full design flow is being received. Mr. Venhuizen states that there is no operating theory for activated sludge that does not assume steady state flow and concludes that since the system would not receive steady state flow, there is no theoretical basis for expecting any specific level of performance.

**RESPONSE 32:**

Because of the uncertainty mentioned, i.e., flow variation, the design is not based on an absolute flow rate value, but on a statistical average, including a maximum value. Operating at less than full design flow shifts the mode of operation of the activated sludge process, as for example from conventional to extended aeration.

The proposed treatment process, the complete mix activated sludge, is not a new process. The existence of variations in contributory flows has long been recognized and operational strategies have been developed. This process traces its growth in the 1970s and 1980s (Metcalf & Eddy, 2003). There exist several operating complete mix activated sludge plants in Texas that meet their effluent limits.

**COMMENT 33:**

Mr. Venhuizen claims that the Applicant does not have a Certificate of Convenience and Necessity (CCN) for the area to be served by the proposed system. He states that the application for a sewer CCN is contested, so that unless the CCN is granted, the wastewater permit application is "moot."

**RESPONSE 33:**

The sole protestant to the CCN application, Ms. Shirley Beck, has formally withdrawn her protest. The Applicant must have both the CCN and the wastewater permit before commencement of operation, irrespective of order of issuance.

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

No changes to the draft permit have been made in response to public comment.

Respectfully submitted,

Texas Commission on Environmental Quality

Glenn Shankle  
Executive Director

Stephanie Bergeron Perdue, Deputy Director  
Office of Legal Services

Robert Martinez, Director  
Environmental Law Division



Pinar Dogru, Staff Attorney  
Environmental Law Division  
State Bar No. 24040819  
P.O. Box 13087, MC 173  
Austin, Texas 78711-3087  
(512) 239-0144

REPRESENTING THE  
EXECUTIVE DIRECTOR OF THE  
TEXAS COMMISSION ON  
ENVIRONMENTAL QUALITY

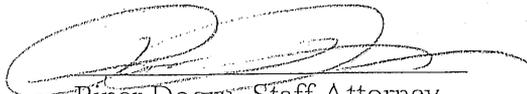
CHIEF CLERK'S OFFICE

2006 SEP 21 PM 4:04

TEXAS  
COMMISSION  
ON ENVIRONMENTAL  
QUALITY

**CERTIFICATE OF SERVICE**

I certify that on September 21, 2006, the "Executive Director's Response to Public Comment" for Permit No. WQ0014615001 was filed with the Texas Commission on Environmental Quality's Office of the Chief Clerk.



Pinar Dogru, Staff Attorney  
Environmental Law Division  
State Bar No. 24040819

1000 S. EAST ASIAN BLDG. CHICAGO, ILL. 60607

Acquisition Department

Attention: Director of Acquisitions

Chicago, Illinois

Dear Sir:

I am pleased to inform you that your order for the following books has been received and is being processed:

- 1. [Title]
- 2. [Title]
- 3. [Title]
- 4. [Title]
- 5. [Title]
- 6. [Title]
- 7. [Title]
- 8. [Title]
- 9. [Title]
- 10. [Title]

The books are being shipped to you by air mail and should reach you within a few days.

Very truly yours,

Director of Acquisitions

Enclosed for you are the bills of lading and the invoice for the books ordered.