

Buddy Garcia, *Chairman*  
Larry R. Soward, *Commissioner*  
Bryan W. Shaw, Ph.D., *Commissioner*  
Mark R. Vickery, P.G., *Executive Director*



## TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

*Protecting Texas by Reducing and Preventing Pollution*

April 13, 2009

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

CHIEF CLERKS OFFICE

2009 APR 13 PM 4:26

TEXAS  
COMMISSION  
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QUALITY

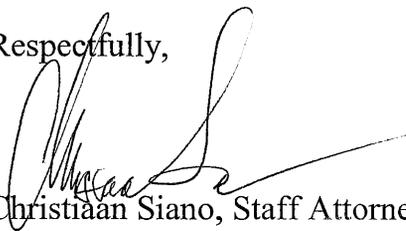
Re: Executive Director's Response to Hearing Request on the Application by Forestar  
(USA) Real Estate Croup, Inc. for Permit No. WQ0014824001;  
TCEQ Docket No. **2008-1936-MWD**

Dear Ms. Castañuela:

Please find enclosed the Executive Director's Response to Hearing Requests.

If you have further questions, feel free to contact me at (512) 239-6743.

Respectfully,

  
Christian Siano, Staff Attorney  
Environmental Law Division

cc: Mailing List

**TCEQ Docket No. 2008-1936-MWD**

2009 APR 13 PM 4:26

APPLICATION BY § Before the  
**FORESTAR (USA) REAL ESTATE, GROUP,** § **TEXAS COMMISSION ON**  
 FOR PERMIT NO. WQ0014824001 § **ENVIRONMENTAL QUALITY**

CHIEF CLERKS OFFICE

**EXECUTIVE DIRECTOR'S RESPONSE TO HEARING REQUEST**

**I. Introduction**

The Executive Director of the Texas Commission on Environmental Quality (TCEQ or commission) files this Response to Hearing Requests (Response) on the application by Forestar (USA) Real Estate Group (Applicant) for a new TCEQ Texas Land Application Permit (TLAP) Number WQ0014824001. This response is filed pursuant to Title 30 of the Texas Administrative Code, Section 55.254(e). The Office of the Chief Clerk timely received hearing requests from **Andrew Hawkins** representing **Save Our Springs Alliance (SOSA)**.

Attached for Commission consideration are the following:

- Attachment A – Technical Summary & Draft Permit
- Attachment B – Executive Director's Response to Public Comment (RTC)
- Attachment C – Map and Diagram of the Facility Site
- Attachment D – Compliance History

Copies were also provided to all parties. The RTC was previously mailed by the Office of the Chief Clerk to all persons on the mailing list.

**II. Facility Description**

Forestar (USA) Real Estate Group Inc. (Applicant) has applied to the Texas Commission on Environmental Quality (TCEQ) for a new TCEQ TLAP permit, No. W0014824001 that would authorize the disposal of treated domestic wastewater at a daily average flow not to exceed 125,000 gallons per day via public access subsurface drip irrigation system with a minimum area of 29 acres. The permittee will maintain Bermuda grass overseeded with (Winter Rye) grass for uptake of effluent on the disposal site. The effluent limitations in the draft permit, based on a daily average, are 10 mg/l BOD<sub>5</sub>, 15 mg/l TSS. The effluent shall contain a chlorine residual of at least 1.0 mg/l after a detention time of at least 20 minutes based on peak flow. This permit will not authorize a discharge of pollutants into water in the state.

The wastewater treatment facility and disposal site will be located at 2303 West Highway 290, Dripping Springs, Hays County, Texas. The wastewater treatment facility and disposal site

will be located in the drainage basin of Onion Creek in Segment No. 1427 of the Colorado River Basin. The facility will serve the Arrowhead Ranch Development residential housing units.

### **III. Procedural Background**

The application was received on June 25, 2007, and declared administratively complete on August 22, 2007. The Notice of Receipt of Application and Intent to Obtain a Water Quality Permit (NORI) was published on September 9, 2007, in the *Austin American-Statesman*. The Notice of Application and Preliminary Decision (NAPD) for a Water Quality Permit was published on July 23, 2008, in the *Austin American-Statesman*. The public comment period ended on August 22, 2008. 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.

### **IV. The Evaluation Process for Hearing Requests**

#### **A. Responses to Requests**

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

Responses to hearing requests must specifically address:

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

30 TAC § 55.209(e).

#### **B. Hearing Request Requirements**

In order for the commission to consider a hearing request, the commission must first determine whether the request meets certain requirements. A request for a contested case hearing by an affected person must be in writing, must be filed with the chief clerk within the time provided . . . and may not be based on an issue that was raised solely in a public comment withdrawn by the commenter in writing by filing a withdrawal letter with the chief clerk prior to the filing of the Executive Director’s Response to Comment.

30 TAC § 55.201(c).

A hearing request must substantially comply with the following:

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

30 TAC § 55.201(d).

**C. Requirement that Requestor be an "Affected Person"**

In order to grant a contested case hearing, the commission must determine that a requestor is an Affected person.

- (a) For any application, an affected person is one who has a personal justiciable interest related to a legal right, duty, privilege, power, or economic interest affected by the application. An interest common to members of the general public does not qualify as a personal justiciable interest.
- (b) Governmental entities, including local governments and public agencies with authority under state law over issues raised by the application may be considered affected persons.
- (c) In determining whether a person is an affected person, all factors shall be considered, including, but not limited to, the following:
  - (1) whether the interest claimed is one protected by the law under which the application will be considered;
  - (2) distance restrictions or other limitations imposed by law on the affected interest;
  - (3) whether a reasonable relationship exists between the interest claimed and the activity regulated;

- (4) likely impact of the regulated activity on the health and safety of the person, and on the use of property of the person;
- (5) likely impact of the regulated activity on use of the impacted natural resource by the person; and
- (6) for governmental entities, their statutory authority over or interest in the issues relevant to the application.

30 TAC § 55.203.

#### **D. Referral to the State Office of Administrative Hearings**

When the commission grants a request for a contested case hearing, the commission issues an order specifying the issues to be referred to SOAH. The commission may not refer an issue to SOAH for a contested case hearing unless the commission determines that the issue:

- (1) involves a disputed question of fact;
- (2) was raised during the public comment period; and
- (3) is relevant and material to the decision on the application.

30 TAC § 50.115(c).

### **V. Analysis of the Requests**

The comment period for this application generated one hearing request.

#### **A. Analysis of the Hearing Requests**

##### ***1. Whether the Requestors Complied With 30 TAC §§ 55.201(a)-(d)***

SOSA, represented by Andrew Hawkins, timely submitted a written contested case hearing request, dated August 22, 2008, and a correction on August 25, 2008, that requested a contested case hearing, included relevant contact information, and raised disputed issues.

The Executive Director concludes that Andrew Hawkins on behalf of SOSA has substantially complied with 30 TAC §§ 55.201(a)-(d).

##### ***2. Whether the Requestor Meets the Requirements of an Affected Person***

For a group or association to be an affected person, the interests it seeks to protect must be germane to the organization's purpose. Mr. Hawkins points out that SOSA is a non-profit public interest corporation committed to protecting the Edwards Aquifer, its springs and contributing streams, and the natural and cultural heritage of its Hill Country watersheds, with special emphasis on the Barton Springs Edwards Aquifer.

The Executive Director concludes that, if SOSA meets all the requirements for group standing, the interests SOSA seeks to protect are germane to the organization's purpose, as required by 30 TAC § 55.205(a)(2).

In addition, neither the claim asserted nor the relief requested can require the participation of the individual members of the group or association in the case. Although not specifically pleaded by Mr. Hawkins in his letter, he does point out that SOSA has participated in numerous contested case hearings in the past, and the ability of SOSA's legal counsel is known to the Executive Director.

The Executive Director concludes that, if SOSA meets all the requirements for group standing, participation of SOSA's individual members is not required in this case, satisfying the requirements of 30 TAC § 55.205(a)(3).

Finally, one or more members of the group or association must otherwise have standing to request a hearing in their own right for a group or association to be an affected person. Mr. Hawkins names one individual and a larger group of unnamed members in his letter as the basis for SOSA's claim to group or association standing status.

First, Mr. Hawkins alleges SOSA has unnamed members who live adjacent to and downstream from the proposed facilities and who live and play in the immediate vicinity of the proposed facilities as well as in downstream areas of Onion Creek. He also says that many unnamed SOSA members regularly swim in and recreate in Onion Creek, and Barton Springs, and unnamed members also research and enjoy the presence of the endangered Barton Springs Salamander.

Without specific names or addresses that can be verified, the Executive Director cannot evaluate the claims made on behalf of SOSA, and concludes that SOSA's standing as an affected party has not been demonstrated by its unnamed members.

Next, Mr. Hawkins mentions **Colin Clark**, a SOSA member who regularly swims in Barton Springs pool, enjoys attempting to observe the endangered Barton Springs Salamander and other aquatic life in Barton Springs pool, and enjoys swimming in Barton Creek at the many publicly accessible swimming holes along the creek. SOSA raises recreational interest as the basis for Mr. Clark's personal justiciable interest that would be affected by this application.

### **RECREATIONAL USE/INTEREST AS A BASIS TO ESTABLISH STANDING**

There is a common misconception that federal courts have established recreational use (standing alone) as an absolute basis for standing in environmental cases. As the following cases demonstrate, an interested person has to do more than show that he recreates in the creek or stream. He must also show harm to his recreational interest or how his recreational use is affected in ways not common to the general public.

In *Lujan v. Defenders of Wildlife*, 504 U.S. 555 (1992), the U.S. Supreme Court reaffirmed a longstanding requirement that the irreducible constitutional minimum of standing contains three elements: (1) an “injury in fact”—an invasion of a legally protected interest that is (a) concrete and particularized and (b) actual or imminent, not “conjectural” or “hypothetical”; (2) there must be a causal connection between the injury and conduct complained of—the injury has to be fairly traceable to the challenged action of the defendant and not the result of the independent action of some third party not before the court; and (3) it must be likely, as opposed to merely speculative, that the injury can be redressed by a favorable decision. *Id.* at 560–61.

In *Lujan*, the court recognized that “the desire to use or observe an animal species, even for purely aesthetic purposes, is undeniably a cognizable interest for purpose of standing.” *Id.* at 562–63. But the court went on to cite an earlier case, “the ‘injury in fact’ test requires more than an injury to a cognizable interest. It requires that the party seeking review be himself among the injured.” *Id.* at 563; *Sierra Club v. Morton*, 405 U.S. 727, 734–35 (1972). The court required that the association’s members be directly affected apart from their special interest in the subject. *Lujan* at 563. The following excerpts from *Sierra Club v. Morton* further illustrate the interpretation of recreational use interests in environmental permitting cases:

Aesthetic and environmental well-being, like economic well-being, are important ingredients of the quality of life in our society, and the fact that particular environmental interests are shared by the many rather than the few does not make them less deserving of legal protection through the judicial process. But the injury in fact test requires more than an injury to a cognizable interest. It requires that the party seeking review be himself among the injured. *Sierra Club v. Morton* at 734-35.

\* \* \*

It is clear that an organization whose members are injured may represent those members in a proceeding for judicial review. [Internal cites omitted.] But a mere interest in a problem, no matter how longstanding the interest and no matter how qualified the organization is in evaluating the problem, is not sufficient by itself to render the organization adversely affected or aggrieved within the meaning of the APA. *Id.* at 739.

\* \* \*

The requirement that a party seeking review must allege facts showing that he is himself adversely affected does not insulate executive action from judicial review, nor does it prevent any public interests from being protected through the judicial process. It does serve as at least a rough attempt to put the decision as to whether review will be sought in the hands of those who have a direct stake in the outcome. That goal would be undermined were we to construe the APA to authorize judicial review at the behest of organizations or individuals who seek to

do no more than vindicate their own value preferences through the judicial process. *Id.* at 140.

Texas courts have long used similar principles to determine standing. In *San Antonio Conservation Soc. v. City of San Antonio*, 250 S.W.2d 259 (Tex. Civ. App.—Austin 1952, writ ref'd), the court held that “any right [that the society’s members] have to enjoy the charm and beauty of the San Antonio River and its banks . . . is a right shared in common with all the people of San Antonio and with the public in general.” *Id.* at 263. “[A]ny impairment of this right is an injury or damage sustained by [the society’s members] in common with the general public.” *Id.* “The interests [the society’s members] seek to protect are the same whether they are used or enjoyed much or little or none,” and the interests are “common to those who avail themselves of the privilege as well as to those who do not or cannot.” *Id.* at 264. Finally, the court held that “[o]nly lawfully constituted guardians of the public interest may maintain actions for the redress of such character of injuries.” *Id.* at 263.

In *Persons v. City of Fort Worth*, 790 S.W.2d 865 (Tex. App.—Fort Worth 1990, no writ), the court determined that a private citizen had not shown “that his uses of the park are unique or peculiar to him as compared to the park uses by the public at large,” and determined “that he does not have a greater right to use the park than any other citizen of the City.” *Id.* at 870. The court specifically held that he “has not shown that he has been damaged or injured as a result of the City’s actions other than as a member of the general public,” and thus lacked standing to maintain his action. *Id.*

In *Texas Rivers Protection Ass’n v. Texas Natural Resource Conservation Comm’n*, 910 S.W.2d 147 (Tex. App.—Austin 1995, writ denied), the court held that an association member and another individual protesting a permitting action both had standing as “aggrieved” parties with a personal justiciable interest in the matter being considered. Both owned land fronting the affected area of the river and both conducted canoeing trips for others on the affected area of the river. Therefore, both had economic and riparian interests in addition to their recreational interests. *Id.* at 151. In elucidating the protestants’ recreational interest, the court distinguished their peculiar interest as opposed to those of the general public as follows – “Appellants’ riparian ownership alone sufficiently distinguishes their injury from that of the public at large.” *Id.*

Finally, in *Hix v. Robertson*, 211 S.W.3d 423 (Tex. App.—Waco 2006, pet. denied), the court held that landowners had standing to pursue an action regarding their use of a stream that ran through their land for fishing, boating, and recreational purposes. *Id.* at 426. Citing *Robinson v. Neeley*, 192 S.W.3d 904, 907 (Tex. App.—Dallas 2006, no pet.), the court noted the landowner to be an appropriate party to assert the public’s interest in the matter, as well as his own. *Id.*

As these cases illustrate, the mere expressing of recreational use is not enough to confer standing. An analysis of the cases shows that the following questions must be asked when a recreational interest is raised: (1) what recreational interest is claimed? (2) Is the recreational interest common to the general public? (3) Is there harm or injury to the recreational interest?

And (4) does the harm or injury affect protestant's property right, economic interest, or environmental interest?

In order to be an affected group or association, SOSA needs to demonstrate that its member, Colin Clark, had some additional interest in the creeks, springs, and endangered species—something more than simple recreational, aesthetic, or scientific interests—that would distinguish his interest from those of the general public. The Executive Director is not prepared to claim that economic or riparian interests are the only additional interests that may confer standing in a matter, but in this case a demonstration of some personal justiciable interest more than just expressions of enjoying those interests at publicly accessible swimming holes would help.

The Executive Director concludes that SOSA's standing as an affected party has not been demonstrated by its member Colin Clark.

**C. *Whether the Issues Raised are Referable to SOAH for a Contested Case Hearing***

Andrew Hawkins raises a number of issues in his letter dated August 22, 2008.

The Executive Director concludes the following fact issues are relevant and material to the Commission's decision on this wastewater permit application: (corresponding numbered comments and responses in the RTC in parentheses following each issue)

- ISSUE 1: Whether runoff from the proposed irrigation fields could pollute Onion Creek, subsequently recharge the Edwards Aquifer, and ultimately pollute Barton Springs and the Colorado River? (RTC # 1)
- ISSUE 2: Is there adequate distance considering soil, vegetation, and other natural features between the proposed irrigation fields and Onion Creek to allow for proper attenuation of pollutants? (RTC # 1)
- ISSUE 3: Will the Applicant have sufficient control or ownership of the site to ensure that the wastewater treatment facilities will be operated efficiently and safely?
- ISSUE 4: Will irrigation occur during wet weather? (RTC # 2)
- ISSUE 5: Will the presence of steep slopes and canyons near Onion Creek result in runoff reaching the creek? (RTC # 3)
- ISSUE 6: Will plant uptake of treated irrigation wastewater be uniform or will uneven uptake result in clogging of the drip irrigation system or over-watering during certain times of the year? (RTC # 4)
- ISSUE 7: Will nitrogen and phosphorus from the proposed irrigation fields enter the Edwards Aquifer and adversely impact the aquatic habitat of Barton Springs? (RTC # 5)
- ISSUE 8: Is 3-day storage of treated wastewater during an emergency or routine maintenance adequate to prevent runoff? (RTC # 7)
- ISSUE 9: Will the Applicant comply with the nuisance odor requirements in 30 TAC § 309.13? (RTC # 9 in part)

- ISSUE 10: Will water wells in the Trinity Aquifer be vulnerable to pollution? (RTC # 9)
- ISSUE 11: Does the draft permit ensure no discharge of effluent into Onion Creek? (RTC # 10)
- ISSUE 12: Will the proposed permit have an impact on endangered species, specifically Barton Springs Salamander?
- ISSUE 13: Will the proposed permit have an adverse impact on recreational use of Onion Creek, Barton Creek, and the Colorado River?

The Executive Director concludes that the following fact issues are not relevant or material to the Commission's decision on this wastewater permit application: (corresponding numbered comments and responses in the RTC in parentheses following each issue)

- ISSUE 14: Do attachments to the Administrative report properly explain the routing of pump effluent to other drip fields? (RTC # 6)
- ISSUE 15: Is there a procedure to prevent public use of the irrigation fields during irrigation? (RTC # 8)
- ISSUE 16: Will there be nuisance noise or visual pollution from the facility? (RTC # 9 in part)

#### **VI. Duration of the Contested Case Hearing**

The Executive Director recommends that the duration for a contested case hearing on this matter, should there be one, between preliminary hearing and the presentation of a proposal for decision before the commission, be **six months**.

#### **VII. Executive Director's Recommendation**

The Executive Director recommends the following actions to the Commission:

- A. Find that SOSA does not have standing and is not an affected person.
- B. If the commission finds that SOSA is an affected person, refer issues #1-13 above to SOAH for a six month proceeding, and deny issues #14-16 above.

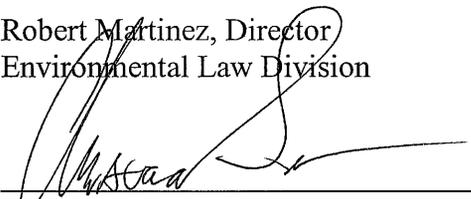
Respectfully submitted,

TEXAS COMMISSION ON  
ENVIRONMENTAL QUALITY

Mark R. Vickery, P. G., Executive Director

Stephanie Bergeron Perdue, Deputy Director  
Office of Legal Services

Robert Martinez, Director  
Environmental Law Division



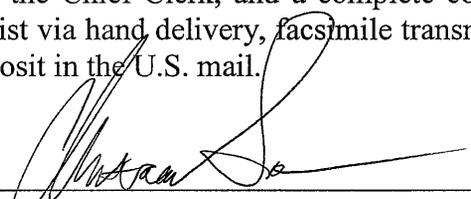
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Christiaan Siano, Staff Attorney  
Environmental Law Division  
State Bar No. 24051335

REPRESENTING THE EXECUTIVE DIRECTOR  
OF THE TEXAS COMMISSION ON  
ENVIRONMENTAL QUALITY

**CERTIFICATE OF SERVICE**

I certify that on April 13, 2009, the original and seven copies of the "Executive Director's Response to Hearing Requests" for Permit No. WQ0014824001, were filed with the Texas Commission on Environmental Quality's Office of the Chief Clerk, and a complete copy was served to all persons listed on the attached mailing list via hand delivery, facsimile transmission, electronic transmission, inter-agency mail, or by deposit in the U.S. mail.



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Christiaan Siano, Staff Attorney  
Environmental Law Division  
State Bar No. 24051335

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**MAILING LIST**  
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**TCEQ DOCKET NO. 2008-1936-MWD; PERMIT NO. WQ0014824001**

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## TECHNICAL SUMMARY AND EXECUTIVE DIRECTOR'S PRELIMINARY DECISION

### DESCRIPTION OF APPLICATION

Applicant: Forestar (USA) Real Estate Group Inc.; Permit No. WQ0014824001

Regulated Activity: Domestic Wastewater Permit

Type of Application: New Permit

Request: New Permit for a public access Subsurface Area Drip Dispersal System

Authority: Texas Water Code §26.027; 30 TAC Chapters 222, 305, 309, 312, 319, and 30; and Commission policies.

### EXECUTIVE DIRECTOR RECOMMENDATION

The executive director has made a preliminary decision that this permit, if issued, meets all statutory and regulatory requirements. The proposed permit includes an expiration date of September 1, 2012, according to 30 TAC Section 305.127(1)(C)(ii)(III), Conditions to be Determined for Individual Permits.

### REASON FOR PROJECT PROPOSED

Forestar (USA) Real Estate Group Inc. has applied to the Texas Commission on Environmental Quality (TCEQ) for a new permit, Permit No. WQ0014824001, to authorize the disposal of treated domestic wastewater at a daily average flow not to exceed 0.125 million gallons per day (MGD) via public access subsurface drip irrigation system with a minimum area of 29 acres. The wastewater treatment facility will serve the Arrowhead Ranch Development residential housing units.

### PROJECT DESCRIPTION AND LOCATION

The Arrowhead Ranch Wastewater Treatment Facility will consist of an activated sludge process plant using the extended aeration mode. Treatment units will include final clarifier, aeration basin, sludge holding tank, chlorine contact chamber and a filtration unit. The permittee is required to provide at least three days of temporary storage for times when the facility is out of service due to an emergency or for scheduled maintenance. The facility has not been constructed.

The draft permit authorizes the disposal of sludge at a TCEQ authorized land application site or co-disposal landfill.

The wastewater treatment facility and disposal site will be located at 2303 West Highway 290, Dripping Springs, in Hays County, Texas.

The wastewater treatment facility and disposal site are located in the drainage basin of Onion Creek in Segment No. 1427 of the Colorado River Basin. No discharge of pollutants into water in the State is authorized by this permit.

### SUMMARY OF EFFLUENT DATA

N/A - No self-reporting data is available.

## PROPOSED PERMIT CONDITIONS

The draft permit authorizes the disposal of treated domestic wastewater at a daily average flow not to exceed 0.125 MGD via public access subsurface drip irrigation system with a minimum area of 29 acres. The permittee is required to provide at least three days of temporary storage for times when the facility is out of service due to an emergency or for scheduled maintenance. Application rates shall not exceed 0.1 gallon per square foot per day. The permittee will maintain the Bermuda grass overseeded with (Winter Rye) grass for uptake of effluent on the disposal site.

The effluent limitations in the draft permit, based on a daily average, are 10 mg/l BOD<sub>5</sub>, 15 mg/l TSS. The effluent shall contain a chlorine residual of at least 1.0 mg/l after a detention time of at least 20 minutes based on peak flow.

The draft permit includes a requirement for the permittee to obtain legal restrictions prohibiting residential structures within the part of the buffer zone not owned by the permittee according to 30 TAC Section 309.13(e)(3).

In addition, the permittee shall comply with the requirements of 30 TAC Section 222.81(a), (b) and (d).

The draft permit includes Sludge Provisions according to the requirements of 30 TAC Chapter 312, Sludge Use, Disposal and Transportation. The draft permit authorizes the disposal of sludge at a TCEQ authorized land application site or co-disposal landfill.

## SUMMARY OF CHANGES FROM APPLICATION

None.

## SUMMARY OF CHANGES FROM EXISTING PERMIT

This is a new permit.

## BASIS FOR PROPOSED DRAFT PERMIT

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

1. Application received on June 25, 2007 and additional information received on September 18 and October 10, 2007.
2. Interoffice Memorandum from the Water Quality Assessment Team, Water Quality Assessment & Standards Section, Water Quality Division.

## PROCEDURES FOR FINAL DECISION

When an application is declared administratively complete, the Chief Clerk sends a letter to the applicant advising the applicant to publish the Notice of Receipt of Application and Intent to Obtain Permit in the newspaper. In addition, the Chief Clerk instructs the applicant to place a copy of the application in a public place for review and copying in the county where the facility is or will be located. This application will be in a public place throughout the comment period.

The Chief Clerk also mails this notice to any interested persons and, if required, to landowners identified in the permit application. This notice informs the public about the application, and provides that an interested person may file comments on the application or request a contested case hearing or a public meeting.

Once a draft permit is completed, it is sent, along with the Executive Director's preliminary decision, as contained in

Forestar (USA) Real Estate Group Inc. Permit No. WQ0014824001  
Technical Summary and Executive Director's Preliminary Decision

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

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

After the public comment deadline, the Executive Director prepares a response to all significant public comments on the application or the draft permit raised during the public comment period. The Chief Clerk then mails the Executive Director's Response to Comments and Final Decision to people who have filed comments, requested a contested case hearing, or requested to be on the mailing list. This notice provides that if a person is not satisfied with the Executive Director's response and decision, they can request a contested case hearing or file a request to reconsider the Executive Director's decision within 30 days after the notice is mailed.

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

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

For additional information about this application contact David U. Akoma at (512) 239-1444.

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David U. Akoma, Permit Coordinator  
Municipal Permits Team  
Wastewater Permitting Section (MC 148)

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Date



PERMIT NO. WQ0014824001

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

under provisions of Chapter 26  
of the Texas Water Code

Permittee:

Forestar (USA) Real Estate Group Inc.  
1300 South Mopac Expressway  
Austin, Texas 78746

Nature of Business Producing Waste: Domestic wastewater treatment operation, SIC Code 4952.

General Description and Location of Waste Disposal System:

Description: The Arrowhead Ranch Wastewater Treatment Facility consists of an activated sludge process plant using the extended aeration mode. Treatment units include two clarifiers, two aeration basins, a holding tank, two aerobic sludge digesters and two chlorine contact chambers. The permittee is required to provide at least three days of temporary storage for times when the facility is out of service due to an emergency or for scheduled maintenance.

The permittee is authorized to dispose of treated domestic wastewater at a daily average flow not to exceed 0.125 million gallons per day (MGD) via public access subsurface drip irrigation system with a minimum area of 29 acres. Application rates shall not exceed 0.1 gallon per square foot per day. The permittee will maintain the Bermuda grass overseeded with cool weather grass (Winter Rye) for uptake of effluent on the disposal site.

Location: The wastewater treatment facility and disposal site are located at 2303 West Highway 290, Dripping Springs, in Hays County, Texas. (See Attachment A.)

Drainage Area: The wastewater treatment facility and disposal site are located in the drainage basin of Onion Creek in Segment No. 1427 of the Colorado River Basin. No discharge of pollutants into water in the State is authorized by this permit.

This permit and the authorization contained herein shall expire at midnight on September 1, 2012.

ISSUED DATE:

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For the Commission

**EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS**

**Conditions of the Permit: No discharge of pollutants into water in the State is authorized.**

**A. Effluent Limitations**

Character: Treated Domestic Sewage Effluent

Volume: Daily Average Flow: 0.125 MGD from the treatment system

Quality: The following effluent limitations shall be required:

<u>Parameter</u>	<u>Effluent Concentrations</u>			
	<u>(Not to Exceed)</u>			
	<u>Daily</u>	<u>7-Day</u>	<u>Daily</u>	<u>Single</u>
	<u>Average</u>	<u>Average</u>	<u>Maximum</u>	<u>Grab</u>
	<u>mg/l</u>	<u>mg/l</u>	<u>mg/l</u>	<u>mg/l</u>
Biochemical Oxygen Demand (5-day)	10	15	25	35
Total Suspended Solids	15	25	40	60

The pH shall not be less than 6.0 standard units nor greater than 9.0 standard units.

The effluent shall be chlorinated in a chlorine contact chamber to a residual of 1.0 mg/l with a minimum detention time of 20 minutes. If the effluent is to be transferred to a holding pond or tank, re-chlorination prior to the effluent being delivered into the irrigation system will be required. A trace chlorine residual shall be maintained in the effluent at the point of irrigation application.

**B. Monitoring Requirements:**

<u>Parameter</u>	<u>Monitoring Frequency</u>	<u>Sample Type</u>
Flow	Five/week	Instantaneous
Biochemical Oxygen Demand (5-day)	One/week	Grab
Total Suspended Solids	One/week	Grab
pH	One/week	Grab
Chlorine Residual	Five/week	Grab

The monitoring shall be done after the final treatment unit and prior to storage of the treated effluent. If the effluent is land applied directly from the treatment system, monitoring shall be done after the final treatment unit and prior to land application. These records shall be maintained on a monthly basis and be available at the plant site for inspection by authorized representatives of the Commission for at least three years.

## STANDARD PERMIT CONDITIONS

This permit is granted in accordance with the Texas Water Code and the rules and other Orders of the Commission and the laws of the State of Texas.

## DEFINITIONS

All definitions in Section 26.001 of the Texas Water Code and 30 TAC Chapter 305 shall apply to this permit and are incorporated by reference. Some specific definitions of words or phrases used in this permit are as follows:

1. Flow Measurements
  - a. Daily average flow - the arithmetic average of all determinations of the daily flow within a period of one calendar month. The daily average flow determination shall consist of determinations made on at least four separate days. If instantaneous measurements are used to determine the daily flow, the determination shall be the arithmetic average of all instantaneous measurements taken during that month. Daily average flow determination for intermittent discharges shall consist of a minimum of three flow determinations on days of discharge.
  - b. Annual average flow - the arithmetic average of all daily flow determinations taken within the preceding 12 consecutive calendar months. The annual average flow determination shall consist of daily flow volume determinations made by a totalizing meter, charted on a chart recorder and limited to major domestic wastewater discharge facilities with a 1 million gallons per day or greater permitted flow.
  - c. Instantaneous flow - the measured flow during the minimum time required to interpret the flow measuring device.
2. Concentration Measurements
  - a. Daily average concentration - the arithmetic average of all effluent samples, composite or grab as required by this permit, within a period of one calendar month, consisting of at least four separate representative measurements.
    - i. For domestic wastewater treatment plants - When four samples are not available in a calendar month, the arithmetic average (weighted by flow) of all values in the previous four consecutive month period consisting of at least four measurements shall be utilized as the daily average concentration.
    - ii. For all other wastewater treatment plants - When four samples are not available in a calendar month, the arithmetic average (weighted by flow) of all values taken during the month shall be utilized as the daily average concentration.
  - b. 7-day average concentration - the arithmetic average of all effluent samples, composite or grab as required by this permit, within a period of one calendar week, Sunday through Saturday.
  - c. Daily maximum concentration - the maximum concentration measured on a single day, by the sample type specified in the permit, within a period of one calendar month.
3. Sample Type
  - a. Composite sample - For domestic wastewater, a composite sample is a sample made up of a minimum of three effluent portions collected in a continuous 24-hour period or during the period of daily discharge if less than 24 hours, and combined in volumes proportional to flow, and collected at the intervals required by 30 TAC § 319.9 (a). For industrial wastewater, a composite sample is a sample made up of a minimum of three effluent portions collected in a continuous 24-hour period or during the period of daily discharge if less than 24 hours, and combined in volumes proportional to flow, and collected at the intervals required by 30 TAC § 319.9 (b).
  - b. Grab sample - an individual sample collected in less than 15 minutes.
4. Treatment Facility (facility) - wastewater facilities used in the conveyance, storage, treatment, recycling, reclamation and/or disposal of domestic sewage, industrial wastes, agricultural wastes, recreational wastes, or other wastes including sludge handling or disposal facilities under the jurisdiction of the Commission.

5. The term "sewage sludge" is defined as solid, semi-solid, or liquid residue generated during the treatment of domestic sewage in 30 TAC Chapter 312. This includes the solids which have not been classified as hazardous waste separated from wastewater by unit processes.
6. Bypass - the intentional diversion of a waste stream from any portion of a treatment facility.

## MONITORING REQUIREMENTS

### 1. Monitoring Requirements

Monitoring results shall be collected at the intervals specified in the permit. Unless otherwise specified in this permit or otherwise ordered by the Commission, the permittee shall conduct effluent sampling in accordance with 30 TAC §§ 319.4 - 319.12.

As provided by state law, the permittee is subject to administrative, civil and criminal penalties, as applicable, for negligently or knowingly violating the Texas Water Code, Chapters 26, 27, and 28, and Texas Health and Safety Code, Chapter 361, including but not limited to knowingly making any false statement, representation, or certification on any report, record or other document submitted or required to be maintained under this permit, including monitoring reports, records or reports of compliance or noncompliance, or falsifying, tampering with or knowingly rendering inaccurate any monitoring device or method required by this permit or violating any other requirement imposed by state or federal regulations.

### 2. Test Procedures

Unless otherwise specified in this permit, test procedures for the analysis of pollutants shall comply with procedures specified in 30 TAC §§319.11 - 319.12. Measurements, tests and calculations shall be accurately accomplished in a representative manner.

### 3. Records of Results

- a. Monitoring samples and measurements shall be taken at times and in a manner so as to be representative of the monitored activity.
- b. Except for records of monitoring information required by this permit related to the permittee's sewage sludge use and disposal activities, which shall be retained for a period of at least five years, monitoring and reporting records, including strip charts and records of calibration and maintenance, copies of all records required by this permit, and records of all data used to complete the application for this permit shall be retained at the facility site, or shall be readily available for review by a TCEQ representative for a period of three years from the date of the record or sample, measurement, report, or application. This period shall be extended at the request of the Executive Director.
- c. Records of monitoring activities shall include the following:
  - i. date, time and place of sample or measurement;
  - ii. identity of individual who collected the sample or made the measurement.
  - iii. date and time of analysis;
  - iv. identity of the individual and laboratory who performed the analysis;
  - v. the technique or method of analysis; and
  - vi. the results of the analysis or measurement and quality assurance/quality control records.

The period during which records are required to be kept shall be automatically extended to the date of the final disposition of any administrative or judicial enforcement action that may be instituted against the permittee.

### 4. Additional Monitoring by Permittee

If the permittee monitors any pollutant at the location(s) designated herein more frequently than required by this permit using approved analytical methods as specified above, all results of such monitoring shall be included in determining compliance with permit requirements.

## 5. Calibration of Instruments

All automatic flow measuring or recording devices and all totalizing meters for measuring flows shall be accurately calibrated by a trained person at plant start-up and as often thereafter as necessary to ensure accuracy, but not less often than annually unless authorized by the Executive Director for a longer period. Such person shall verify in writing that the device is operating properly and giving accurate results. Copies of the verification shall be retained at the facility site and/or shall be readily available for review by a TCEQ representative for a period of three years.

## 6. Compliance Schedule Reports

Reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any compliance schedule of the permit shall be submitted no later than 14 days following each schedule date to the Regional Office and the Enforcement Division (MC 224).

## 7. Noncompliance Notification

a. In accordance with 30 TAC § 305.125(9), any noncompliance which may endanger human health or safety, or the environment shall be reported by the permittee to the TCEQ. Report of such information shall be provided orally or by facsimile transmission (FAX) to the Regional Office within 24 hours of becoming aware of the noncompliance. A written submission of such information shall also be provided by the permittee to the Regional Office and the Enforcement Division (MC 224) within five working days of becoming aware of the noncompliance. The written submission shall contain a description of the noncompliance and its cause; the potential danger to human health or safety, or the environment; the period of noncompliance, including exact dates and times; if the noncompliance has not been corrected, the time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent recurrence of the noncompliance, and to mitigate its adverse effects.

b. The following violations shall be reported under Monitoring and Reporting Requirement 7.a.:

- i. Unauthorized discharges as defined in Permit Condition 2(g).
- ii. Any unanticipated bypass which exceeds any effluent limitation in the permit.

c. In addition to the above, any effluent violation which deviates from the permitted effluent limitation by more than 40% shall be reported by the permittee in writing to the Regional Office and the Enforcement Division (MC 224) within 5 working days of becoming aware of the noncompliance.

d. Any noncompliance other than that specified in this section, or any required information not submitted or submitted incorrectly, shall be reported to the Enforcement Division (MC 224) as promptly as possible.

8. In accordance with the procedures described in 30 TAC §§ 35.301 - 35.303 (relating to Water Quality Emergency and Temporary Orders) if the permittee knows in advance of the need for a bypass, it shall submit prior notice by applying for such authorization.

## 9. Changes in Discharges of Toxic Substances

All existing manufacturing, commercial, mining, and silvicultural permittees shall notify the Regional Office, orally or by facsimile transmission within 24 hours, and both the Regional Office and the Enforcement Division (MC 224) in writing within five (5) working days, after becoming aware of or having reason to believe:

a. That any activity has occurred or will occur which would result in the discharge, on a routine or frequent basis, of any toxic pollutant listed at 40 CFR Part 122, Appendix D, Tables II and III (excluding Total Phenols) which is not limited in the permit, if that discharge will exceed the highest of the following "notification levels":

- i. One hundred micrograms per liter (100 µg/L);
- ii. Two hundred micrograms per liter (200 µg/L) for acrolein and acrylonitrile; five hundred micrograms per liter (500 µg/L) for 2,4-dinitrophenol and for 2-methyl-4,6-dinitrophenol; and one milligram per liter (1 mg/L) for antimony;
- iii. Five (5) times the maximum concentration value reported for that pollutant in the permit application; or
- iv. The level established by the TCEQ.

- b. That any activity has occurred or will occur which would result in any discharge, on a nonroutine or infrequent basis, of a toxic pollutant which is not limited in the permit, if that discharge will exceed the highest of the following "notification levels":
  - i. Five hundred micrograms per liter (500 µg/L);
  - ii. One milligram per liter (1 mg/L) for antimony;
  - iii. Ten (10) times the maximum concentration value reported for that pollutant in the permit application; or
  - iv. The level established by the TCEQ.

#### 10. Signatories to Reports

All reports and other information requested by the Executive Director shall be signed by the person and in the manner required by 30 TAC § 305.128 (relating to Signatories to Reports).

### PERMIT CONDITIONS

#### 1. General

- a. When the permittee becomes aware that it failed to submit any relevant facts in a permit application, or submitted incorrect information in an application or in any report to the Executive Director, it shall promptly submit such facts or information.
- b. This permit is granted on the basis of the information supplied and representations made by the permittee during action on an application, and relying upon the accuracy and completeness of that information and those representations. After notice and opportunity for a hearing, this permit may be modified, suspended, or revoked, in whole or in part, in accordance with 30 TAC Chapter 305, Subchapter D, during its term for good cause including, but not limited to, the following:
  - i. Violation of any terms or conditions of this permit;
  - ii. Obtaining this permit by misrepresentation or failure to disclose fully all relevant facts; or
  - iii. A change in any condition that requires either a temporary or permanent reduction or elimination of the authorized discharge.
- c. The permittee shall furnish to the Executive Director, upon request and within a reasonable time, any information to determine whether cause exists for amending, revoking, suspending or terminating the permit. The permittee shall also furnish to the Executive Director, upon request, copies of records required to be kept by the permit.

#### 2. Compliance

- a. Acceptance of the permit by the person to whom it is issued constitutes acknowledgment and agreement that such person will comply with all the terms and conditions embodied in the permit, and the rules and other orders of the Commission.
- b. The permittee has a duty to comply with all conditions of the permit. Failure to comply with any permit condition constitutes a violation of the permit and the Texas Water Code or the Texas Health and Safety Code, and is grounds for enforcement action, for permit amendment, revocation or suspension, or for denial of a permit renewal application or an application for a permit for another facility.
- c. It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of the permit.
- d. The permittee shall take all reasonable steps 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.
- e. Authorization from the Commission is required before beginning any change in the permitted facility or activity that may result in noncompliance with any permit requirements.
- f. A permit may be amended, suspended and reissued, or revoked for cause in accordance with 30 TAC §§ 305.62 and 305.66 and Texas Water Code Section 7.302. The filing of a request by the permittee for a permit amendment, suspension and reissuance, or termination, or a notification of planned changes or anticipated noncompliance, does not stay any permit condition.

- g. There shall be no unauthorized discharge of wastewater or any other waste. For the purpose of this permit, an unauthorized discharge is considered to be any discharge of wastewater into or adjacent to water in the state at any location not permitted as an outfall or otherwise defined in the Special Provisions section of this permit.
- h. The permittee is subject to administrative, civil, and criminal penalties, as applicable, under Texas Water Code §§7.051 - 7.075 (relating to Administrative Penalties), 7.101 - 7.111 (relating to Civil Penalties), and 7.141 - 7.202 (relating to Criminal Offenses and Penalties).

### 3. Inspections and Entry

- a. Inspection and entry shall be allowed as prescribed in the Texas Water Code Chapters 26, 27, and 28, and Texas Health and Safety Code Chapter 361.
- b. The members of the Commission and employees and agents of the Commission are entitled to enter any public or private property at any reasonable time for the purpose of inspecting and investigating conditions relating to the quality of water in the state or the compliance with any rule, regulation, permit or other order of the Commission. Members, employees, or agents of the Commission and Commission contractors are entitled to enter public or private property at any reasonable time to investigate or monitor or, if the responsible party is not responsive or there is an immediate danger to public health or the environment, to remove or remediate a condition related to the quality of water in the state. Members, employees, Commission contractors, or agents acting under this authority who enter private property shall observe the establishment's rules and regulations concerning safety, internal security, and fire protection, and if the property has management in residence, shall notify management or the person then in charge of his presence and shall exhibit proper credentials. If any member, employee, Commission contractor, or agent is refused the right to enter in or on public or private property under this authority, the Executive Director may invoke the remedies authorized in Texas Water Code Section 7.002. The statement above, that Commission entry shall occur in accordance with an establishment's rules and regulations concerning safety, internal security, and fire protection, is not grounds for denial or restriction of entry to any part of the facility, but merely describes the Commission's duty to observe appropriate rules and regulations during an inspection.

### 4. Permit Amendment and/or Renewal

- a. The permittee shall give notice to the Executive Director as soon as possible of any planned physical alterations or additions to the permitted facility if such alterations or additions would require a permit amendment or result in a violation of permit requirements. Notice shall also be required under this paragraph when:
  - i. The alteration or addition could significantly change the nature or increase the quantity of pollutants discharged. This notification applies to pollutants which are subject neither to effluent limitations in the permit, nor to notification requirements in Monitoring and Reporting Requirements No. 9;
  - ii. The alteration or addition results in a significant change in the permittee's sludge use or disposal practices, and such alteration, addition, or change may justify the application of permit conditions that are different from or absent in the existing permit, including notification of additional use or disposal sites not reported during the permit application process or not reported pursuant to an approved land application plan.
- b. Prior to any facility modifications, additions, or expansions that will increase the plant capacity beyond the permitted flow, the permittee must apply for and obtain proper authorization from the Commission before commencing construction.
- c. The permittee must apply for an amendment or renewal at least 180 days prior to expiration of the existing permit in order to continue a permitted activity after the expiration date of the permit. If an application is submitted prior to the expiration date of the permit, the existing permit shall remain in effect until the application is approved, denied, or returned. If the application is returned or denied, authorization to continue such activity shall terminate upon the effective date of the action. If an application is not submitted prior to the expiration date of the permit, the permit shall expire and authorization to continue such activity shall terminate.
- d. Prior to accepting or generating wastes which are not described in the permit application or which would result in a significant change in the quantity or quality of the existing discharge, the permittee must report the proposed changes to the Commission. The permittee must apply for a permit amendment reflecting any necessary changes in permit conditions, including effluent limitations for pollutants not identified and limited by this permit.
- e. In accordance with the Texas Water Code § 26.029(b), after a public hearing, notice of which shall be given to the permittee, the Commission may require the permittee, from time to time, for good cause, in accordance with applicable laws, to conform to new or additional conditions.

## 5. Permit Transfer

- a. Prior to any transfer of this permit, Commission approval must be obtained. The Commission shall be notified in writing of any change in control or ownership of facilities authorized by this permit. Such notification should be sent to the Applications Review and Processing Team (MC 148) of the Water Quality Division.
- b. A permit may be transferred only according to the provisions of 30 TAC § 305.64 (relating to Transfer of Permits) and 30 TAC § 50.133 (relating to Executive Director Action on Application or WQMP update).

## 6. Relationship to Hazardous Waste Activities

This permit does not authorize any activity of hazardous waste storage, processing, or disposal which requires a permit or other authorization pursuant to the Texas Health and Safety Code.

## 7. Property Rights

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

## 8. Permit Enforceability

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

## 9. Relationship to Permit Application

The application pursuant to which the permit has been issued is incorporated herein; provided, however, that in the event of a conflict between the provisions of this permit and the application, the provisions of the permit shall control.

## 10. Notice of Bankruptcy.

- a. Each permittee shall notify the executive director, in writing, immediately following the filing of a voluntary or involuntary petition for bankruptcy under any chapter of Title 11 (Bankruptcy) of the United States Code (11 USC) by or against:
  - i. the permittee;
  - ii. an entity (as that term is defined in 11 USC, §101(14)) controlling the permittee or listing the permit or permittee as property of the estate; or
  - iii. an affiliate (as that term is defined in 11 USC, §101(2)) of the permittee.
- b. This notification must indicate:
  - i. the name of the permittee;
  - ii. the permit number(s);
  - iii. the bankruptcy court in which the petition for bankruptcy was filed; and
  - iv. the date of filing of the petition.

**OPERATIONAL REQUIREMENTS**

1. The permittee shall at all times ensure that the facility and all of its systems of collection, treatment, and disposal are properly operated and maintained. This includes, but is not limited to, the regular, periodic examination of wastewater solids within the treatment plant by the operator in order to maintain an appropriate quantity and quality of solids inventory as described in the various operator training manuals and according to accepted industry standards for process control. Process control, maintenance, and operations records shall be retained at the facility site, or shall be readily available for review by a TCEQ representative, for a period of three years.
2. Upon request by the Executive Director, the permittee shall take appropriate samples and provide proper analysis in order to demonstrate compliance with Commission rules. Unless otherwise specified in this permit or otherwise ordered by the Commission, the permittee shall comply with all applicable provisions of 30 TAC Chapter 312 concerning sewage sludge use and disposal and 30 TAC §§ 319.21 - 319.29 concerning the discharge of certain hazardous metals.

3. Domestic wastewater treatment facilities shall comply with the following provisions:
  - a. The permittee shall notify the Municipal Permits Team, Wastewater Permitting Section (MC 148) of the Water Quality Division, in writing, of any facility expansion at least 90 days prior to conducting such activity.
  - b. The permittee shall submit a closure plan for review and approval to the Municipal Permits Team, Wastewater Permitting Section (MC 148) of the Water Quality Division, for any closure activity at least 90 days prior to conducting such activity. Closure is the act of permanently taking a waste management unit or treatment facility out of service and includes the permanent removal from service of any pit, tank, pond, lagoon, surface impoundment and/or other treatment unit regulated by this permit.
4. The permittee is responsible for installing prior to plant start-up, and subsequently maintaining, adequate safeguards to prevent the discharge of untreated or inadequately treated wastes during electrical power failures by means of alternate power sources, standby generators, and/or retention of inadequately treated wastewater.
5. Unless otherwise specified, the permittee shall provide a readily accessible sampling point and, where applicable, an effluent flow measuring device or other acceptable means by which effluent flow may be determined.
6. The permittee shall remit an annual water quality fee to the Commission as required by 30 TAC Chapter 21. Failure to pay the fee may result in revocation of this permit under Texas Water Code § 7.302(b)(6).
7. Documentation

For all written notifications to the Commission required of the permittee by this permit, the permittee shall keep and make available a copy of each such notification under the same conditions as self-monitoring data are required to be kept and made available. Except for information specified as not confidential in 30 TAC § 1.5(d), any information submitted pursuant to this permit may be claimed as confidential by the submitter. Any such claim must be asserted in the manner prescribed in the application form or by stamping the words "confidential business information" on each page containing such information. If no claim is made at the time of submission, information may be made available to the public without further notice. If the Commission or Executive Director agrees with the designation of confidentiality, the TCEQ will not provide the information for public inspection unless required by the Texas Attorney General or a court pursuant to an open records request. If the Executive Director does not agree with the designation of confidentiality, the person submitting the information will be notified.

8. Facilities which generate domestic wastewater shall comply with the following provisions; domestic wastewater treatment facilities at permitted industrial sites are excluded.
  - a. Whenever flow measurements for any domestic sewage treatment facility reach 75 percent of the permitted daily average or annual average flow for three consecutive months, the permittee must initiate engineering and financial planning for expansion and/or upgrading of the domestic wastewater treatment and/or collection facilities. Whenever the flow reaches 90 percent of the permitted daily average or annual average flow for three consecutive months, the permittee shall obtain necessary authorization from the Commission to commence construction of the necessary additional treatment and/or collection facilities. In the case of a domestic wastewater treatment facility which reaches 75 percent of the permitted daily average or annual average flow for three consecutive months, and the planned population to be served or the quantity of waste produced is not expected to exceed the design limitations of the treatment facility, the permittee shall submit an engineering report supporting this claim to the Executive Director of the Commission.

If in the judgement of the Executive Director the population to be served will not cause permit noncompliance, then the requirement of this section may be waived. To be effective, any waiver must be in writing and signed by the Director of the Enforcement Division (MC 149) of the Commission, and such waiver of these requirements will be reviewed upon expiration of the existing permit; however, any such waiver shall not be interpreted as condoning or excusing any violation of any permit parameter.

- b. The plans and specifications for domestic sewage collection and treatment works associated with any domestic permit must be approved by the Commission, and failure to secure approval before commencing construction of such works or making a discharge is a violation of this permit and each day is an additional violation until approval has been secured.

- c. Permits for domestic wastewater treatment plants are granted subject to the policy of the Commission to encourage the development of area-wide waste collection, treatment and disposal systems. The Commission reserves the right to amend any domestic wastewater permit in accordance with applicable procedural requirements to require the system covered by this permit to be integrated into an area-wide system, should such be developed; to require the delivery of the wastes authorized to be collected in, treated by or discharged from said system, to such area-wide system; or to amend this permit in any other particular to effectuate the Commission's policy. Such amendments may be made when the changes required are advisable for water quality control purposes and are feasible on the basis of waste treatment technology, engineering, financial, and related considerations existing at the time the changes are required, exclusive of the loss of investment in or revenues from any then existing or proposed waste collection, treatment or disposal system.
9. Domestic wastewater treatment plants shall be operated and maintained by sewage plant operators holding a valid certificate of competency at the required level as defined in 30 TAC Chapter 30.
  10. Facilities which generate industrial solid waste as defined in 30 TAC § 335.1 shall comply with these provisions:
    - a. Any solid waste, as defined in 30 TAC § 335.1 (including but not limited to such wastes as garbage, refuse, sludge from a waste treatment, water supply treatment plant or air pollution control facility, discarded materials, discarded materials to be recycled, whether the waste is solid, liquid, or semisolid), generated by the permittee during the management and treatment of wastewater, must be managed in accordance with all applicable provisions of 30 TAC Chapter 335, relating to Industrial Solid Waste Management.
    - b. Industrial wastewater that is being collected, accumulated, stored, or processed before discharge through any final discharge outfall, specified by this permit, is considered to be industrial solid waste until the wastewater passes through the actual point source discharge and must be managed in accordance with all applicable provisions of 30 TAC Chapter 335.
    - c. The permittee shall provide written notification, pursuant to the requirements of 30 TAC § 335.8(b)(1), to the Environmental Cleanup Section (MC 127) of the Remediation Division informing the Commission of any closure activity involving an Industrial Solid Waste Management Unit, at least 90 days prior to conducting such an activity.
    - d. Construction of any industrial solid waste management unit requires the prior written notification of the proposed activity to the Registration and Reporting Section (MC 129) of the Permitting and Remediation Support Division. No person shall dispose of industrial solid waste, including sludge or other solids from wastewater treatment processes, prior to fulfilling the deed recordation requirements of 30 TAC § 335.5.
    - e. The term "industrial solid waste management unit" means a landfill, surface impoundment, waste-pile, industrial furnace, incinerator, cement kiln, injection well, container, drum, salt dome waste containment cavern, or any other structure vessel, appurtenance, or other improvement on land used to manage industrial solid waste.
    - f. The permittee shall keep management records for all sludge (or other waste) removed from any wastewater treatment process. These records shall fulfill all applicable requirements of 30 TAC Chapter 335 and must include the following, as it pertains to wastewater treatment and discharge:
      - i. Volume of waste and date(s) generated from treatment process;
      - ii. Volume of waste disposed of on-site or shipped off-site;
      - iii. Date(s) of disposal;
      - iv. Identity of hauler or transporter;
      - v. Location of disposal site; and
      - vi. Method of final disposal.

The above records shall be maintained on a monthly basis. The records shall be retained at the facility site, or shall be readily available for review by authorized representatives of the TCEQ for at least five years.
  11. For industrial facilities to which the requirements of 30 TAC Chapter 335 do not apply, sludge and solid wastes, including tank cleaning and contaminated solids for disposal, shall be disposed of in accordance with Chapter 361 of the Texas Health and Safety Code.

## SLUDGE PROVISIONS

The permittee is authorized to dispose of sludge only at a Texas Commission on Environmental Quality (TCEQ) authorized land application site or co-disposal landfill. **The disposal of sludge by land application on property owned, leased or under the direct control of the permittee is a violation of the permit unless the site is authorized by the TCEQ. This provision does not authorize Distribution and Marketing of sludge. This provision does not authorize land application of Class A Sludge. This provision does not authorize the permittee to land apply sludge on property owned, leased or under the direct control of the permittee.**

### SECTION I. REQUIREMENTS APPLYING TO ALL SEWAGE SLUDGE LAND APPLICATION

#### A. General Requirements

1. The permittee shall handle and dispose of sewage sludge in accordance with 30 TAC Chapter 312 and all other applicable state and federal regulations in a manner which protects public health and the environment from any reasonably anticipated adverse effects due to any toxic pollutants which may be present in the sludge.
2. In all cases, if the person (permit holder) who prepares the sewage sludge supplies the sewage sludge to another person for land application use or to the owner or lease holder of the land, the permit holder shall provide necessary information to the parties who receive the sludge to assure compliance with these regulations.
3. The permittee shall give 180 days prior notice to the Executive Director in care of the Wastewater Permitting Section (MC 148) of the Water Quality Division of any change planned in the sewage sludge disposal practice.

#### B. Testing Requirements

1. Sewage sludge shall be tested once during the term of this permit in accordance with the method specified in both 40 CFR Part 261, Appendix II and 40 CFR Part 268, Appendix I [Toxicity Characteristic Leaching Procedure (TCLP)] or other method, which receives the prior approval of the TCEQ for the contaminants listed in Table 1 of 40 CFR Section 261.24. Sewage sludge failing this test shall be managed according to RCRA standards for generators of hazardous waste, and the waste's disposition must be in accordance with all applicable requirements for hazardous waste processing, storage, or disposal. Following failure of any TCLP test, the management or disposal of sewage sludge at a facility other than an authorized hazardous waste processing, storage, or disposal facility shall be prohibited until such time as the permittee can demonstrate the sewage sludge no longer exhibits the hazardous waste toxicity characteristics (as demonstrated by the results of the TCLP tests). A written report shall be provided to both the TCEQ Registration and Reporting Section (MC 129) of the Permitting and Remediation Support Division and the Regional Director (MC Region 11) within 7 days after failing the TCLP Test.

The report shall contain test results, certification that unauthorized waste management has stopped and a summary of alternative disposal plans that comply with RCRA standards for the management of hazardous waste. The report shall be addressed to: Director, Permitting and Remediation Support Division (MC 129), Texas Commission on Environmental Quality, P. O. Box 13087, Austin, Texas 78711-3087. In addition, the permittee shall prepare an annual report on the results of all sludge toxicity testing. This annual report shall be submitted to the TCEQ Regional Office (MC Region 11) and the Water Quality Compliance Monitoring Team (MC 224) of the Enforcement Division by September 1 of each year.

2. Sewage sludge shall not be applied to the land if the concentration of the pollutants exceed the pollutant concentration criteria in Table 1. The frequency of testing for pollutants in Table 1 is found in Section I.C.

TABLE 1

<u>Pollutant</u>	<u>Ceiling Concentration (milligrams per kilogram)*</u>
Arsenic	75
Cadmium	85
Chromium	3000
Copper	4300
Lead	840
Mercury	57
Molybdenum	75
Nickel	420
PCBs	49
Selenium	100
Zinc	7500

\* Dry weight basis

### 3. Pathogen Control

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

- a. Six alternatives are available to demonstrate compliance with Class A sewage sludge. The first 4 options require either the density of fecal coliform in the sewage sludge be less than 1000 Most Probable Number (MPN) per gram of total solids (dry weight basis), or the density of Salmonella sp. bacteria in the sewage sludge be less than three MPN per four grams of total solids (dry weight basis) at the time the sewage sludge is used or disposed. Below are the additional requirements necessary to meet the definition of a Class A sludge.

Alternative 1 - The temperature of the sewage sludge that is used or disposed shall be maintained at or above a specific value for a period of time. See 30 TAC Section 312.82(a)(2)(A) for specific information.

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

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

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

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

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

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

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

- b. Three alternatives are available to demonstrate compliance with Class B criteria for sewage sludge.

Alternative 1 -

- i. A minimum of seven random samples of the sewage sludge shall be collected within 48 hours of the time the sewage sludge is used or disposed of during each monitoring episode for the sewage sludge.
- ii. The geometric mean of the density of fecal coliform in the samples collected shall be less than either 2,000,000 MPN per gram of total solids (dry weight basis) or 2,000,000 Colony Forming Units per gram of total solids (dry weight basis).

Alternative 2 - Sewage sludge that is used or disposed of shall be treated in one of the Processes to Significantly Reduce Pathogens (PSRP) described in 40 CFR Part 503, Appendix B, so long as all of the following requirements are met by the generator of the sewage sludge.

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

Alternative 3 - Sewage sludge shall be treated in an equivalent process that has been approved by the U. S. Environmental Protection Agency, so long as all of the following requirements are met by the generator of the sewage sludge.

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

- v. If the sewage sludge is generated from a mixture of sources resulting from a person who prepares sewage sludge from more than one wastewater treatment facility, the resulting derived product shall meet one of the Processes to Significantly Reduce Pathogens, and shall meet the certification, operation, and record keeping requirements of this paragraph.

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

- i. Food crops with harvested parts that touch the sewage sludge/soil mixture and are totally above the land surface shall not be harvested for 14 months after application of sewage sludge.
- ii. Food crops with harvested parts below the surface of the land shall not be harvested for 20 months after application of sewage sludge when the sewage sludge remains on the land surface for 4 months or longer prior to incorporation into the soil.
- iii. Food crops with harvested parts below the surface of the land shall not be harvested for 38 months after application of sewage sludge when the sewage sludge remains on the land surface for less than 4 months prior to incorporation into the soil.
- iv. Food crops, feed crops, and fiber crops shall not be harvested for 30 days after application of sewage sludge.
- v. Animals shall not be allowed to graze on the land for 30 days after application of sewage sludge.
- vi. Turf grown on land where sewage sludge is applied shall not be harvested for 1 year after application of the sewage sludge when the harvested turf is placed on either land with a high potential for public exposure or a lawn.
- vii. Public access to land with a high potential for public exposure shall be restricted for 1 year after application of sewage sludge.
- viii. Public access to land with a low potential for public exposure shall be restricted for 30 days after application of sewage sludge.
- ix. Land application of sludge shall be in accordance with the buffer zone requirements found in 30 TAC Section 312.44.

#### 4. Vector Attraction Reduction Requirements

All bulk sewage sludge that is applied to agricultural land, forest, a public contact site, or a reclamation site shall be treated by one of the following alternatives 1 through 10 for Vector Attraction Reduction.

Alternative 1 - The mass of volatile solids in the sewage sludge shall be reduced by a minimum of 38 percent.

Alternative 2 - If Alternative 1 cannot be met for an anaerobically digested sludge, demonstration can be made by digesting a portion of the previously digested sludge anaerobically in the laboratory in a bench-scale unit for 40 additional days at a temperature between 30 and 37 degrees Celsius. Volatile solids must be reduced by less than 17 percent to demonstrate compliance.

Alternative 3 - If Alternative 1 cannot be met for an aerobically digested sludge, demonstration can be made by digesting a portion of the previously digested sludge with a percent solids of two percent or less aerobically in the laboratory in a bench-scale unit for 30 additional days at 20 degrees Celsius. Volatile solids must be reduced by less than 15 percent to demonstrate compliance.

Alternative 4 - The specific oxygen uptake rate (SOUR) for sewage sludge treated in an aerobic process shall be equal to or less than 1.5 milligrams of oxygen per hour per gram of total solids (dry weight basis) at a temperature of 20 degrees Celsius.

Alternative 5 - Sewage sludge shall be treated in an aerobic process for 14 days or longer. During that time, the temperature of the sewage sludge shall be higher than 40 degrees Celsius and the average temperature of the sewage sludge shall be higher than 45 degrees Celsius.

Alternative 6 - The pH of sewage sludge shall be raised to 12 or higher by alkali addition and, without the addition of more alkali shall remain at 12 or higher for two hours and then remain at a pH of 11.5 or higher for an additional 22 hours at the time the sewage sludge is prepared for sale or given away in a bag or other container.

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

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

- Alternative 9 -
- i. Sewage sludge shall be injected below the surface of the land.
  - ii. No significant amount of the sewage sludge shall be present on the land surface within one hour after the sewage sludge is injected.
  - iii. When sewage sludge that is injected below the surface of the land is Class A with respect to pathogens, the sewage sludge shall be injected below the land surface within eight hours after being discharged from the pathogen treatment process.

- Alternative 10 -
- i. Sewage sludge applied to the land surface or placed on a surface disposal site shall be incorporated into the soil within six hours after application to or placement on the land.
  - ii. When sewage sludge that is incorporated into the soil is Class A with respect to pathogens, the sewage sludge shall be applied to or placed on the land within eight hours after being discharged from the pathogen treatment process.

**C. Monitoring Requirements**

Toxicity Characteristic Leaching Procedure (TCLP) Test - once during the term of this permit

PCBs - once during the term of this permit

All metal constituents and Fecal coliform or Salmonella sp. bacteria shall be monitored at the appropriate frequency shown below, pursuant to 30 TAC Section 312.46(a)(1):

<u>Amount of sewage sludge (*) metric tons per 365-day period</u>	<u>Monitoring Frequency</u>
0 to less than 290	Once/Year
290 to less than 1,500	Once/Quarter
1,500 to less than 15,000	Once/Two Months
15,000 or greater	Once/Month

(\*) The amount of bulk sewage sludge applied to the land (dry weight basis).

Representative samples of sewage sludge shall be collected and analyzed in accordance with the methods referenced in 30 TAC Section 312.7.

**SECTION II. REQUIREMENTS SPECIFIC TO BULK SEWAGE SLUDGE FOR APPLICATION TO THE LAND MEETING CLASS A or B PATHOGEN REDUCTION AND THE CUMULATIVE LOADING RATES IN TABLE 2, OR CLASS B PATHOGEN REDUCTION AND THE POLLUTANT CONCENTRATIONS IN TABLE 3**

For those permittees meeting Class A or B pathogen reduction requirements and that meet the cumulative loading rates in Table 2 below, or the Class B pathogen reduction requirements and contain concentrations of pollutants below listed in Table 3, the following conditions apply:

**A. Pollutant Limits**

Table 2

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

Table 3

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

\* Dry weight basis

**B. Pathogen Control**

All bulk sewage sludge that is applied to agricultural land, forest, a public contact site, a reclamation site, shall be treated by either Class A or Class B pathogen reduction requirements as defined above in Section I.B.3.

**C. Management Practices**

1. Bulk sewage sludge shall not be applied to agricultural land, forest, a public contact site, or a reclamation site that is flooded, frozen, or snow-covered so that the bulk sewage sludge enters a wetland or other waters in the State.
2. Bulk sewage sludge not meeting Class A requirements shall be land applied in a manner which complies with the Management Requirements in accordance with 30 TAC Section 312.44.
3. Bulk sewage sludge shall be applied at or below the agronomic rate of the cover crop.

4. An information sheet shall be provided to the person who receives bulk sewage sludge sold or given away. The information sheet shall contain the following information:
  - a. The name and address of the person who prepared the sewage sludge that is sold or given away in a bag or other container for application to the land.
  - b. A statement that application of the sewage sludge to the land is prohibited except in accordance with the instruction on the label or information sheet.
  - c. The annual whole sludge application rate for the sewage sludge application rate for the sewage sludge that does not cause any of the cumulative pollutant loading rates in Table 2 above to be exceeded, unless the pollutant concentrations in Table 3 found in Section II above are met.

#### D. Notification Requirements

1. If bulk sewage sludge is applied to land in a State other than Texas, written notice shall be provided prior to the initial land application to the permitting authority for the State in which the bulk sewage sludge is proposed to be applied. The notice shall include:
  - a. The location, by street address, and specific latitude and longitude, of each land application site.
  - b. The approximate time period bulk sewage sludge will be applied to the site.
  - c. The name, address, telephone number, and National Pollutant Discharge Elimination System permit number (if appropriate) for the person who will apply the bulk sewage sludge.
2. The permittee shall give 180 days prior notice to the Executive Director in care of the Wastewater Permitting Section (MC 148) of the Water Quality Division of any change planned in the sewage sludge disposal practice.

#### E. Record keeping Requirements

The sludge documents will be retained at the facility site and/or shall be readily available for review by a TCEQ representative. The person who prepares bulk sewage sludge or a sewage sludge material shall develop the following information and shall retain the information at the facility site and/or shall be readily available for review by a TCEQ representative for a period of five years. If the permittee supplies the sludge to another person who land applies the sludge, the permittee shall notify the land applier of the requirements for record keeping found in 30 TAC Section 312.47 for persons who land apply.

1. The concentration (mg/kg) in the sludge of each pollutant listed in Table 3 above and the applicable pollutant concentration criteria (mg/kg), or the applicable cumulative pollutant loading rate and the applicable cumulative pollutant loading rate limit (lbs/ac) listed in Table 2 above.
2. A description of how the pathogen reduction requirements are met (including site restrictions for Class B sludges, if applicable).
3. A description of how the vector attraction reduction requirements are met.
4. A description of how the management practices listed above in Section II.C are being met.
5. The following certification statement:

"I certify, under penalty of law, that the applicable pathogen requirements in 30 TAC Section 312.82(a) or (b) and the vector attraction reduction requirements in 30 TAC Section 312.83(b) have been met for each site on which bulk sewage sludge is applied. This determination has been made under my direction and supervision in accordance with the system designed to ensure that qualified personnel properly gather and evaluate the information used to determine that the management practices have been met. I am aware that there are significant penalties for false certification including fine and imprisonment."

6. The recommended agronomic loading rate from the references listed in Section II.C.3. above, as well as the actual agronomic loading rate shall be retained.

The person who applies bulk sewage sludge or a sewage sludge material shall develop the following information and shall retain the information at the facility site and/or shall be readily available for review by a TCEQ representative indefinitely. If the permittee supplies the sludge to another person who land applies the sludge, the permittee shall notify the land applier of the requirements for record keeping found in 30 TAC Section 312.47 for persons who land apply.

1. A certification statement that all applicable requirements (specifically listed) have been met, and that the permittee understands that there are significant penalties for false certification including fine and imprisonment. See 30 TAC Section 312.47(a)(4)(A)(ii) or 30 TAC Section 312.47(a)(5)(A)(ii), as applicable, and to the permittee's specific sludge treatment activities.
2. The location, by street address, and specific latitude and longitude, of each site on which sludge is applied.
3. The number of acres in each site on which bulk sludge is applied.
4. The date and time sludge is applied to each site.
5. The cumulative amount of each pollutant in pounds/acre listed in Table 2 applied to each site.
6. The total amount of sludge applied to each site in dry tons.

The above records shall be maintained on-site on a monthly basis and shall be made available to the Texas Commission on Environmental Quality upon request.

#### F. Reporting Requirements

The permittee shall report annually to the TCEQ Regional Office (MC Region 11) and Water Quality Compliance Monitoring Team (MC 224) of the Enforcement Division, by September 1 of each year the following information:

1. Results of tests performed for pollutants found in either Table 2 or 3 as appropriate for the permittee's land application practices.
2. The frequency of monitoring listed in Section I.C. which applies to the permittee.
3. Toxicity Characteristic Leaching Procedure (TCLP) results.
4. Identity of hauler(s) and TCEQ transporter number.
5. PCB concentration in sludge in mg/kg.
6. Date(s) of disposal.
7. Owner of disposal site(s).
8. Texas Commission on Environmental Quality registration number, if applicable.
9. Amount of sludge disposal dry weight (lbs/acre) at each disposal site.
10. The concentration (mg/kg) in the sludge of each pollutant listed in Table 1 (defined as a monthly average) as well as the applicable pollutant concentration criteria (mg/kg) listed in Table 3 above, or the applicable pollutant loading rate limit (lbs/acre) listed in Table 2 above if it exceeds 90% of the limit.
11. Level of pathogen reduction achieved (Class A or Class B).
12. Alternative used as listed in Section I.B.3.(a. or b.). Alternatives describe how the pathogen reduction requirements are met. If Class B sludge, include information on how site restrictions were met.
13. Vector attraction reduction alternative used as listed in Section I.B.4.

14. Annual sludge production in dry tons/year.
15. Amount of sludge land applied in dry tons/year.
16. The certification statement listed in either 30 TAC Section 312.47(a)(4)(A)(ii) or 30 TAC Section 312.47(a)(5)(A)(ii) as applicable to the permittee's sludge treatment activities, shall be attached to the annual reporting form.
17. When the amount of any pollutant applied to the land exceeds 90% of the cumulative pollutant loading rate for that pollutant, as described in Table 2, the permittee shall report the following information as an attachment to the annual reporting form.
  - a. The location, by street address, and specific latitude and longitude.
  - b. The number of acres in each site on which bulk sewage sludge is applied.
  - c. The date and time bulk sewage sludge is applied to each site.
  - d. The cumulative amount of each pollutant (i.e., pounds/acre) listed in Table 2 in the bulk sewage sludge applied to each site.
  - e. The amount of sewage sludge (i.e., dry tons) applied to each site.

The above records shall be maintained on a monthly basis and shall be made available to the Texas Commission on Environmental Quality upon request.

**SECTION III. REQUIREMENTS APPLYING TO ALL SEWAGE SLUDGE DISPOSED IN A MUNICIPAL SOLID WASTE LANDFILL**

- A. The permittee shall handle and dispose of sewage sludge in accordance with 30 TAC Chapter 330 and all other applicable state and federal regulations to protect public health and the environment from any reasonably anticipated adverse effects due to any toxic pollutants that may be present. The permittee shall ensure that the sewage sludge meets the requirements in 30 TAC Chapter 330 concerning the quality of the sludge disposed in a municipal solid waste landfill.
- B. If the permittee generates sewage sludge and supplies that sewage sludge to the owner or operator of a Municipal Solid Waste Landfill (MSWLF) for disposal, the permittee shall provide to the owner or operator of the MSWLF appropriate information needed to be in compliance with the provisions of this permit.
- C. The permittee shall give 180 days prior notice to the Executive Director in care of the Wastewater Permitting Section (MC 148) of the Water Quality Division of any change planned in the sewage sludge disposal practice.
- D. Sewage sludge shall be tested once during the term of this permit in accordance with the method specified in both 40 CFR Part 261, Appendix II and 40 CFR Part 268, Appendix I (Toxicity Characteristic Leaching Procedure) or other method, which receives the prior approval of the TCEQ for contaminants listed in Table 1 of 40 CFR Section 261.24. Sewage sludge failing this test shall be managed according to RCRA standards for generators of hazardous waste, and the waste's disposition must be in accordance with all applicable requirements for hazardous waste processing, storage, or disposal.

Following failure of any TCLP test, the management or disposal of sewage sludge at a facility other than an authorized hazardous waste processing, storage, or disposal facility shall be prohibited until such time as the permittee can demonstrate the sewage sludge no longer exhibits the hazardous waste toxicity characteristics (as demonstrated by the results of the TCLP tests). A written report shall be provided to both the TCEQ Registration and Reporting Section (MC 129) of the Permitting and Remediation Support Division and the Regional Director (MC Region 11) of the appropriate TCEQ field office within 7 days after failing the TCLP Test.

The report shall contain test results, certification that unauthorized waste management has stopped and a summary of alternative disposal plans that comply with RCRA standards for the management of hazardous waste. The report shall be addressed to: Director, Permitting and Remediation Support Division (MC 129), Texas Commission on Environmental Quality, P. O. Box 13087, Austin, Texas 78711-3087. In addition, the permittee shall prepare an annual report on the results of all sludge toxicity testing. This annual report shall be submitted to the TCEQ Regional Office (MC Region 11) and the Water Quality Compliance Monitoring Team (MC 224) of the Enforcement Division by September 1 of each year.

- E. Sewage sludge shall be tested as needed, in accordance with the requirements of 30 TAC Chapter 330.
- F. Record keeping Requirements

The permittee shall develop the following information and shall retain the information for five years.

1. The description (including procedures followed and the results) of all liquid Paint Filter Tests performed.
2. The description (including procedures followed and results) of all TCLP tests performed.

The above records shall be maintained on-site on a monthly basis and shall be made available to the Texas Commission on Environmental Quality upon request.

G. Reporting Requirements

The permittee shall report annually to the TCEQ Regional Office (MC Region 11) and Water Quality Compliance Monitoring Team (MC 224) of the Enforcement Division by September 1 of each year the following information:

1. Toxicity Characteristic Leaching Procedure (TCLP) results.
2. Annual sludge production in dry tons/year.
3. Amount of sludge disposed in a municipal solid waste landfill in dry tons/year.
4. Amount of sludge transported interstate in dry tons/year.
5. A certification that the sewage sludge meets the requirements of 30 TAC Chapter 330 concerning the quality of the sludge disposed in a municipal solid waste landfill.
6. Identity of hauler(s) and transporter registration number.
7. Owner of disposal site(s).
8. Location of disposal site(s).
9. Date(s) of disposal.

The above records shall be maintained on-site on a monthly basis and shall be made available to the Texas Commission on Environmental Quality upon request.

**SPECIAL PROVISIONS:**

1. This permit is granted subject to the policy of the Commission to encourage the development of areawide waste collection, treatment and disposal systems. The Commission reserves the right to amend this permit in accordance with applicable procedural requirements to require the system covered by this permit to be integrated into an areawide system, should such be developed; to require the delivery of the wastes authorized to be collected in, treated by or discharged from said system, to such areawide system; or to amend this permit in any other particular to effectuate the Commission's policy. Such amendments may be made when the changes required are advisable for water quality control purposes and are feasible on the basis of waste treatment technology, engineering, financial, and related considerations existing at the time the changes are required, exclusive of the loss of investment in or revenues from any then existing or proposed waste collection, treatment or disposal system.
2. The permittee shall employ or contract with one or more licensed wastewater treatment facility operators or wastewater system operations companies holding a valid license or registration according to the requirements of 30 TAC Chapter 30, Occupational Licenses and Registrations and in particular 30 TAC Chapter 30, Subchapter J, Wastewater Operators and Operations Companies.

This Category C facility must be operated by a chief operator or an operator holding a Category C license or higher. The facility must be operated a minimum of five days per week by the licensed chief operator or an operator holding the required level of license or higher. The licensed chief operator or operator holding the required level of license or higher must be available by telephone or pager seven days per week. Where shift operation of the wastewater treatment facility is necessary, each shift which does not have the on-site supervision of the licensed chief operator must be supervised by an operator in charge who is licensed not less than one level below the category for the facility.

3. The permittee shall maintain and operate the treatment facility in order to achieve optimum efficiency of treatment capability. This shall include required monitoring of effluent flow and quality as well as appropriate grounds and building maintenance.
4. Prior to construction of the wastewater treatment facilities, the permittee shall submit to the TCEQ Wastewater Permitting Section (MC 148) of the Water Quality Division, a summary submittal letter according to the requirements in 30 TAC Section 317.1. If requested by the Wastewater Permitting Section, the permittee shall submit plans, specifications and a final engineering design report which comply with the requirements of 30 TAC Chapter 317, Design Criteria for Sewerage Systems. The permittee shall clearly show how the treatment system will meet the final permitted effluent limitations required on Page 2 of the permit.
5. Prior to construction of the subsurface area drip dispersal system, the permittee shall submit, to the TCEQ Wastewater Permitting Section (MC148) of the Water Quality Division, an engineering report, including plans and specifications, that meets the requirements in 30 TAC Chapter 222, Subsurface Drip Dispersal Systems, Subchapter D: Design Criteria.
6. The permittee shall comply with the requirements of 30 TAC Section 309.13 (a) through (d). In addition, by ownership of the required buffer zone area, the permittee shall comply with the requirements of 30 TAC Section 309.13(e).
7. According to the requirements of 30 TAC Section 222.81(a), the permittee shall locate the subsurface area drip dispersal system a minimum horizontal distance of 100 feet from surface waters in the state. The permittee shall locate the subsurface area drip dispersal system a minimum horizontal distance of 500 feet from public water wells, springs, or other similar sources of public drinking water and 150 feet from private water wells as described in 30 TAC Section 309.13(c)(1).

The permittee shall not locate a subsurface area drip dispersal system within a floodway according to the requirements of 30 TAC Section 222.81(d). A 500 foot buffer shall be maintained from any Subsurface Area Drip Dispersal System (SADDS) field and all springs. A 100 foot buffer shall be maintained from any SADDS field and the borrow pit located in the western part of the facility.

8. Monitoring requirements contained in the permit are suspended from the effective date of the permit until plant startup. The permittee shall provide written notice to the TCEQ Regional Office (MC Region 11) and the Applications Review and Processing Team (MC 148) of the Water Quality Division at least forty-five (45) days prior to plant startup.
9. Application rates shall not exceed 0.1 gallon per square foot per day. The permittee is responsible for providing equipment to determine the application rate and for maintaining accurate records of the volume of effluent applied. According to the requirements of 30 TAC Section 222.161(d), the permittee shall maintain records documenting all activities associated with maintaining the vegetative cover such as: planting, over-seeding, mowing height, fertilizing, and harvesting. These records shall be maintained for a minimum of five years and be made available to TCEQ staff upon request.
10. Based on the requirements of 30 TAC Section 222.151, the subsurface drip irrigation system shall be designed and managed so as to prevent seepage or percolation out of the root zone, other than leaching in the amount required to maintain the health of the vegetative cover. Surfacing and ponding is prohibited. Creating a condition at the treatment facility or the drip dispersal zones that contributes to vector attraction or odor is prohibited.
11. The permittee will maintain the Bermuda grass overseeded with rye grass on the disposal site. The irrigated crops shall be established and well maintained to provide year-round vegetative growth for effluent and nutrient uptake by the crop and to prevent pathways for effluent surfacing.
12. The subsurface drip irrigation system shall consist of a sufficient number of different dispersal zones. The minimum depth of soil above the drip irrigation lines shall be at least six inches, and the minimum depth of soil below the drip irrigation lines shall consist of at least twelve inches of usable soil. In the event of effluent surfacing due to damage to the drip irrigation lines, effluent application shall be shut-off to the drip irrigation zone and public access to the zone shall be restricted.
13. The permittee shall design and install temporary storage that equals at least three days of the design flow of the facility for times when the subsurface area drip dispersal system is out of service due to an emergency or scheduled maintenance. In addition, the permittee shall pump and haul wastewater from the facility to prevent the discharge of treated or untreated wastewater if complete shutdown of the wastewater treatment facility becomes necessary or if the storage capacity is exceeded.
14. Permanent transmission lines shall be installed from the treatment system to each drip irrigation zone of the subsurface drip irrigation system. According to 30 TAC Section 222.153, the permittee shall flush the subsurface area drip dispersal system from the dispersal zone and return the flush water to a point preceding the treatment system at least once every two months.
15. Irrigation with effluent shall be accomplished only when the area specified is not in use.
16. The permittee shall erect adequate signs stating that the irrigation water is from a non-potable water supply for any area where treated effluent is stored or where there exist hose bibs or faucets. Signs shall consist of a red slash superimposed over the international symbol for drinking water accompanied by the message "DO NOT DRINK THE WATER" in both English and Spanish. All piping transporting the effluent shall be clearly marked with these same signs.

17. The permittee shall maintain a long term contract with the owner(s) of the land application site which is authorized for use in this permit, or own the land authorized for land application of treated effluent.
18. The permittee shall notify the Austin Region 11 Office 30 days before any of the following activities begin in accordance with 30 TAC Section 222.43: construction start up, drip system field layout, completion of any soil amendments, operation of the subsurface drip system, or completion of the subsurface project.
19. Any recharge features uncovered by construction activities shall be addressed in an updated and certified Recharge Feature Plan (RFP). The RFP will include the best management practices implemented that will prevent impact to recharge features from wastewater application and prevent groundwater contamination. The updated certified RFP will be submitted to the TCEQ Water Quality Assessment Team (MC-150) and the Austin Region 11 Office (R-11).
20. The permittee shall construct berms or swales that will prevent, or divert, stormwater from entering all subsurface wastewater application areas.
21. The permittee shall develop a Seeps/Springs Monitoring Plan and submit the plan to the TCEQ Water Quality Assessment Team (MC 150) for review and approval within 30 days of permit issuance.
  - a. At a minimum, the plan shall include:
    - i. A procedure to conduct quarterly field checks at the irrigation fields and down-gradient of the fields to identify emerging springs or seeps.
      - A. Field checks shall be conducted quarterly. If possible, the field checks shall be within 3 days of a 0.5 inch or greater rain event.
      - B. The locations of the field checks shall be recorded in a field log kept onsite for TCEQ inspection for 5 years.
      - C. The quarterly checks shall continue for the life of the system.
    - ii. A procedure to obtain grab samples of springs or seeps in the event that springs/seeps develop after irrigation.
      - A. The samples from the springs/seeps shall be analyzed for chlorides, specific conductivity, the complete nitrogen series [(NO<sub>3</sub> + NO<sub>2</sub> - N), Total Kjeldahl Nitrogen, ammonia-N], total phosphorus, and ortho-phosphate.
      - B. The locations of the seeps/springs that were sampled shall be recorded in a field log kept onsite for TCEQ inspection for 5 years, along with the results of the analyses.
      - C. Monitoring of emerging springs/seeps and of existing seeps shall continue for the life of the system.
  - b. The applicant shall implement the plan upon approval by the Water Quality Assessment Team. The executive director may request modification of the approved plan if future information indicates that it would be necessary for the protection of the environment.

- c. The applicant shall submit the data from the Seeps/Springs Monitoring Plan to the Water Quality Assessment Team (MC 150) of the Water Quality Division and the Compliance Monitoring Section (MC-224) during the month of September of each year for review.
22. Within 30 days from the effective date of the permit, the permittee shall submit a Groundwater Monitoring Assessment Plan to the Water Quality Assessment Team (MC -150) for review, possible modification, and approval by the TCEQ. The plan shall be prepared by a qualified geoscientist, licensed in the State of Texas in the discipline of geology. The plan shall consist of a minimum of 3 downgradient wells, and 1 upgradient well. Sampling shall occur on a frequency not less than semi-annually for laboratory and field parameters. The Groundwater Monitoring Assessment Plan shall provide, at a minimum, the following:
- a. A map showing the locations of all proposed groundwater monitoring wells.
  - b. A map showing the locations of all wells within ½ mile of the site, either in-use or abandoned. If abandoned or uncapped wells are found on the facility acreage, the areas visibly affected by the facility's activities, or in the runoff watercourse, the assessment must address the potential for impacts to groundwater from these sources.
  - c. Groundwater elevations, flow direction, and gradient for the water-bearing zone.
  - d. Construction and installation details, including depths for the monitoring wells. The wells must be installed in accordance with 16 TAC Section 76.1000.
  - e. A groundwater sampling plan which specifies in detail the following:
    1. Well evacuation procedures including the volume to be evacuated before sampling and the method used in handling purged well water;
    2. Sample withdrawal techniques and equipment, sample frequency (quarterly for laboratory analysis and field parameters, and monthly for water level measurements only), sample preservation, chain of custody, analytical methods, and detection and reporting limits;
    3. A Quality Control/Quality Assurance plan for sampling collection and laboratory analysis;
    4. Sample protocol shall include field measurement for water level. pH, total dissolved solids (TDS), conductivity, and temperature;
    5. Laboratory analysis for total nitrogen (mg/l), nitrate nitrogen (mg/l), ammonia as nitrogen (mg/l), phosphorus (mg/l), total dissolved solids (mg/l), chloride (mg/l), sodium (mg/l), iron (mg/l), sulfate (mg/l), total organic carbon (TOC), chemical oxygen demand (COD), and fecal coliform (colonies per 100 ml).

Within 30 days of approval of the Groundwater Quality Assessment Plan by the Executive Director, the permittee shall implement the plan by conducting a groundwater monitoring event in accordance with its approval plan.

The permittee may be required to revise the Groundwater Quality Assessment Plan if review of the groundwater analytical data indicates that more frequent monitoring; additional monitoring wells or monitoring for additional water quality parameters is needed to assess the groundwater impact from the disposal of treated effluent.

23. The permittee shall use cultural practices to promote and maintain the health and propagation of the cover vegetation and avoid plant lodging. Harvesting shall be conducted at least once per year. Harvesting and mowing dates of the grass crops shall be recorded in a log book kept on site and made available to TCEQ personnel upon request.
24. The permittee shall maintain a minimum rootable soil depth below the drip irrigation lines of 12 inches. At least a six-inch layer of soil shall be maintained over the drip lines. If imported soils are utilized, the permittee shall submit no later than 90 days prior to construction to the TCEQ Water Quality Assessment Team (MC 150) and the Wastewater Permitting Section (MC 148) of the Water Quality Division a plan for review/revision and approval describing how the imported soils will be incorporated into the native soils and how soil erosion will be prevented in the affected areas.
25. The permittee shall obtain representative soil samples from the root zones of the irrigation area. Composite sampling techniques shall be used. Each composite sample shall represent no more than 29 acres with no less than two soil cores per each dispersal zone. Subsamples shall be composited by like sampling depth and soil type for analysis and reporting. Soil types are soils that have like topsoil or plow layer textures. These soils shall be sampled individually from 0 to 12 inches and 12 to 24 inches below ground level. Soils shall be sampled in December to February and shall be analyzed within 30 days of sample procurement.

The permittee shall provide annual soil analyses of the irrigation area for pH [2:1 (v/v) water/soil mixture]; electrical conductivity [2:1 (v/v) water/soil mixture]; total Kjeldahl nitrogen (TKN); nitrate-nitrogen; plant-available potassium, calcium, magnesium, sulfur, and phosphorus; and sodium adsorption ratio (SAR) and its constituent parameter analysis, i.e., water-soluble sodium, calcium and magnesium (water-soluble ions expressed in mg/liter). The plant nutrient parameters shall be analyzed on a plant-available basis. Phosphorus shall be analyzed according to the Mehlich III procedure and potassium, calcium, magnesium, sodium, and sulfur may also be analyzed in the Mehlich III extract. Plant-available phosphorus, potassium, calcium, magnesium, sodium and sulfur shall be reported on a dry weight basis in mg/kg; electrical conductivity, in mmho/cm; and pH, in standard units. Kjeldahl procedures that use methods that rely on mercury as a catalyst are not acceptable. If the SAR is 10 or greater, amendments (e.g., gypsum) shall be added to the soil to adjust the SAR to less than 10.

The permittee shall submit the results of the soil sample analyses with copies of the laboratory reports to the TCEQ Regional Office (MC Region 11) and the Water Quality Compliance Monitoring Team (MC 224) of the Enforcement Division by September 1 following each sampling year.

26. Drip irrigation lines shall be installed on the contour and lateral slopes of the tubing shall not exceed 1 percent. The permittee can apply for a variance to this provision by providing

- justification in the detailed design criteria per Chapter 222 indicating how uneven application of effluent due to back draining will be avoided. The permittee shall notify the TCEQ Region 11 office 30 days prior to installation of the drip lines.
27. Each drainfield (zone) shall have at least one moisture sensing device placed at 12 inches below the drip line that will automatically shut off irrigation to the zone when the soil becomes saturated.
  28. Each drainfield (zone) shall be dosed a minimum of three (3) times in a 24-hour period with like intervening rest periods.
  29. The physical condition of the drip irrigation fields will be monitored on a weekly basis. Any areas with problems such as surface runoff, surficial erosion, stressed or damaged vegetation, etc., will be recorded in the field log kept onsite and corrective measures will be implemented immediately.
  30. According to 30 TAC Section 222.163, Closure Requirements, the permittee shall close the system under the standards set forth in this section.
  31. According to the requirements of 30 TAC Section 222.43, the permittee shall notify the TCEQ Regional Office (MC Region 11) for each of the following activities:
    - a. At least 30 days prior to the date the field layout and/or construction startup is scheduled to begin for the proposed subsurface drip irrigation system.
    - b. At least 30 days prior to the date that construction is projected to be complete.
    - c. Within 30 days after operation of the proposed subsurface drip irrigation system.
    - d. If soils are imported, at least 30 days prior to completion of the soil importing project.
  32. According to the requirements of 30 TAC Section 222.45, the permittee shall submit a copy of the issued permit to the health department with jurisdiction in the area where the system is located before commencing operation of the proposed subsurface drip irrigation system. The permittee shall retain proof of delivery for the duration of the permit.

TCEQ PERMIT NO. WQ0014824001

APPLICATION BY	§	BEFORE THE
FORESTAR (USA) REAL ESTATE	§	TEXAS COMMISSION ON
GROUP INC	§	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 Forestar (USA) Real Estate Group Inc. application and Executive Director's Preliminary Decision. As required by 30 Texas Administrative Code (TAC) Section 55.156,<sup>1</sup> before a permit is issued, the Executive Director prepares a response to all timely, relevant and material, or significant comments. The Office of the Chief Clerk received a timely comment letter from **Save Our Springs Alliance (SOSA)**. 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**

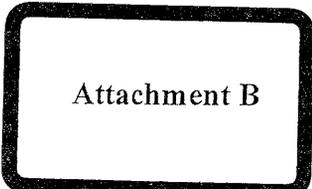
Description of Facility

Forestar (USA) Real Estate Group Inc. (the Applicant) has applied to the Texas Commission on Environmental Quality (TCEQ) for a new permit, No. W0014824001, to authorize the disposal of treated domestic wastewater at a daily average flow not to exceed 125,000 gallons per day via public access subsurface drip irrigation system with a minimum area of 29 acres. This permit will not authorize a discharge of pollutants into water in the state.

The wastewater treatment facility and disposal site will be located at 2303 West Highway 290, Dripping Springs, in Hays County, Texas. The wastewater treatment facility and disposal site will be located in the drainage basin of Onion Creek in Segment No. 1427 of the Colorado River Basin. The facility will serve the Arrowhead Ranch Development residential housing units.

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<sup>1</sup> Unless noted otherwise, all citations refer to Title 30 of the Texas Administrative Code.



### Procedural Background

The application was received on June 25, 2007, and declared administratively complete on August 22, 2007. The Notice of Receipt of Application and Intent to Obtain a Water Quality Permit (NORI) was published on September 9, 2007, in the *Austin American-Statesman*. The Notice of Application and Preliminary Decision (NAPD) for a Water Quality Permit was published on July 23, 2008, in the *Austin American-Statesman*. The public comment period ended on August 22, 2008. 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**

SOSA is concerned that treated wastewater could infiltrate the Onion Creek and recharge the Aquifer causing pollution in Barton Springs and the Colorado River; that the proposed irrigation sites are located in the Onion Creek watershed and the Contributing Zone for the Barton Springs segment of the Edwards Aquifer; and that the treatment plant and drip fields are close to the bank of Onion Creek which recharges the Edwards Aquifer at several points. The SOSA is of the opinion that the soil, vegetation, and other natural conditions between the drip fields and the creek are inadequate to minimize the effect of effluent and prevent pollution in the Edwards Aquifer.

### **RESPONSE 1**

Section 222.81 of the Commission Rules requires the applicant to locate the subsurface area drip dispersal system (SADDS) a minimum horizontal distance of 500 feet from public water wells, springs, or other similar sources of public drinking water; 150 feet from private water wells as described in section 309.13(c)(1); and 100 feet from surface waters in the state. The proposed wastewater treatment plant and area drip fields are approximately nine miles from the Edwards Aquifer Recharge Zone as measured in a straight line, and there are approximately 18 miles between the proposed wastewater treatment plant site and drip fields and the Edwards Aquifer Recharge Zone as measured along the Onion Creek channel. Section 222.77 requires drip dispersal systems to be designed and operated in a manner such that groundwater shall not be polluted.

Moreover, section 222.79 requires that the applicant must supply a recharge feature plan with the application that is signed and sealed by a licensed professional engineer or a licensed professional geoscientist who has inspected the site of the proposed subsurface

area drip dispersal system. The Applicant submitted a Recharge Feature Plan which indicates that the area, including the subsurface irrigation sites, is not located in the recharge zone; that the groundwater depth is approximately from 180 ft to 220 ft below land surface and that the general direction of groundwater flow is southeast; that the major groundwater use is for domestic purposes within a ½ mile radius of the perimeter of the proposed SADDs; that the buffer zone requirements of section 222.81 are met; that wells 90502, 93839, 93862, 93883, 93889, 93895, 94042, 94311, and 118066 are within 500 feet of the property lines; that as a precaution, a groundwater monitoring plan will be implemented; that three monitoring wells will be installed along the eastern boundary of drip field D.

Additional information about the geology of the site can be found in the Recharge Feature Plan (Exhibit 16 to the permit application) and the Preliminary Geotechnical Report included in the permit application.

### COMMENT 2

SOSA is concerned that the Applicant has not demonstrated ownership of the effluent disposal site, a long term lease agreement, or sufficient control of the site that would ensure that the wastewater treatment facility is operated efficiently and without interference. The Applicant submitted a non-binding letter of intent from the Fellers Ranch for the lease or purchase of 27 acres for disposal of treated effluent. The letter indicated that no binding agreement is entered into, thus failing the requirement to provide a long term lease agreement of six years or more.

### RESPONSE 2

TCEQ requires the permittee to maintain a long term contract with the owners of the proposed effluent disposal site. The Fellers Ranch has indicated that their property will be leased by the Applicant for the long term use as the drip irrigation site for the proposed wastewater treatment facilities. The Applicant has confirmed that the lease has been signed by Fellers Ranch and is presently awaiting closing and signature by the Applicant. The initial term of the lease will be 30 years, with two 10-year extensions planned in the document and further extensions are allowed in the plan. If the lease is executed by both parties, the Applicant would have sufficient control of the site and ensure that the wastewater treatment facilities will be operated efficiently and safely.

### COMMENT 3

SOSA is concerned that rainfall could supersaturate the drip fields and cause runoff of effluent into Onion Creek during wet weather conditions. Despite efforts to reduce or avoid irrigation during wet weather conditions, it is difficult to predict the exact timing, amount and rate of rainfall that may occur on the disposal sites. Also, the presence of steep slopes and canyons near Onion Creek could result in runoff reaching the creek.

### **RESPONSE 3**

Special Provision No. 13 of the draft permit would require the Applicant to design and install temporary storage that equals at least three days of the design flow of the facility for times when the subsurface area drip dispersal system is out of service due to an emergency or scheduled maintenance. In addition, the Applicant would be required to pump and haul wastewater from the facility to prevent the discharge of treated or untreated wastewater if complete shutdown of the wastewater treatment facility becomes necessary or if the storage capacity is exceeded. Accordingly, these provisions would serve to accommodate storage during wet weather periods. Moreover, the proposed drip fields are largely located on mildly sloped areas of existing, well established and vegetated grassland prairie that were inspected by TCEQ Regional staff.

These existing prairies will be planted with Bermuda grass and overseeded with Winter Rye grass as a cool season crop, or with other crop grasses acceptable to TCEQ, to maximize water use and uptake from the soil, and also, minimize the likelihood of runoff.

### **COMMENT 4**

SOSA is concerned with various uptake issues. It states that the calculation of wastewater nutrient loadings appears to assume uniform application rate; whereas, distribution is uneven as is uptake of water and nutrients due to design limitations of drip irrigation. SOSA is also concerned with potential clogging, uneven uptake due to slope, effect of sunlight, depth of soil, temperature and other factors.

### **RESPONSE 4**

Section 222.115 requires that SADDs be specifically designed to achieve a uniform application of effluent throughout the dispersal zones. Section 222.121(c) requires drip lines to follow the contour of the site and not exceed 1% lateral slope. Under section 222.83(a)(1), a hydraulic application rate of 0.1 gallons per square foot per day is allowed for drip fields in this geographic area. Therefore, the ED believes that there are sufficient safeguards in place to ensure that any uneven application or update will be minimal.

### **COMMENT 5**

SOSA refers to research that shows that Barton Springs is already suffering from elevated levels of nitrogen and phosphorous, and that sediments of Barton Springs sometimes contain hydro-phobic chemicals at levels toxic to aquatic life. Therefore, nitrogen and phosphorous entering the Edwards Aquifer and Barton Springs through Onion Creek may result in further degradation of the Barton Springs aquatic life habitat.

#### **RESPONSE 5**

The nitrogen application rate for a subsurface area drip disposal system must be calculated using the anticipated nitrogen concentration of wastewater effluent prior to disposal. Under section 222.151, seepage of effluent from the drip field into groundwater is prohibited. Section 222.77 requires drip dispersal systems to be designed and operated efficiently such that groundwater quality shall not be polluted. Therefore, any nitrogen or phosphorous from the subsurface area drip disposal system should not reach Union Creek or the Edwards Aquifer.

#### **COMMENT 6**

SOSA is concerned that the attachments to the Administrative Report of the permit application, which indicates that the Applicant intends to pump effluent a half mile northwest of the treatment plant to the effluent disposal site, were vague and do not properly explain the routing to other drip fields shown in the maps provided.

#### **RESPONSE 6**

The Applicant has submitted a revised map which shows the routing to other drip fields for the disposal of treated effluent. The revised map has been placed in the permit file as public record at the TCEQ Office of the Chief Clerk.

#### **COMMENT 7**

SOSA is concerned that the three days of effluent storage capacity is inadequate to ensure that irrigation will not occur during saturated conditions and prolonged rain events.

#### **RESPONSE 7**

The storage requirement in Special Provision No. 13 of the draft permit is in accordance with section 222.127, which states that the Applicant must design and install temporary storage that equals at least three days of the design flow of the facility for times when the subsurface area drip dispersal system is out of service due to an emergency or scheduled maintenance. That Special Provision would also require the Applicant to pump and haul wastewater from the facility to prevent the discharge of treated or untreated wastewater if complete shutdown of the wastewater treatment facility becomes necessary or if the storage capacity is exceeded. Accordingly, the Applicant should meet the regulatory requirements of dealing with emergency disposal.

#### **COMMENT 8**

SOSA states that it is unclear from the application if a procedure will be in place for prohibiting use of the irrigation fields during irrigation with effluent.

## RESPONSE 8

The proposed wastewater treatment facility does not include surface irrigation fields, it includes subsurface area drip fields. With the drip occurring at least six inches below the ground, public access to the dispersal area during irrigation periods is not limited by chapter 222. However, in the event of effluent surfacing due to damage to the drip irrigation lines, effluent application shall be shut-off to the drip irrigation zone and public access to the zone shall be restricted.

Special Provision No. 12 of the draft permit would require the subsurface drip irrigation system to consist of a sufficient number of different dispersal zones. The minimum depth of soil above the drip irrigation lines would be at least six inches, and the minimum depth of soil below the drip irrigation lines would consist of at least twelve inches of usable soil. In the event of effluent surfacing due to damage to the drip irrigation lines, effluent application shall be shut-off to the drip irrigation zone and public access to the zone shall be restricted.

## COMMENT 9

SOSA is concerned that the proximity of the proposed treatment facilities to nearby homes will expose homeowners and their families to nuisance odors, noise and visual pollution, as well as the possibility that groundwater seepage could result in contamination of wells or springs.

## RESPONSE 9

Nuisance odor is governed by section 309.13(e). Special Provision No. 6 of the draft permit provides that "The permittee shall comply with the requirements of 30 TAC Section 309.13 (a) through (d). In addition, by ownership of the required buffer zone area, the permittee shall comply with the requirements of 30 TAC Section 309.13(e)."

It is not clear what noise and visual pollution might be generated by the facilities, but that is not something addressed in the permitting process.

As to the potential well pollution, section 222.151 prohibits seepage or percolation, surfacing or ponding of effluent or creating a condition at the treatment facility or the drip dispersal zones that contributes to vector attraction or odor.

Additionally, under section 222.77, a subsurface area drip dispersal system shall not contribute to groundwater pollution. Special Provision No. 22 of the draft permit would require the permittee to develop a Seeps/Springs Monitoring Plan and submit the plan to the TCEQ Water Quality Assessment Team for review and approval within 30 days of permit issuance.

Moreover, under section 222.81(a), the permittee would be required to locate the subsurface area drip dispersal system a minimum horizontal distance of 500 feet from

public water wells, springs, or other similar sources of public drinking water; 150 feet from private water wells as described in section 309.13(c)(1); and 100 feet from surface waters in the state.

**COMMENT 10**

SOSA is concerned that the draft permit does not adequately ensure that there will be no discharge of effluent into Onion Creek.

**RESPONSE 10**

TCEQ rules and criteria for drip area dispersal systems are in place to ensure that the system is designed and operated in a manner that ensures no effluent leaves the drip fields. The proposed wastewater treatment facility surpasses the operating criteria for similar treatment facilities in the area. Accordingly, the ED does not anticipate that there will be discharge into Onion Creek.

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

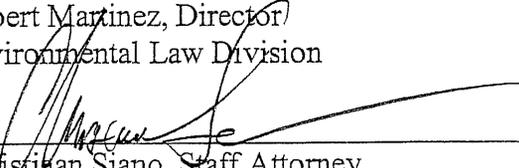
No changes to the draft permit have been made in response to public comment.

Respectfully submitted,

Texas Commission on Environmental Quality

Mark R. Vickery, P.G.  
Executive Director

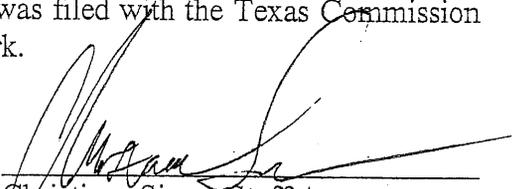
Robert Martinez, Director/  
Environmental Law Division

By   
Christian Siano, Staff Attorney  
Environmental Law Division  
State Bar No. 24051335  
P.O. Box 13087, MC 173  
Austin, Texas 78711-3087  
Tel: (512) 239-6743  
Fax: (512) 239-0606

REPRESENTING THE  
EXECUTIVE DIRECTOR OF THE  
TEXAS COMMISSION ON  
ENVIRONMENTAL QUALITY

CERTIFICATE OF SERVICE

I certify that on November 12, 2008, the "Executive Director's Response to Public Comment" for Permit No. WQ0014824001 was filed with the Texas Commission on Environmental Quality's Office of the Chief Clerk.

  
\_\_\_\_\_  
Christiaan Siano, Staff Attorney  
Environmental Law Division

TEXAS  
COMMISSION  
ON ENVIRONMENTAL  
QUALITY

2008 NOV 12 PM 4: 22

CHIEF CLERKS OFFICE

**Forestar Real Estate  
Subsurface Drip Irrigation  
Map Requested by TCEQ Office of Legal Services  
for Commissioners Agenda**



Texas Commission on Environmental Quality  
GIS Team (Mail Code 197)  
P.O. Box 13087  
Austin, Texas 78711-3087  
February 23, 2009

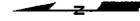


Projection: Texas Statewide Mapping System  
(TSM5)  
Scale 1:272,273

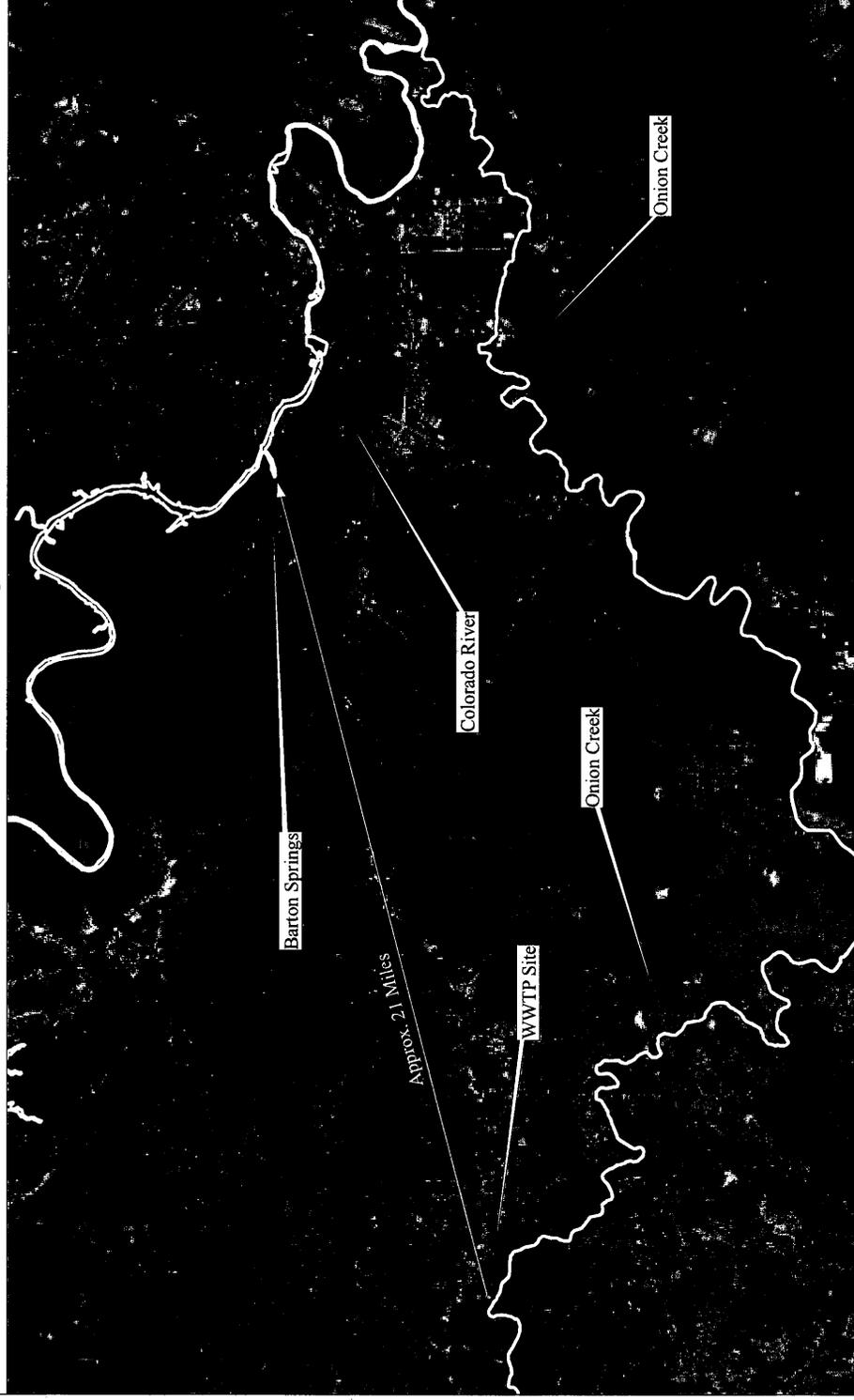
Legend  
WWTP Site

Source: The location of the facility was provided by the TCEQ Office of Legal Services (OLS). OLS obtained the site location information and the requestor information from the applicant. The counties are U.S. Census Bureau 1992 TIGER/line Data (1:100,000). The background of this map is a source photograph from the 2004 U.S. Department of Agriculture Imagery Program. The imagery is one-meter Color-Infrared (CIR). The image classification number is K06\_1-1.

This map depicts the following:  
(1) The approximate location of the WWTP site. This is labeled 'WWTP Site'.



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



Hays County

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

**Forestar Real Estate  
Subsurface Drip Irrigation  
Map Requested by TCEQ Office of Legal Services  
for Commissioners Agenda**



Texas Commission on Environmental Quality  
GIS Team (Mail Code 197)  
P.O. Box 13087  
Austin, Texas 78711-3087  
April 6, 2009



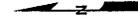
Projection: Texas Statewide Mapping System  
(TSSMS)  
Scale 1:15,000

- Legend**
- ⊙ Applicant
  - WWTP Site
  - ▨ Potential Drip Field

Source: The location of the facility was provided by the TCEQ Office of Legal Services (OLS). OLS obtained the site location information and the requester information from the applicant. The counties are U.S. Census Bureau 1992 TIGER/Line Data (1:100,000). The background of this map is a source photograph from the 2004 U.S. Department of Agriculture Imagery Program. The imagery is one-meter Color-Infrared (CIR). The image classification number is 8x061\_1-1.

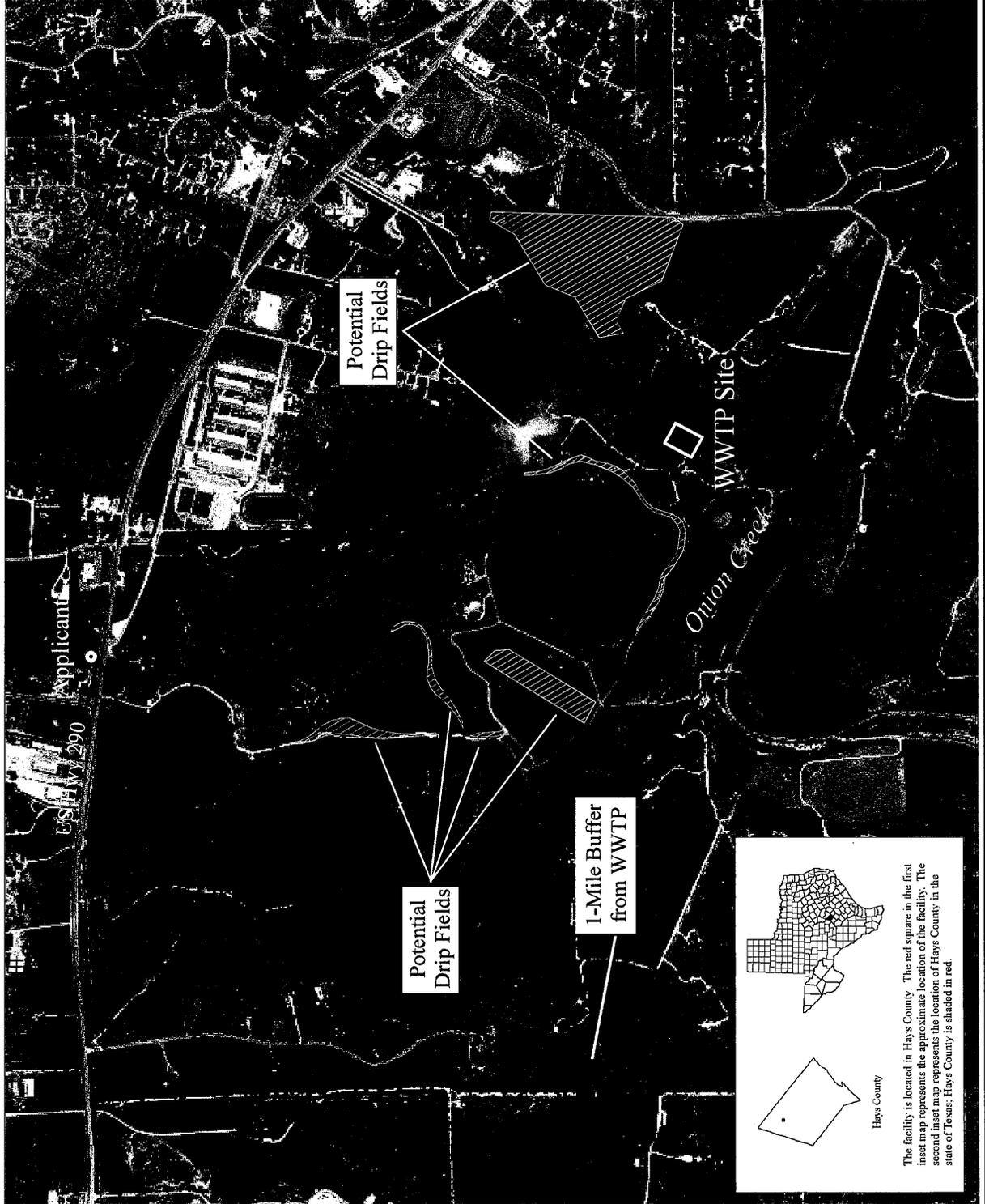
This map depicts the following:

- (1) The approximate location of the applicant. This is labeled "Applicant".
- (2) The approximate location of the WWTP site. This is labeled "WWTP Site".
- (3) The approximate locations of the potential drip fields. These are labeled "Potential Drip Fields".



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

M/McLainburg, CRE-000219022



Hays County

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

# Compliance History Report

Customer/Respondent/Owner-Operator:	CN603055799	Forestar (USA) Real Estate Group Inc.	Classification: AVERAGE	Rating: 4.38
Regulated Entity:	RN105309165	ARROWHEAD RANCH WWTP	Classification: AVERAGE BY DEFAULT	Site Rating: 3.01
ID Number(s):	WASTEWATER PERMIT		WQ0014824001	
Location:	2303 W HIGHWAY 290, DRIPPING SPRINGS, TX, 78620			
TCEQ Region:	REGION 11 - AUSTIN			
Date Compliance History Prepared:	April 09, 2009			
Agency Decision Requiring Compliance History:	Permit - Issuance, renewal, amendment, modification, denial, suspension, or revocation of a permit.			
Compliance Period:	September 01, 2003 to August 31, 2008			

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

Name: David Akoma Phone: 239 - 1444

### Site Compliance History Components

1. Has the site been in existence and/or operation for the full five year compliance period? Yes
2. Has there been a (known) change in ownership/operator of the site during the compliance period? No
3. If Yes, who is the current owner/operator? N/A
4. If Yes, who was/were the prior owner(s)/operator(s) ? N/A
5. When did the change(s) in owner or operator occur? N/A
6. Rating Date: 9/1/2008 Repeat Violator: NO

### Components (Multimedia) for the Site :

- A. Final Enforcement Orders, court judgments, and consent decrees of the state of Texas and the federal government.  
N/A
- B. Any criminal convictions of the state of Texas and the federal government.  
N/A
- C. Chronic excessive emissions events.  
N/A
- D. The approval dates of investigations. (CCEDS Inv. Track. No.)  
N/A
- E. Written notices of violations (NOV). (CCEDS Inv. Track. No.)  
N/A
- F. Environmental audits.  
N/A
- G. Type of environmental management systems (EMSs).
- H. Voluntary on-site compliance assessment dates.  
N/A
- I. Participation in a voluntary pollution reduction program.  
N/A
- J. Early compliance.  
N/A

Sites Outside of Texas

