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TCEQ DOCKET NO. 2021-1001-MWD

APPLICATION OF CITY OF GRANBURY, FOR TPDES PERMIT NO. WQ0015821001	§ § § § §	**BEFORE THE STATE OFFICE OF ADMINISTRATIVE HEARINGS**

GRANBURY FRESH, VICTORIA CALDER, BENNETT'S CAMPING CENTER & RV RANCH, AND STACY AND JAMES RIST'S CLOSING ARGUMENTS

TO THE HONORABLE ADMINISTRATIVE LAW JUDGES:

COME NOW Protestants Granbury Fresh, Victoria Calder, Bennett's Camping Center & RV Ranch, and Stacy and James Rist (collectively, "Protestants") and respectfully submit these Closing Arguments.

Burden of Proof

Even under the process established by Senate Bill 709, at no stage and on no issue do protestants bear a *burden of proof*. Rather, in order to rebut the prima facie presumption, protestants need only to present evidence on an issue.[1] Notably, in 2011 during the Texas Legislature's 82nd Regular Legislative Session, House Bill 3037 was introduced, which *would have* shifted the burden of proof onto the protestants in a TCEQ contested case hearing.[2] However, that bill failed to pass. Senate Bill 709 was able to pass in the 84th Regular Legislative Session largely because it *did not* shift the burden of proof.

The nature of protestants' burden has been specifically addressed by the State Office of Administrative Hearings in both the matter of the *Application of the City of Dripping Springs for New TPDES Permit No. WQ001448803* and the matter of the *Application of Vulcan Construction*

[1] Tex. Gov't Code § 2003.047(i) (i-2).
[2] Tex. H.B. 3037, 82nd Leg., R.S. (2011).

Materials, LLC for Permit No. 147392L001.[3] In the *Dripping Springs* matter, the Administrative Law Judge (ALJ) concluded that protesting parties do not bear a burden of persuasion, and that SB 709 does not shift the burden of proof to protesting parties.[4] Rather, the ALJ found that protestants merely have a burden to present evidence that raises a genuine issue of fact as to whether the permit meets an applicable requirement.[5] Accordingly, the ALJ in the *Dripping Springs* matter concluded, "SB 709 sets out a burden of production on protesting parties, not a burden of persuasion."[6]

In the *Vulcan* matter, the ALJs reached a similar conclusion on this question. There, the ALJs noted that Senate Bill 709 "does not change the underlying burden of proof," and that "the burden of proof remains with the Applicant to establish by a preponderance of the evidence that the Application would not violate applicable requirements and that a permit, if issued consistent with the draft permit, would protect human health and safety, the environment, and physical property."[7]

On each issue addressed in these Arguments, Protestants have produced controverting evidence raising a genuine issue of fact as to whether issuance of the draft permit complies with the respective requirements and would be protective of human health and safety, the environment, and physical property. Accordingly, the question now presented on each issue addressed in these

[3] Tex. State Office of Administrative Hearings, *Application by the City of Dripping Springs for New TPDES Permit No. WQ001448803*, Docket No. 582-18-3000 (Nov. 16, 2018) (Proposal for Decision) ("*Dripping Springs*") (*rev'd on other grounds*); Tex. State Office of Administrative Hearings, *Application of Vulcan Construction Materials, LLC for Permit No. 147392L001*, Docket No. 582-19-1955 (Sep. 3, 2019) (Proposal for Decision).
[4] *Dripping Springs* PFD, at 3-4.
[5] *Dripping Springs* PFD, at 4.
[6] *Dripping Springs* PFD, at 4.
[7] *Vulcan* PFD, at 4 (citing 30 Tex. Admin. Code § 80.17(a), (c)) (Applying substantive requirements applicable to air quality permit applications)

Closing Arguments is whether the Applicant has demonstrated by a preponderance of the evidence that the applicable requirement(s) have been met. The Applicant has failed to meet this burden.

Issue A: Whether the draft permit complies with applicable requirements to abate and control nuisance odors, as set forth in 30 Tex. Admin. Code § 309.13(e).

A. 30 Tex. Admin. Code § 309.13(e) requires a buffer zone of 500 feet from "lagoons with zones of anaerobic activity" including, *per se*, unaerated equalization basins.

Wastewater treatment plant fumes pose a health hazard as well as cause odor. Any organic material in domestic wastewater containing sulfur or nitrogen can, in the absence of oxygen, emit odorous byproducts.[8] Hydrogen sulfide is the most commonly known foul-smelling gas emanating from domestic wastewater collection and treatment facilities. In addition to its rotten-egg odor, hydrogen sulfide is extremely toxic; it can be fatal to inhale even small amounts of hydrogen sulfide.[9] U.S. EPA has thus accurately described it as a treacherous gas.[10]

For this reason, TCEQ has adopted 30 Tex. Admin. Code § 309.13(e) to ensure protection against odor. This rule provides that certain units may not be located closer than 500 feet to a property line in the absence of certain alternative measures. In relevant part, the rule states:

> One of the following alternatives must be met as a compliance requirement to abate and control a nuisance of odor prior to construction of a new wastewater treatment plant unit… (1) Lagoons with zones of anaerobic activity (e.g., facultative lagoons, un-aerated equalization basins, etc.) may not be located closer than 500 feet to the nearest property line. All other wastewater treatment plant units may not be located closer than 150 feet to the nearest property line.[11]

[8] Ex. GF-1, 14.
[9] *Id*.
[10] Ex. GF-1, p. 16.
[11] 30 Tex. Admin. Code § 309.13(e). Granbury has not claimed to meet, and does not meet the other alternatives provided in this rule.

While the term "lagoon" is not defined as a general category, this rule does explicitly designate certain types of units as *per se* "lagoons with zones of anaerobic activities," including "unaerated equalization basins."

The City of Granbury ("Granbury", "the City", or "Applicant") has presented testimony contending that the term "lagoon" should be read as a term of limitation, so that 30 Tex. Admin. Code § 309.13(e) would only apply to what Granbury attempts to distinguish as a "lagoon wastewater treatment plant" of a design dating back to prior to World War I.[12] This is contrary to the plain language of the terms used, and contrary to the regulatory history of the rule at issue.

The plain language of the term "lagoon" encompasses any artificial pool or pond at a wastewater treatment facility. Merriam-Webster's Dictionary defines the term "lagoon" to include, "a shallow artificial pool or pond (as for the processing of sewage or storage of a liquid)."[13] This term would encompass an artificial holding pond in a BNR system just as well as a non-BNR system.

Interpreting the 500-foot buffer zone requirement of 30 Tex. Admin. Code § 309.13(e) as not applying to modern un-aerated equalization basin is contrary to the intent and history of the regulation. The purpose of the location standards contained in the TCEQ rules include, "to minimize the possibility of exposing the public to nuisance conditions."[14] The City of Granbury itself has stated that, "foul odor causing processes/structures" at the facility include "[equalization] storage."[15] Granbury's expert Joshua Berryhill testified that the equalization basin would include "foul air piping . . . to send the foul air to the aerobic selector zone."[16] While Granbury claims it

[12] Ex. COG-300, 24:6-25:14, 32:1-8,
[13] https://www.merriam-webster.com/dictionary/lagoon (last accessed March 22, 2022).
[14] 30 Tex. Admin. Code § 309.10(b).
[15] Ex. COG-101, p. 17.
[16] Ex. COG-300, 27:19-22.

will install systems to capture that foul odor, such systems are not required by the permit, and the protection afforded the public by the TCEQ rules does not rely upon such non-binding good intentions. Rick Crownover, Granbury's City Manager, admitted that the raw sewage entering the facility from the collection system would be anaerobic.[17] Prior to storage in the equalization basin, this raw sewage will have only passed through the bar screens and the fine screens, with no treatment.[18] The unaerated equalization basins at the proposed facility will be authorized to contain anaerobic, uncovered raw sewage with the potential to create foul odor. Exempting such a unit from the 500-foot buffer zone merely because it is an element of a BNR system undermines the protection of the public from nuisance conditions.

Furthermore, the regulatory history of 30 Tex. Admin. Code § 309.13(e) reflects that the Commission intended the 500-foot buffer zone to apply to modern units. Raw sewage did not stop producing odor merely because the design of the holding vessels changed. TCEQ's predecessor originally adopted 30 Tex. Admin. Code § 309.13(e) - establishing the relevant odor buffer zone - in 1989.[19] At that time, the rule solely included "facultative lagoons" as explicitly "lagoons with zones of anaerobic activity."[20] However, in 1997 the rule was amended to add "un-aerated equalization basins, etc." as examples of "lagoons with zones of anaerobic activity."[21] At this point, BNR technology had already been in use.[22] Given that treatment technology evolved over

[17] Tr. V. 2, 182:25 – 183:4.
[18] Tr. V. 2, 182:7 – 23.
[19] 14 Tex. Reg. 4892 (1989) (to be codified at 31 Tex. Admin. Code § 309.13) (Tex. Water Comm'n) (**Attachment A** to this Brief).
[20] Id.
[21] 22 Tex. Reg. 12676, 12681 (1997) (to be codified as an amendment to 30 Tex. Admin. Code § 309.13(e)) (Texas Natural Resource Conservation Commission) (**Attachment B** to this Brief).
[22] Tex. Reg. 12680, 12681 (1997) (to be codified as an amendment to 30 Tex. Admin. Code § 309.13(e)) (Texas Natural Resource Conservation Commission) (**Attachment B** to this Brief).

time, it makes sense that in 1997 TCEQ would add to the categories of units that are explicitly subject to the 500 foot buffer zone.

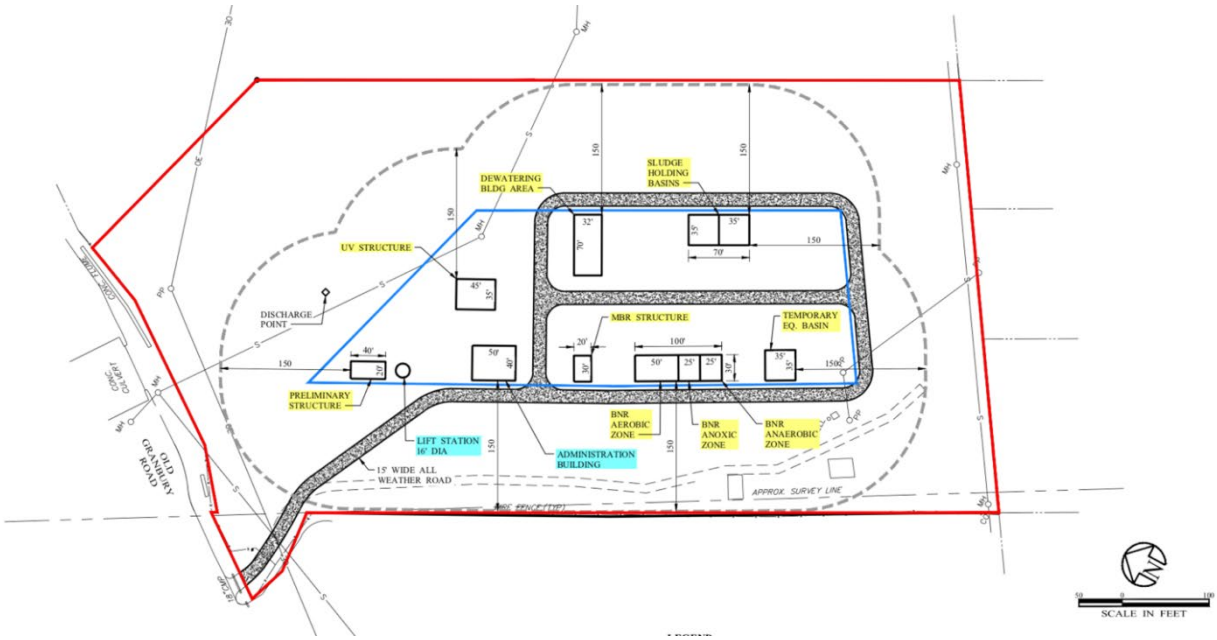
B. The unaerated equalization basin at the proposed facility violates the requirements of 30 Tex. Admin. Code § 309.13(e)(1).

There is no dispute that the draft permit authorizes the location and operation of an equalization basin at the facility.[23] There is no dispute that this equalization basin will be authorized to be unaerated. Applicant's expert Joshua Berryhill testified:

> Q: [E]ven if operated consistent with the representations in the application, could the permit -- could the facility operators still operate the equalization basin in a manner that was unaerated?
> A: I believe so[.][24]

In addition, there is no dispute that the equalization basin at the facility is to be located within less than 500 feet from a property line:[25]

[23] Admin. Rec. Tab A, pp. COG-101, COG-104.
[24] Tr. V. 2, p. 322 (Testimony of Joshua Berryhill on behalf of Granbury), see also Ex. COG-300, 27:11-12 ("The first un-aerated area is the proposed temporary flow equalization (EQ) basin") (Prefiled Testimony of Joshua Berryhill).
[25] Admin. Rec. Tab A, p. COG-90.



These undisputed facts, alone, establish that the draft permit does not comply with 30 Tex. Admin. Code 309.13(e).

It is logical that the unaerated equalization basin would be subject to the 500-foot buffer zone requirement. The influent from the collection system is anaerobic.[26] That anaerobic influent will undergo no treatment prior to the equalization basin other than traveling through the grit and bar screens.[27] The permit does not require any cover for this basin.[28] Accordingly, the unaerated equalization basin as authorized by the permit has a significant potential to create foul odor.

The permit authorizes the equalization basins at the facility to simply hold raw, uncovered wastewater direct from the City's collection system. The influent from the collection system is anaerobic.[29] The City's argument asks the ALJs to find that raw, untreated sewage does not

[27] Tr. V. 2, 182, Admin Record COG-102.
[28] Tr. V. 2, p. 284.

produce foul odor. The City's own witnesses and correspondence reflect an admission that the wastewater within the equalization basin will potentially produce foul odor.

Applicant's claim that the equalization basin is a "temporary" equalization basin has no basis in the record and is irrelevant. As Mr. Berryhill himself stated, the basin itself is a permanent structure.[30] The basin is not "temporary". Even if such a thing existed, the TCEQ rules provide that an "unaerated equalization basin" is *per se* a "lagoon with zones of anaerobic activity" without regard to whether the basin is permanent or temporary, and without regard to residence time of the wastewater held. Even if it were true that the wastewater was only present for less than 48 hours, that would not alter the status of the basin as an unaerated equalization basin, and thus the applicability of the 500-foot buffer zone requirement.

C. The BNR Zone of Anaerobic activity is located within 500 feet of a property line which violates 30 Tex. Admin. Code § 309.13(e).

The BNR zone with anaerobic activity likewise constitutes a unit that must have a 500-foot buffer. Applicant itself represents that this will contain anaerobic activity. While Mr. Berryhill claims that the unit will not include "truly" anaerobic zones, he offers no scientific support for his contention that negative ORPs are not anaerobic.[31] The rules contain no exception for anaerobic zones that are maintained above any certain oxidation reduction potential (ORP).[32] Applicant is applying a definition of "anaerobic" that differs from that set forth in the TCEQ rules. Mr. Berryhill contends that "anaerobic" conditions are those that have "zero oxygen whatsoever, not any -- no free dissolved oxygen, nor any bound oxygen."[33] Under TCEQ rules, "anaerobic" refers to areas

[30] Ex. COG-300, 29:9-15; Tr. V. 2, 262:20-22.
[31] Tr. V. 2, 256: 1-5; Tr. V. 2, 257:16.
[32] *See* Tr. V. 2, 258:3-5 (regarding permit requirements).
[33] Tr. V. 2, p. 257.

where there is an absence of *free* oxygen.[34] Mr. Berryhill may believe that only water with "zero oxygen whatsoever" is anaerobic, but that's not the meaning of the term in the TCEQ rules. While it would seem self-apparent, under the standard established by the TCEQ rules, the BNR anaerobic zone is anaerobic. Granbury's argument that the BNR anaerobic zone is not anaerobic fails.

The BNR anaerobic zone further constitutes a "lagoon." As discussed above, the governing rule parenthetically defines "lagoon" to include an equalization *basin.* The BNR zone is likewise a "basin."[35] Protestants' expert Steve Esmond provided a photographic depiction of a typical BNR unit configuration:

Figure 1
Typical BNR Units[36]

Such a unit falls squarely within the plain meaning of the term "lagoon" as including, "a shallow artificial pool or pond (as for the processing of sewage or storage of a liquid)."[37]

Considering that the BNR anaerobic zone is a lagoon with zones of anaerobic activity, it is required to be located at least 500 feet from the nearest property line pursuant to 30 Tex. Admin. Code § 309.13(e). By allowing the location of this unit within less than 500 feet of the nearest

[34] *See, e.g.,* 30 Tex. Admin. Code § 285.2(3) (defining "anaerobic digestion" to mean, "[t]he bacterial decomposition and stabilization of sewage in the absence of *free* oxygen.")
[35] Admin. Record COG-102, identifying BNR anaerobic zone as "BNR Anerobic Basin."
[36] Ex. GF-303, discussed by Steve Esmond at Ex. GF-300, p. 9.
[37] See footnote 13, above.

property line, the draft permit violates 30 Tex. Admin. Code § 309.13(e). The permit should be denied on this basis. In the matter of the application of Far Hills Utility District for proposed TPDES Permit No. WQ0014555001, discussed in more detail under Issue E below, the TCEQ Commissioners denied the permit based on the conclusion that the Commission may not issue a permit for a wastewater treatment plant if the facility does not meet the requirements of 30 Tex. Admin. Code § 309.13.[38]

Issue B: Whether the draft permit is protective of water quality

A. Granbury has not demonstrated that the proposed discharge will not impair attainable uses of the receiving waters as required by 30 Tex. Admin. Code §§ 307.5(b)(1) & 305.531(4).

1. Granbury has failed to demonstrate that the proposed permit will not impair presumed high quality aquatic life uses of Rucker Creek by lowering dissolved oxygen below the regulatory criteria of 5.0 mg/L required to protect those uses.

Granbury has not demonstrated that the proposed discharge will be protective of existing uses, as required by 30 Tex. Admin. Code § 307.5(b)(1). The protection of existing and attainable uses constitutes the "Tier 1" review under the anti-degradation policy of the TCEQ Water Quality Standards.[39] TCEQ rules also require that a permit must include all requirements necessary to achieve applicable water quality standards.[40] This means that a permit may not cause *or contribute to* a violation of applicable water quality standards. In particular, Granbury has not shown that the

[38] See **Attachment C** to this Brief, the Final Order from TCEQ Docket No. 2005-1899-MWD. The Commission's finding that the draft permit violated Rule 309.13 was contrary to the findings of the Executive Director based on staff practices.
[39] 30 Tex. Admin. Code § 307.5(b)(1).
[40] 30 Tex. Admin. Code § 305.531(4), incorporating by reference 40 CFR § 122.44(d)(1).

proposed discharge is protective of the high aquatic life uses of Rucker Creek. The TCEQ regulations provide that dissolved oxygen must be maintained at a minimum level of 5.0 mg/L in order to protect such uses.[41]

The only modeling performed in the Executive Director's technical review of the permit application was dissolved oxygen modeling conducted by James Michalk.[42] Mr. Michalk's modeling indicated dissolved oxygen in the Lake Granbury segment of the receiving waters would be 4.81 mg/L as a result of this discharge in the final phase.[43] Since 4.81 mg/L is less than 5.0 mg/L, the Executive Director's modeling does not justify a finding that Granbury has met its burden of proof.

None of Mr. Osting's QUAL-TX modeling runs demonstrated compliance with the dissolved oxygen criterion of 5.0 mg/L. Mr. Osting's uncalibrated QUAL-TX runs predicted a dissolved oxygen concentration of 4.81 mg/L in the mid-cove of Rucker Creek – a number still lower than 5.0 mg/L.[44] Mr. Osting's calibrated QUAL-TX runs predicted a dissolved oxygen concentration in the mid-cove of 4.95 mg/L – again, lower than the required 5.0 mg/L.[45] Furthermore, Mr. Osting's calibrated QUAL-TX runs adjusted the depths of the receiving waters without adjusting the reaeration rates for those waters.[46] TCEQ's IPs provide that reaeration rates are, "among the most important" inputs for dissolved oxygen modeling.[47] Reaeration rates vary depending upon the depth of the modeled water.[48] Accordingly, Mr. Osting testified that since he had not adjusted the rearation rates when adjusting the depths of the receiving waters, the resulting

[41] 30 Tex. Admin. Code § 307.7(b)(3)(A)(i); Exh. ED-4, p. 1.
[42] *See* TCEQ Interoffice Memorandum, Admin Record-0203; Exs. ED-5 & ED-18.
[43] Ex. ED-18, 3.
[44] Ex. COG-604.
[45] Ex. COG-607.
[46] Tr. V. 2, 362: 4-7, 14-16.
[47] Exh. ED-3, p. 84.
[48] Tr. V. 2, 360:16-18.

dissolved oxygen concentrations could be lower than his predictions in his calibrated QUAL-TX modeling.[49]

Mr. Osting's QUAL2K modeling did not address critical conditions, and thus also fails to demonstrate that Granbury's proposed discharge meets the applicable 5.0 mg/L standard for dissolved oxygen.[50] The IPs provide that proper modeling must be conducted under "critical conditions." The IPs go on to say that:

> Critical conditions are those combinations of environmental conditions and wastewater inputs that typically result in the lowest dissolved oxygen levels in a water body. Critical conditions are defined by three primary parameters: ambient flow, wastewater flow, and ambient water temperature.

For wastewater flow, critical conditions are the contaminant concentrations at the average flow *limits* of the permit.[51] For ambient flow, critical conditions are the seven-day, two-year low-flow (7Q2) quantities.[52] Mr. Osting's QUAL2K modeling was based upon "typical" wastewater pollutant concentrations[53] – not the permit limits, and thus did not reflect critical conditions for wastewater. Furthermore, the QUAL2K model only predicts values for the day of data upon which it is calibrated. Thus, the QUAL2K runs only predict what the downstream concentrations would be if the discharge had occurred on September 15, 2021,[54] which was not demonstrated to have conditions the same as critical conditions for all relevant receiving streams.

Both Granbury and the Executive Director seem to contend that any value above 4.80 mg/L is *close enough* to 5.0 mg/L to constitute compliance with the applicable standard. This is contrary

[49] Tr. V. 2, 367:23-368:6.
[50] The QUAL2K model is not generally accepted by TCEQ for permitting purposes, and is not sufficiently reliable for use for permitting purposes. Given Mr. Osting's failure to address critical conditions, the ALJs need not reach that unreliability.
[51] ED-3, p. 86.
[52] ED-3, p. 86.
[53] Ex. COG-611, Tables 8 and 9.
[54] Tr. V. 2, 371:10 – 25.

to the plain language of the rules, and contrary to Commission precedent in application of quantitative standards in the TCEQ rules. TCEQ rules at 30 Tex. Admin. Code § 307.7(b)(3)(A)(i) provide that the dissolved oxygen criteria for high aquatic life uses is 5.0 mg/L. Not 4.80 mg/L. The plain language of the rule establishes the applicable standard. Regulatory rules are to be interpreted under the same principles as statutes,[55] and a basic cannon of statutory construction is that "courts presume the Legislature intended for all the words in a statute to have meaning and for none of them to be useless."[56] Likewise, the Commission would be presumed to have intended that all parts of the TCEQ rules would have meaning. The expression of the dissolved oxygen standard as "5.0," with inclusion of a zero in the tenths place, must then be given meaning. The acceptance of a value of 4.80, which is more than a tenth lower than 5.0, renders meaningless the regulatory expression of the 5.0 standard to the tenth's place. Accordingly, the acceptance of values beneath 5.0 as demonstrating compliance with the standard of 5.0 mg/L is in violation of the TCEQ's own regulations.

The position taken by the Executive Director and Granbury with regard to the dissolved oxygen criterion is similar to the position taken by Altair Disposal Service, LLC and the TCEQ Executive Director when the Commission considered Altair's application for a hazardous waste permit. In that matter, the application was subject to the requirements of 30 Tex. Admin. Code § 335.204(e)(4)(B), which provides that:

> A landfill may not be located in areas overlying regional aquifers unless . . . the regional aquifer is separated from the base of the containment structure by a minimum of ten feet of material with a hydraulic conductivity toward the aquifer not greater than 10^{-7} cm/sec or a thicker interval of more permeable material which provides equivalent or greater retardation to pollutant migration.

[55] *Tex. Mut. Ins. Co. v. Vista Community Medical Center, LLP*, 275 S.W.3d 538, 548 (Tex. App. – Austin, 2008) *pet. denied.*
[56] *In Interest of C.J.N – S*, 540 S.W.3d 589, 591 (Tex. 2018).

The issue in that case arose as to how exact the standard of "not greater than 10^{-7} cm/sec" should be interpreted. Altair's witness testified that he did not think this standard was not intended to be "precise, precise, precise," and on that basis Altair contended that it could use a geometric mean to calculate the hydraulic conductivity of the underlying soils, rather than an arithmetic average.[57] In effect, a "geometric mean" reduces the influence of extreme values in the determination of an average.[58] The Executive Director accepted this logic, with the Executive Director's staff taking the position that hydraulic values at the site could meet the standard "collectively" and that the numeric value set forth in the rule left "room for interpretation."[59] The question of whether a geometric mean was acceptable was critical, since using the geometric mean produced a conductivity less than the maximum regulatory conductivity of 10^{-7} cm/sec, while the arithmetic average was greater than this standard.[60]

The ALJs rejected the position of Altair and the Executive Director as to the sufficiency of the demonstration of compliance with the applicable quantitative standard. In doing so, the ALJs emphasized two points. First, the ALJs noted that it was not the protestants' burden to prove that the facility did not meet the applicable requirements – rather, the applicant bore the burden of demonstrating compliance with the rule.[61] Secondly, the ALJs noted that the approach taken by the applicant and Executive Director was inconsistent with the objective of the standard in the rules to ensure that a site was adequately protective of groundwater.[62] Thus, the ALJs rejected the

[57] Tex. ST. Office of Adm. Hearings, *In the Matter of the Application of Altair Disposal Services, LLC for New Hazardous Waste Permit No. 50407,* Docket No. 582-18-1960 (May 7, 2019), Proposal for Decision, p. 44 – 45 ("Altair PFD").
[58] *Id.* at 52 – 54.
[59] *Id.* at 47.
[60] *Id.* at 82.
[61] *Id.*at 99.
[62] *Id.* at 100.

use of the geometric mean by the applicant and executive director, consequently recommending denial of the application on this ground, in addition to several others.[63]

Altair re-urged its arguments to the Commission, arguing that a geometric mean was adequate. Just as the ALJs had rejected this flexible interpretation of the quantitative standard in the TCEQ rules, Commissioner Niermann likewise rejected Altair's arguments, commenting:

> [A]s we heard, it is established that the average of the [conductivity] values exceeds our conductivity limit. . . . [S]o ultimately, I agree with the ALJs' conclusion that the Applicant has not met its burden on geology.[64]

Granbury and the Executive Director invite the ALJs to commit the same error in this case that the ALJs rejected in Altair – applying a "flexible" interpretation of a numeric standard that allows deviation from that standard. But the Commission's rules should be read to say what they mean and mean what they say.

Since all modeling at critical conditions predicts a dissolved oxygen value of less than the minimum required 5.0, Granbury has not met its burden of proof to demonstrate compliance with the 5.0 mg/L criterion of the TCEQ rules for the protection of high-quality aquatic life uses in the receiving waters. This, alone, requires denial of Granbury's application.

2. Granbury has failed to demonstrate that the proposed permit will not impair presumed recreational uses of Rucker Creek by raising E. coli levels above the regulatory criteria of 126 CFU/100ml required to protect those uses and has thus failed to demonstrate compliance with 30 Tex. Admin. Code §§ 305.531, 307.5(b)(1), and 307.4(j)(1).

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[63] *Id.*

[64] Texas Commission on Environmental Quality, Commissioners Public Meeting, September 11, 2019, https://www.youtube.com/watch?v=r79Gu63Cxls&list=PLwzfZK5z8LrGy83uPXX9M2Tr9pYA66-oJ&index=7 at 1:10:45 (Chairman Jon Niermann)(Last visited March 21, 2022).

By regulation, the significant recreational uses of Lake Granbury and Rucker Creek are recognized and require protection. As a perennial water body, Rucker Creek is presumed to be subject to "primary contact recreation 1" use, which would include activities presumed to involve a significant risk of ingestion of water such as wading by children and swimming.[65] Both Dr. Calder and Mr. Nolte testified that these uses are actually made of Rucker Creek, with Dr. Calder commenting:

> From our backyard boat dock on Rucker Creek, we enjoy fishing, boating, kayaking, floating, and swimming. We fish in Rucker Creek, and we eat the fish that we catch.[66]

Mr. Nolte described how his young grandchildren use Rucker Creek:

> We have a rope swing on our property where you can swing from our dock into Rucker Creek. My children and grandchildren, particularly my nine-month-old granddaughter and three-year-old grandson, swim and float in the creek on a regular basis.[67]

Lake Granbury is designated by TCEQ regulation as subject to primary contact recreation 1 uses.[68] The criteria for the protection of primary contact relevant standard for a Tier 1 analysis for *E. coli* bacteria is 126 colony-forming units per 100 ml (hereinafter "126 CFU") in the receiving waters.[69] In addition, 30 Tex. Admin. Code § 307.4(j)(1) separately requires that "attainable uses of aquatic recreation must be maintained, as determined by criteria that indicate the potential presence of pathogens."

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[65] 30 Tex. Admin. Code § 307.4(j)(2)(A) ("Primary contact recreation 1 is presumed to apply to intermittent streams, intermittent streams with perennial pools, nontidal wetlands, and perennial freshwater streams and rivers, except where site-specific information indicates that recreational activities that involve a significant risk of ingestion have little to no likelihood of occurring[.]",30 Tex. Admin. Code § 307.3(50).
[66] Ex. GF-100, 3:14-15.
[67] Ex. GF-200, 3:19-21.
[68] 30 Tex. Admin. Code § 307.10(1) Appendix A (Segment 1205).
[69] *See* Admin Record-0185 (Lake Granbury segment of receiving waters is assigned the use of primary contact recreation); 30 Tex. Admin. Code § 307.7(b)(1)(A)(i).

Bacterial contamination has been a recognized problem in the coves of Lake Granbury, leading to the development of the Lake Granbury Watershed Protection Plan in 2010.[70] That Plan noted that, "Periodic elevated concentrations of *E. coli* and fecal coliform bacteria have been found in the coves of Lake Granbury, causing a failure to meet the criteria for contact recreation use."[71] The Plan went on to note that, "The coves are shallow, dead-end bodies of water with little mixing or interaction with the main body of the reservoir."[72] A finding of the Plan was that, "Bacteria loading reductions within the isolated drainage areas of identified areas can significantly impact bacteria levels in identified areas."[73] Historical TCEQ water quality sampling from Rucker Creek Cove demonstrate numerous exceedances of the 126 CFU/100 ml water quality standard, with concentrations of *E. coli* measured at amounts as high as 6,100 CFU/100 ml.[74]

Protestants presented testimony by Steve Esmond, P.E., an engineer with approximately 40 years of experience in wastewater treatment plant design.[75] Mr. Esmond reviewed the draft permit, EPA's guidance document for recreational water quality criteria, the Lake Granbury Watershed Protection Plan ("WPP"), and historic water quality sampling by TCEQ.[76] The WPP and TCEQ sampling indicated historical recurrence of elevated levels of bacteria, including *E. coli*, in the coves of Lake Granbury, including Rucker Creek Cove.[77] Mr. Esmond opined that the discharge of wastewater at a volume of 2.0 million gallons per day with a concentration of 126 CFU would aggravate this problem.[78] In this way, Protestants' met their burden of production to

[70] Ex. GF-306.
[71] Ex. GF-306, p. 11.
[72] *Id.*
[73] *Id.*
[74] Ex. GF-300, 15:1-4, GF-307.
[75] Ex. GF-300, 4:15.
[76] Ex. GF-300, 5:11 – 6:21.
[77] Ex. GF-300, 14:8-14; *Id*. at 15:1-4.
[78] Ex. GF-300, 14:14-16.

overcome any *prima facie* presumption that the draft permit meets applicable requirements related to bacterial contamination of receiving waters.

In fact, Mr. Esmond noted heightened concerns related to a public water supply intake located relatively shortly downstream of the proposed discharge.[79] Mr. Esmond commented that:

> Drinking water quality should always be the primary consideration when locating the outfall near a freshwater intake. . . . I would estimate the [freshwater domestic water supply] intake to be roughly 2 miles downstream of the point of discharge to Rucker Creek. While the *E. coli* standard of 126 CFU/100 mL mentioned above is based upon human contact, far more dangerous to human health is the ingestion of *E. coli* and other infectious organisms that may be indicated from the presence of *E. coli*. Zero *E. coli*/100 mL is the target for the water supply industry.[80]

In recognition of this use, Lake Granbury is also designated under the TCEQ regulations as subject to public water supply use.[81]

The draft permit sets an effluent limit of 126 CFU for the effluent in both the interim and final phase.[82] Granbury has failed to demonstrate that the discharge of bacteria in this quantity will not cause or contribute to an impairment of the recreational uses of the receiving waters, nor has Granbury demonstrated that the discharge of bacteria in this quantity will not cause or contribute to an impairment of the public water supply uses of Lake Granbury.[83]

The only modeling of *E. coli* concentrations in the receiving streams was performed by Tim Osting on behalf of Granbury. That QUAL-2K model predicted an *E. coli* concentration of 0 CFU in Rucker Creek *with* the discharge. However, this modeling was not based upon critical conditions for the wastewater, since it assumed an *E. coli* concentration in the discharge of no more than 1 CFU, rather than the 126 CFU allowed by the permit.[84] Applicant's own sampling

[79] Admin. Record at COG-144 (pdf page 352 of the Administrative Record).
[80] Ex. GF-300, 15:12 – 16:3.
[81] 30 Tex. Admin. Code § 307.10, Appendix A (Segment 1205).
[82] Admin Record-0114.
[83] Pursuant to 30 Tex. Admin. Code § 307.4(j)(1).
[84] Ex. COG-610; Ex. COG-611.

showed 70 CFU in Rucker Creek in September of 2021 *without the discharge*.[85] Thus, Granbury's modeling of *E. coli* concentrations in the receiving waters is neither relevant nor credible.

Accordingly, Granbury has not demonstrated that the proposed permit includes effluent limits sufficient to protect the water quality standards in the receiving waters, as required by 30 Tex. Admin. Code § 305.531(4), nor has Granbury demonstrated that the proposed discharge will be protective of existing uses of the receiving waters with regard to bacteria, as required by of 30 Tex. Admin. Code § 307.5(b)(1) and 307.4(j)(1).

B. Granbury has not demonstrated that the proposed permit will not cause degradation of receiving waters and has not demonstrated that the degradation resulting from the discharge is necessary for important social or economic development, as required by 30 Tex. Admin. Code § 307.5(b)(1).

Rucker Creek and the Lake Granbury segment of the receiving waters are classified as having high aquatic life use under the TCEQ rules, and therefore TCEQ's decision on Granbury's permit application is subject to a Tier 1 and Tier 2 anti-degradation review.[86] The Tier 1 review (preservation of attainable uses) has been discussed immediately above. The Tier 2 anti-degradation policy requires that high quality waters not be degraded absent a showing that degradation is necessary for important social or economic development.[87] A lowering of water quality may constitute degradation even if existing uses are not impaired, with "degradation" defined by rule as a lowering of water quality by more than a *de minimis* amount.[88] The baseline water quality for a Tier 2 review – from which *de minimis* would properly be determined - is the

[85] Ex. COG-700, 35:7-10.
[86] 30 Tex. Admin. Code § 307.5(b)(2). *Save Our Springs Alliance, Inc. v. Texas Commission on Environmental Quality*, No. D-1-GN-19-003030 (345th Dist. Ct., Travis County, Tex. Oct. 29, 2020) at page 5.
[87] 30 Tex. Admin. Code § 307.5(b)(2).
[88] *Id.*

highest water quality sustained in the receiving water since November 28, 1975.[89] TCEQ's IP's provide for a parameter-specific consideration of degradation, with parameters of potential concern for a Tier 2 review explicitly including dissolved oxygen, bacterial indicators of recreational suitability, nutrients, as well as "any other *constituents* that could lower water quality."[90]

With regard to multiple parameters, Granbury has not demonstrated that the proposed discharge will not lower water quality by less than a *de minimis* extent.

1. *Granbury has not demonstrated that dissolved oxygen will be lowered by a less than* de minimis *extent.*

Granbury has not demonstrated that dissolved oxygen will not be lowered by more than a *de minimis* extent. All critical conditions modeling performed by either the Executive Director or Granbury reflects the lower of dissolved oxygen concentrations by more than 1.0 mg/L at one or more points downstream of the discharge. In fact, all critical conditions modeling contained in the record performed reflects a final dissolved oxygen concentration of less than the high aquatic life criterion of 5.0 mg/L. No demonstration has been made that such a change is a less than *de minimis* lowering of water quality. To the contrary, Mr. Woody Frossard on behalf of Protestants testified that, "The City has not demonstrated that Dissolved Oxygen will not be lowered to a greater than *de minimis* amount."[91]

2. *Granbury has not demonstrated that bacterial indicators of recreational suitability (E. coli) will be lowered by a less than* de minimis *extent.*

[89] 30 Tex. Admin. Code 307.5(c)(2)(B) (November 28, 1975 is apparently the date on which Texas first adopted water quality standards under the 1972 amendments of the federal Clean Water Act, thus reflecting the goal of avoiding degradation of water quality subsequent to adoption of the standards).
[90] Ex. ED-3, pp. 61 – 62 (emphasis added).
[91] Ex. GF-500, p. 16.

Granbury has not demonstrated that the lowering of bacterial water quality will be less than *de minimis.* The quality of the receiving waters with respect to bacteria has clearly been degraded over the years, as reflected by the development of the Watershed Protection Plan to address bacteria levels within Lake Granbury. The Watershed Protection Plan noted that, "In 1993, a cooperative study between the Texas Water Commission, the Brazos River Authority (BRA) and the Hood County Health Unit first identified an **increase** in fecal coliform levels in the lake."[92] Despite this official acknowledgment that bacterial levels have increased since 1975, no determination was made of the highest water quality for *E. coli.* since November 28, 1975, nor did the Executive Director or Granbury attempt to make that determination in considering Granbury's application.[93] Without such a determination, the extent of the lowering of water quality from baseline cannot be determined, and it cannot be said that the discharge will result in a less than *de minimis* lowering of bacterial indicators of recreational suitability in comparison to baseline water quality. In fact, Jeff Paull, who the Executive Director presented as having performed the Tier 2 anti-degradation review,[94] testified that he did not know whether the permit would prevent a more than *de minimis* lowering of water quality with respect to *E. coli*:

Q: So what was that Tier 2 review that you did with regard to *E. coli*?
A: So it's asking if water quality with respect to *E. coli* in this case will be lowered by more than a de minimis amount.
(Simultaneous discussion)
Q: And it's asking -- well, go ahead.··Let me -- I apologize.
A: Yeah.··Applying a, you know, the *E. coli* limits to the -- **your permit should help protect water quality from dropping below our criteria.**
Q: Will it prevent water quality by being lowered by more than a de minimis amount?
A: I don't know.
Q: With regard to *E. coli*, what constitutes a greater than de minimis change?

[92] Ex. GF-306, p. 17.
[93] Tr. V. 1, 132:4-13.
[94] Ex. ED-11, 14:27 – 15:7.

A: I don't know. [95]

Granbury presented Mr. David Flores to testify as to whether issuance of the permit would comply with TCEQ's Tier 2 anti-degradation requirements.[96] However, Mr. Flores solely evaluated whether the proposed discharge complied with Tier 2 requirements related to dissolved oxygen and nutrients.[97] With regard to *E. coli*, Mr. Flores' analysis went no further than that of the Executive Director's staff – who could not even say whether the proposed discharge would result in a more than de minimis lowering of water quality with regard to bacteria.

3. *Granbury has not demonstrated that nutrient water quality will be lowered by a less than de minimis extent***.**

Granbury has likewise not demonstrated that the lowering of nutrient water quality resulting from the discharge will be less than de minimis. The Watershed Protection Plan noted that, "Results of the data evaluation also indicate that there is an increasing trend in nutrients in the main body of Lake Granbury."[98] This clearly indicates that higher water quality for nutrients was previously sustained in Lake Granbury. Yet, no determination of historic water quality for nutrients within Lake Granbury or Rucker Creek and Cove has been made.[99] The testimony of Woody Frossard graphically demonstrated the potential consequences for a water body resulting from the addition of nutrients:

[95] Tr. V. 1, 130 :12 – 131 :
[96] Ex. COG-700, 25 :18 – 28 :8.
[97] Ex. COG-700, 26 :22 – 27 :2.
[98] Ex. GF-306, p. 17.
[99] Tr. V. 1, 118 :1-3.

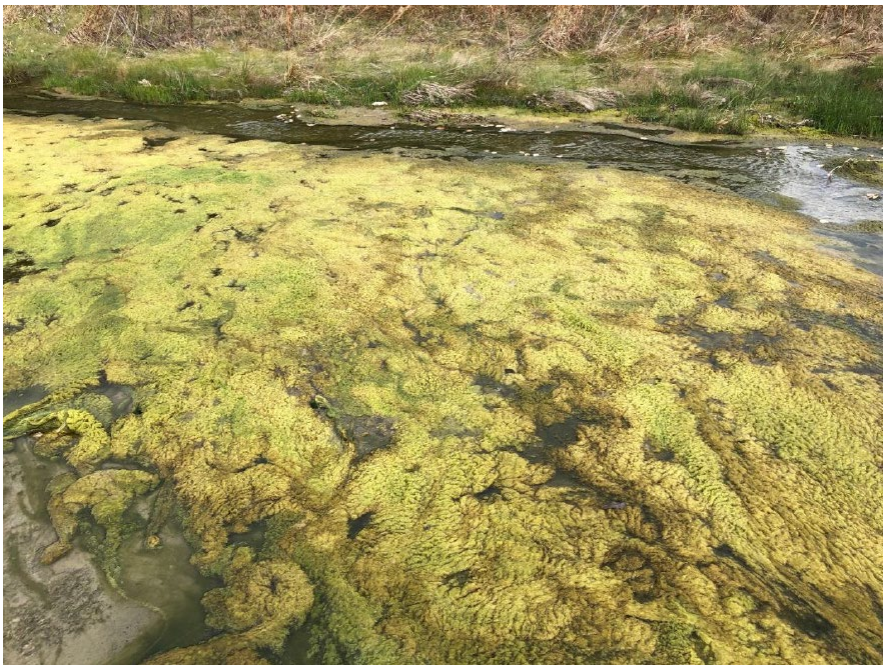

Figure 1: Algae Mats within phosphorus-sensitive stream

Granbury's proposed discharge will be permitted to discharge more than 1.5 tons of phosphorus per year into a tributary of Rucker Creek,[100] and the effluent will not be appreciably diluted between the discharge and Rucker Creek.[101] The draft permit has no limit on the quantity of nitrogen which may be discharged.[102] In light of the quantity of nutrients that the draft permit would allow to be discharged, Mr. Frossard testified that Granbury has not demonstrated that the discharge will result in a less than *de minimis* lowering of water quality with respect to nutrients.[103]

Both the Executive Director and Granbury recognized phosphorus loadings would be a problem and cause a degradation to water quality. Mr. Paull recognized the discharge will be in a sensitive site.[104] Granbury's witness Mr. Flores agreed that there needed to be a phosphorus limit

[100] Ex. ED-7, 2 & 2a (8.3 lb/d is equivalent to 3,029.5 lb/year, which is equivalent to 1.515 tons/year).
[101] GF-300, 17 :18-19.
[102] Ex. ED-7, 2.
[103] Ex. GF-306, 17-18.
[104] Ex. ED-11, 10:16.

"to try and reduce nutrient loading in Rucker Creek and Rucker Creek Cove".[105] Mr. Flores even admits that the modeling done by Mr. Osting shows that there will be a lowering of water quality for dissolved oxygen, ammonia, phosphorus, chlorophyll-a and bottom algae, but goes on to say it does not exceed Rucker Creek's assimilative capacity because the predicted concentrations do not exceed site specific species thresholds.[106] Therefore, under Mr. Flores' analysis water quality is not lowered below a *de minimis* amount.

There are many problems with Mr. Flores' testimony. The Procedures to Implement the Texas Water Quality Standards, RG 194 make it clear that when dealing with phosphorus and Nitrogen the examination involves whether significant elevations of algae and growth of aquatic vegetation themselves are expected to occur.[107] In Exhibit COG-706, *Nutrient and Biological Assessment of the Blanco River 2019*, relied on in Mr. Flores' prefiled testimony[108], but dismissed as a subjective opinion in his live testimony[109], Professor Ryan King, the report author, concluded that his tests showed nuisance algae proliferated when you had between 20 and 35 micrograms per liter of total phosphorous, and he believed his results are very similar in Texas[110]. Mr. Flores' ANALAB samples showed that the baseline phosphorous levels are already beyond being a problem for nuisance algae growth according to Professor King's report. For example, Mr. Flores took a water sample No 2061982 on Rucker Creek that had a phosphorus level of 115 micrograms per liter, another at No. 2061980 on Rucker Cove that had a phosphorus level of 118 micrograms per liter; all well in excess of the levels that Professor King's report said caused nuisance algae.[111] To make matters worse, Granbury proposes to add 1.5 million tons of phosphorus a year from its

[105] Ex. COG-700, 19:17-20.
[106] Ex. COG-700, 37:10-20.
[107] Ex. ED-3, 65-66.
[108] Ex. COG-700, 34:1-16.
[109] Tr. V. 2., 418:8.
[110] Ex. COG-706, 10.
[111] COG-027519, 6-8.

proposed plant on top of the phosphorus already in Rucker Creek. Unquestionably, this will be a catastrophe for the biologic and recreational values of Rucker Creek and Rucker Cove. This change is much more than a *de minimis* impact to water quality.

Further supporting the conclusion that the lowering of water quality can be expected to occur, Mr. Frossard identified an error in how the Executive Director staff conducted the nutrient screening analysis; namely, the staff used the volume of Lake Granbury to predict nutrient loading in Rucker Creek Cove (Lake Granbury is much larger than Rucker Creek Cove and nutrients from the discharge would be significantly diluted).[112] Mr. Frossard performed the same analysis using the actual dimensions of Rucker Creek Cove and identified that total phosphorous in the Cove would increase 651% as a result of the interim phase of the discharge.[113] In addition, Mr. Frossard noted that there is no limit for nitrogen in the draft permit. Nitrogen in the discharge will become readily available for algal uptake.[114] Not only did TCEQ underestimate the extent of nutrient loading likely to occur, Mr. Frossard notes that TCEQ did not model or analyze the potential of the discharge to cause health risks from Cyanobacteria (a type of algae).[115] Mr. Frossard testified that in his opinion the Executive Director did not consider potential health impacts from harmful algal blooms.[116]

4. Granbury has not demonstrated that issuance of the draft permit is necessary for important social or economic development.

TCEQ's IPs provide that information relevant to a determination of whether a discharge is necessary for important social or economic development includes an evaluation of alternatives,

[112] GF-500, 18:22, 19:10-11.
[113] GF-500, 19:15-16; 20:8-15.
[114] GF-500, 21:14.
[115] GF-500, 13:23; 14:1.Tr. V. 1, 58:20-25.
[116] GF-500, 9:16.

including alternatives that could eliminate or reduce the anticipated degradation, and an assessment of cost and feasibility for reasonable alternatives.[117] EPA's Permit Writer's Manual provides that in evaluating whether a discharge is necessary for important social or economic development:

> The state would perform an alternatives analysis to evaluate whether the proposed discharge is actually *necessary* (i.e., whether there are less degrading feasible alternatives) and that might include consideration of a wide range of alternatives (e.g. non-discharging options, relocation of discharge, alternative processes, and innovative treatments).[118]

Granbury has not presented an alternatives analysis that demonstrates that the proposed discharge is necessary for important social or economic development. Granbury presented the testimony of Ray Perryman to testify as to the alleged negative consequences if no additional wastewater capacity was added. However, Granbury did not present an evaluation of alternatives that would avoid the proposed discharge.

Furthermore, Granbury has not demonstrated that the discharge *as proposed to be permitted* is necessary for important social or economic development. The evidence demonstrates that TCEQ has issued permits with more stringent nutrient phosphorus limits,[119] as well as nitrogen limits.[120] With regard to bacteria, Mr. Esmond testified that more stringent bacterial limitations are easily achievable.[121] In fact, Mr. Osting himself on behalf of Granbury offered testimony that significantly lower concentrations of *E. coli* and phosphorus are attainable.[122] Neither Mr. Perryman, nor any other witness presented by Granbury, address the cost of the additional levels of treatment (if any) that would be needed to meet the more stringent permit limitations identified. The economic or social necessity of discharging *E. coli* at a concentration of 126 CFU/100ml into

[117] Ex. ED-3, pp. 66-67.
[118] Ex. Bennett 3, p. 16 of 17 (emphasis in original).
[119] GF-500, 29:5-9.
[120] GF-507, 6.
[121] GF-300, 13:22-14:2.
[122] Ex. COG-610.

a water body already impaired for harmful bacteria in which young children swim shortly upstream of a public water supply has simply not been shown. Nor has the economic or social necessity of discharging more than 1.5 tons of phosphorus per year into a tributary of Rucker Creek been shown. The evidence demonstrates that lower effluent concentrations for both *E. coli.* and nutrients are technically achievable, but Granbury has made no showing that economic or social necessity justifies not including limits to ensure attainment of those lower effluent concentrations.

Issue C: Whether the draft permit is protective of groundwater and wells.

There are ample other grounds justifying denial of the application such that the issues of groundwater and wells need not be reached. As discussed above, the City has not met its burden with respect to the issue of water quality. In addition, as discussed above, the current draft permit violates the TCEQ's rules regarding odor buffer zones for wastewater treatment plants. Additional issues discussed below relate to those two key problems and further justify denial of the application.

Issue D: Whether the draft permit is protective of the health of the requesters and their families, livestock and wildlife, including endangered species.

As described in the draft permit and permit application, the discharge from the proposed treatment facility goes first into an unnamed tributary and then into Rucker Creek. People live all along Rucker Creek within one mile of the discharge route, including members of Granbury Fresh. Dr. Victoria Calder testified regarding how her home and recreational boat dock are located directly on Rucker Creek. She testified that her and her family fish, boat, kayak, float, and swim in Rucker Creek from their backyard boat dock.[123] Her family eats fish they catch in the creek.[124]

[123] Ex. GF-100, 3:8-15.
[124] Ex. GF-100, 3:15.

Furthermore, her family draws water from Rucker Creek beyond their backyard to use for irrigating their lawn, and their family and friends, including young children, spend a lot of time on their backyard lawn.[125]

Similarly, Jason Nolte, who lives even closer to the discharge point, testified that he has a rope swing on his property, which is frequently used by his children and grandchildren, who enjoy swimming in Rucker Creek.[126] Mr. Nolte takes a boat on the creek and his family swims off the boat. He fishes for crappie, catfish, and bass in Rucker Creek regularly.[127]

Dr. Calder also testified about her observations that Rucker Creek can run dry during periods of drought.[128] Mr. Nolte testified that for much of the year, Rucker Creek in the area around his house is very still and does not flow.[129] TCEQ staff Jeff Paull determined that the first receiving water for the discharge is an intermittent stream with perennial pools.[130] He determined that Rucker Creek is a perennial stream, with high aquatic life use and classified as primary contact recreation.[131]

A. *E. coli* and Risks to Human Health

Protestants' expert Steve Esmond testified that the discharge of 2.0 million gallons per day with an effluent limit for *E. coli* of 126 colony forming units (CFU) per 100 ml will worsen already concerning bacterial levels in the receiving waters.[132] *E. coli* in water indicates human pollution and the possible existence of other bacteria and infectious biological agents.[133] When you have

[125] Ex. GF-100, 3:16.
[126] Ex. GF-200, 3:19.
[127] Ex. GF-200, 3:22.
[128] Ex. GF-100, 4:8.
[129] Ex. GF-200, 4:11.
[130] Ex. ED-11, 7:29.
[131] Ex. ED-11, 7:32.
[132] Ex. GF-300, 8:14-15.
[133] Ex. GF-300, 12:16-18.

126 CFU/100 ml of *E. coli,* you can expect that 36 of 1,000 primary contact recreators will become ill.[134] *E. coli* levels exceeding 126 CFU/100 ml have been measured in TCEQ sampling of Rucker Creek.[135] Bacteria can tend to build up in the coves of Lake Granbury, such as Rucker Creek Cove, which has prompted regional concerns over bacteria levels in these coves, as addressed in the Lake Granbury Watershed Protection Plan.[136] Therefore, adding more polluted discharge with 126 CFU/100 ml of *E. coli* into Rucker Creek can be expected to lead to gastrointestinal illnesses among a not insignificant number of recreators, such as members of Granbury Fresh who regularly recreate in the Creek.

B. Algal blooms and impacts to fish and animals

The Applicant has not met its burden of proof regarding this issue. It is undisputed that this discharge will load nutrients into Rucker Creek Cove.[137] As testified to by Mr. Frossard, such loading will likely lead to algal blooms, including Cyanobacteria blooms, which are toxic to animals.[138] Mr. Frossard testified as to the fact that one of the major causes of the proliferation of Cyanobacteria is excessive phosphorous and nitrogen.[139] Mr. Frossard also testified that he did not believe the discharge will result in a less than *de minimis* lowering of water quality with respect to dissolved oxygen or nutrient impacts.[140]

Issue E: Whether the proposed discharge will adversely impact recreational activities

A. Granbury has not demonstrated that the proposed permit will not adversely impact recreational activities.

[134] Ex. GF-305, 28 (EPA Recreational Water Quality Criteria).
[135] Ex. GF-300, 15:4.
[136] GF-300, 14:6-17.
[137] Admin Record-0114; GF-500, 19:15-18.
[138] GF-500, 29:14-20; GF-500, 14:8-9
[139] GF-500, 14:10.
[140] GF-500, 17:13.

The City of Granbury has failed to prove that the recreational activities of the land adjacent to the plant, the Bennett Camping Center and RV Ranch owned by the Stacy and James Rist and Leland and Ila Fae Bennett, will not be adversely impacted. The relevant section of the Texas Water Code is as follows:

> Sec. 26.030. PERMIT; EFFECT ON RECREATIONAL WATER.
> (a) In considering the issuance of a permit to discharge effluent into any body of water having an established recreational standard, the commission shall consider any unpleasant odor quality of the effluent and the possible adverse effect that it might have on the receiving body of water, and the commission may consider the odor as one of the elements of the water quality of the effluent.
> (b) In considering the issuance of a permit to discharge effluent comprised primarily of sewage or municipal waste into any body of water that crosses or abuts any park, playground, or schoolyard within one mile of the point of discharge, the commission shall consider any unpleasant qualities of the effluent, *including unpleasant odor, and any possible adverse effects that the discharge of the effluent might have on the recreational value of the park, playground, or schoolyard*.[141]

The relevant TCEQ rules discuss how some of the considerations relating to recreation should be evaluated:

> RULE §309.13 Unsuitable Site Characteristics
>
> (e) One of the following alternatives must be met as a compliance requirement to abate and control a nuisance of odor prior to construction of a new wastewater treatment plant unit, or substantial change in the function or use of an existing wastewater treatment unit.
>
> (1) Lagoons with zones of anaerobic activity (e.g., facultative lagoons, *un-aerated equalization basins, etc.*) may not be located closer than 500 feet to the nearest property line. All other wastewater treatment plant units may not be located closer than 150 feet to the nearest property line.

[141] Texas Water Code § 26.030 (Emphasis added)

RULE §309.14 Prohibition of Permit Issuance

(a) The commission may not issue, amend, or renew a permit for a wastewater treatment plant if the facility does not meet the requirements of §309.13 of this title (relating to Unsuitable Site Characteristics).

(b) Nothing in this chapter shall be construed to require the commission to issue a permit, regardless of whether the proposed facility would satisfy the requirements of §309.12 of this title (relating to Site Selection to Protect Water in the State) and §309.13 of this title

As can be seen in **Exhibit Bennett 0 pp 5-7 and Exhibit Bennett 2,** the RV Ranch is a park and playground and has numerous slots filled with travel trailers and RVs:

Despite Bennett's Camping Center and RV Ranch being located adjacent to the proposed North plant, and the City having other options[142], the City is arguing that a 150-foot buffer and some covered and filtered proposed treatment units are all that are needed to satisfy its burden of proof under Texas Water Code Section 26.030. The failure of that argument is discussed under Issue A, above. 30 Tex. Admin. Code Chapter 26.030, however, requires more than mitigating odor concerns: "the commission shall consider any unpleasant qualities of the effluent, *including unpleasant odor, and any possible adverse effects that the discharge of the effluent might have on the recreational value of the park, playground, or schoolyard*."[143] Stacy Rist testified that the Rists' and the RV Ranch are concerned about the proposed plant, its operation, and its discharge impacting their land, Rucker Creek, Rucker Cove and Lake Granbury resulting in, among other

[142] Tr. V. 2, 185-187.
[143] Texas Water Code § 26.030(b).

things, loss of the current guests, negative reviews, and reduced revenues. Granbury has no evidence to refute the Rists and Bennett Camping Center and RV Ranch's concerns.

The discussion under Issue D contains details regarding the extensive recreational uses of Rucker Creek. The degradation of Rucker Creek and loading of nutrients, discussed under the Tier 2 discussion in Issue B, will negatively impact recreational activities like swimming in the creek by causing algal blooms.

Issue F: Whether the application is accurate and complete

The City was required to provide information in the application regarding the justification for the permit.[144] As part of this requirement, the City's application needed to provide a list of all domestic wastewater treatment facilities located within a three-mile radius of the proposed wastewater treatment facility.[145] In the event such facilities were identified, the applicant needed to send certified letters to those facilities inquiring about whether those facilities could provide wastewater service for the proposed service area.[146] Such letters and response letters have to be included in the permit application.[147]

The City did not provide this required information in the permit application.[148] Luci Dunn, the engineering consultant who prepared the City's permit application, admitted at the hearing that no letters were ever sent to the operator of a wastewater treatment facility within three miles of the proposed facility.[149] The application is thus incomplete with respect to required information regarding the justification for the permit.

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[144] *See* GF-5, 64 (TCEQ Application Instructions).
[145] GF-5, 65.
[146] *Id*.
[147] *Id*.; 30 Tex. Admin. Code § 281.5(7); 30 Tex. Admin. Code § 305.45(a)(6)(E).
[148] Admin Record-0323.
[149] Tr. V. 2, 209:4. There are actually two facilities within three miles, but the other one is owned and operated by the City of Granbury.

Instead of providing certified letters and responses to this existing facility, the City simply wrote in its permit application that it didn't have to provide them.[150] The application cited no rule, statute, or precedent to justify omitting this information. Applicant's expert questioned whether the instructions provided were the instructions applicable to the application. However, Applicant bears the burden of proof, and Applicant failed to provide any evidence that the requirements of the current instructions for the application form did not apply to Granbury's application.[151] Thus, the requirement for these letters and responses is uncontested in the record.

This information is necessary for uniform implementation of the state's regionalization policy,[152] and is relevant to the consideration of whether the proposed discharge is necessary for important social or economic development, as required by the Tier 2 anti-degradation review. Without this information, the application is not accurate and complete.

In the matter of the *Application by Far Hills Utility District for Water Quality Permit No. WQ001455001*, the Administrative Law Judge recommended the permit be denied because issuance of the permit would not further the State policy of promoting regionalization.[153] The PFD from that matter is attached here as **Attachment D**. Far Hills Utility District was a water control and improvement district whose domestic wastewater treatment capacity needs were projected to double in the future.[154] Far Hills had an existing agreement with Montgomery County Utility District (MCUD) No. 2 whereby Far Hills piped its wastewater to a treatment plant operated by MCUD No. 2. To utilize the existing MCUD infrastructure for the increased capacity, Far Hills would have to pay for repairs to a lift station and pay for MCUD to expand its facility. Far Hills

[150] Admin Record-0323.
[151] Tr. V. 2, 207:20-24.
[152] GF-5, 64.
[153] Tex. ST. Office of Adm. Hearings, *In the Matter of the Application of Far Hills Utility District for Water Quality Permit No. WQ001455-001,* 2006 WL 4486602 (November 27, 2006), Proposal for Decision, at *5 ("Far Hills PFD"). (**Attachment D** to this Brief.)
[154] Id. at *4.

determined it was more cost effective to build a new plant. But crucially, MCUD never denied them service or said they would not go along with the expansion. They made this clear in their response letter to Far Hills that was provided in Far Hills permit application.[155] The Judge relied on this information in the response letter in recommending denial of the permit.[156] Thus, as the Far Hills case demonstrates, providing letters from facilities within 3 miles of a proposed treatment plant is a longstanding requirement. And these response letters are crucial to allow a full analysis of the need for a proposed treatment plant.

Issue G: Whether the modeling complies with applicable regulations to ensure the draft permit is protective of water quality

Please refer to the discussion under Issue B on pages 10-13 regarding the dissolved oxygen modeling.

Issue H: Whether the Executive Director's anti-degradation review was accurate

Please refer to the entire discussion under Issue B on pages 10-25 regarding both Tier 1 and Tier 2 of the anti-degradation review.

Issue I: Whether the nutrient limits in the draft permit comply with applicable Texas Surface Water Quality Standards

Please refer to the discussion under Issue B on pages 22-25 regarding nutrient impacts.

Issue J: Whether the Commission should deny or alter the terms and conditions of the draft permit based on the consideration of need under Texas Water Code § 26.0282

There are ample other grounds justifying denial of the application such that the issue of need under Texas Water Code Chapter 26 need not be reached. It is undisputed the City has numerous alternatives it could pursue to expand wastewater treatment capacity.[157] Attachment

[155] Id. at *4.
[156] Id. at *5.
[157] Ex. COG-101, 7-8; Tr. V. 2, 185:11-17.

DTR 1.1 — 1.B2 of the permit application is titled "Justification for the Proposed Facility."[158] The City provided excerpts from the 2019 Environmental Information Document to justify the proposed facility.[159] In that very document, one alternative—expanding the City's existing wastewater treatment plant— is described as more cost-effective than building a new plant east of Granbury.[160]

Issue K: Whether the Applicant's compliance history or technical capabilities raise any issues regarding the Applicant's ability to comply with the material terms of the permit that warrant denying or altering the terms of the draft permit

There are ample other grounds justifying denial of the application such that the issue of the Applicant's compliance history need not be reached.

Issue L: Whether the proposed location for the facility complies with the 100-year flood plain and wetland location standards found in 30 TAC § 309.13(a) and (b)

The City's proposed plant is in the 100-year floodplain.[161] The City will need to obtain a flood development permit prior to construction.[162] Portions of the plant within the floodplain include the outfall and the outfall pipe.[163] The City's consultant and expert witness Luci Dunne testified "I consulted with Josh Berryhill, PE, the lead design engineer, regarding the unit location and operations and verified that all of the WWTP units located above the would be protected from inundation during flooding."[164] This statement presupposes that units are located below the floodplain. But on its permit application, the City answered "Yes" to the question "Will the proposed facilities be located above the 100-year frequency floodplain level?"[165] As a result, they did not have to attach the floodplain map with the application, which would have

[158] Admin Record-0314.
[159] Admin Record-0319.
[160] Tr. V. 2, 219:15-18.
[161] Ex. COG-200, 11:17.
[162] Ex. COG-200, 12:7.
[163] Ex. COG-200, 11:21.
[164] Ex. COG-200, 11:23-12:2.
[165] Admin Record-0256.

showed the overlap of the floodplain with the property. These discrepancies raise a fact issue as to facility's compliance with 30 Tex. Admin. Code § 309.13(b). The City has not carried its burden to show that the outfall and outfall pipe are not "units" that must not be within a floodplain.

Issue M: Whether Applicant substantially complied with applicable public notice requirements

There are ample other grounds justifying denial of the application such that the issue of the applicable public notice requirements need not be reached.

Conclusion

For the reasons discussed above, we urge the ALJs to recommend denial of the permit requested by the City of Granbury.

Respectfully submitted,

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CERTIFICATE OF SERVICE

I certify that a copy of this document was served on all parties of record on this date, April 7, 2022, in accordance with the applicable service procedures.

/s/ John Bedecarre
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ATTACHMENT A

§61.60. Attendance at Conference.

(a) The claimant and the claimant's [his] attorney or authorized agent, if any, and the carrier's representative must attend all prehearing conferences pertaining to the claim under consideration.

(b) A request for a prehearing conference shall constitute an agreement by the requesting party to appear personally or arrange for substitute representation in the event of a scheduling conflict.

§61.75. Failure to Appear.

(a) Where the claimant [or his attorney, if any] fails to make a personal appearance at the prehearing conference without good cause, such failure to appear shall result in [a] postponement [of the prehearing] until the board is assured in writing of [his or their] appearance. [The board may order a reduction in attorney's fees in cases of unexcused or unexplained failure of the attorney to attend any scheduled prehearing conference.]

(b) Where the attorney or carrier representative fails to comply with the cancellation requirements of §61.65 of this title (relating to Request for Cancellation of Prehearing Conference) or fails to attend a scheduled prehearing conference, the prehearing officer shall prepare a rule violation complaint report as provided by §65.10 of this title (relating to Actions by Carrier, Claimant's Attorney, and/or Agent). Violation of this section may be grounds for sanctions, including reduction of fees, reprimand, or suspension from practice before the board.

This agency hereby certifies that the proposal has been reviewed by legal counsel and found to be within the agency's authority to adopt.

Issued in Austin, Texas, on September 15, 1989.

TRD-8908589 Inez "Tippy" Foster
Assistant Executive Director
Industrial Accident Board

Earliest possible date of adoption: October 23, 1989

For further information, please call: (512) 448-7960

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TITLE 31. NATURAL RESOURCES AND CONSERVATION

Part IX. Texas Water Commission

Chapter 309. Effluent Limitations

Effluent Limitations

• **31 TAC §§309.1-309.4**

(Editor's note: The text of the following section proposed for repeal will not be published. The sections may be examined in the offices of the Texas Water Commission or in the Texas Register office, Room 245, James Earl Rudder Building, 1019 Brazos Street, Austin.)*

The Texas Water Commission proposes the repeal of §§309.1-309.4, concerning the treatment and disposal of domestic wastewater. Chapter 309 establishes the minimum treatment requirements for domestic wastewater prior to discharge to waters in the state or to land. The repeal to §§309.1-309.4 constitute minor modifications.

Mr. Roger Bordeau, chief fiscal officer, has determined that for the first five-year period the repeals are in effect there will be no fiscal implications for state or local government as a result of enforcing or administering the repeals.

There will be no direct effect on state government or small businesses for the first five-yeaar period the proposed repeals are in effect. The direct effect on local government for the first five-year period the proposed repeals are in effect will be an estimated additional cost of $5,763,380 in 1989; $573, 390 in 1990; $573,390 in 1991; $636,380 in 1992; and $636,380 in 1993.

Mr. Bourdeau also has determined that for each year of the first five years the repeals are in effect the public benefit anticipated as a result of enforcing the repeals will be improved water quality and public health and reduction in potential nuisance conditions.

The possible anticiapted economic cost to individuals who are required to comply with the sections as proposed will be $1,236,380 in 1989; $1,236,380 in 1990; $1,236,380 in 1991; $636,380 in 1992 and $636,380 in 1993.

Comments on the proposal may be submitted to Kevin McCalla, Senior Attorney, Legal Division, Texas Water Commission, P.O. Box 13087, Austin, Texas 78711-3087, (512) 463-8069, for 30 days after the date of publication.

The repeals are proposed under the authority of the Texas Water Code, §§5.103, 5.105, and 5.120, which provide the commission with the authority to promulgate rules as necessary to carry out its powers and duties under the Texas Water Code and other laws of the state and to establish and approve all general policies of the commission.

§309.1. Purpose.

§309.2. Rationale for Effluent Sets.

§309.3. Application of Effluent Sets.

§309.4. Table 1, Effluent Limitations for Domestic Wastewater Treatment Plants.

This agency hereby certifies that the proposal has been reviewed by legal counsel and found to be within the agency's authority to adopt.

Issued in Austin, Texas, on September 15, 1989.

TRD-8908631 Jim Haley
Director, Legal Division
Texas Water Commission

Earliest possible date of adoption: October 23, 1989

For further information, please call: (512) 463-8087

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Subchapter A. Domestic Wastewater Effluent Limitations and Plant Sitings

The Texas Water Commission proposes new to §§309.1, 309.3, and 309.4, concerning the treatment and disposal of domestic wastewater, §309.10-309.14, concerning location standards, and §309.20, concerning land disposal of sewage effluent. Chapter 309 establishes the minimum treatment requirements for domestic wastewater prior to discharges into or adjacent to waters in the state. Sections 309.1, 309.3, and 309.4, Subchapter A, constitute minor modifications. New proposed §§309.10, 309.11, 309.12 309.13, and 309.14, Subchapter B, concern location standards, including buffer zones for domestic wastewater treatment facilities, and are intended to replace most of the siting standards currently found in Chapter 317, entitled Design Criteria for Sewerage Systems. New proposed §309.20, Subchapter C, concerns land disposal of sewage effluent, which is also currently found in Chapter 317.

Changes proposed in Subchapter A include correcting the terms "biological oxygen demand" to read "biochemical oxygen demand" in §309.1(b) and the term "carbonaceous biological oxygen demand" to read "carbonaceous biochemical oxygen demand" in §309.1(c). In §309.3(e), the commission is proposing to change the permit limits for discharge to an evaporation pond from a 30-day average BOD5 of 100 milligram per liter or less to a quality of 100 milligram per liter BOD5 or less on a grab sample basis. This would allow less burdensome sampling frequency for evaporation facilities. Accordingly, Table 1 would be modified to reflect only the grab sample requirement. The final change is to indicate on Table 1 the dissolved oxygen requirements as appropriate for effluent sets 1, 2, 2N, and 2N(1).

The proposed rules also seek to modify §309.3(c), concerning discharges into certain reservoirs. The commission is proposing that all wastewater treatment systems, except oxidation pond systems, subject to the requirements of this section, add filtration. Additionally, oxidation pond systems are exempted from the 10 milligrams per liter mg/l BOD5 and TSS 30-day average effluent limits

required of others types of wastewater treatment systems. This exemption is due to the fact that oxidation pond systems are very effective in removing pathogens from wastewater which is the primary concern with respect to reservoirs used for public recreation and/or drinking water supplies.

Subchapter B is proposed to address the issues of appropriate siting of domestic wastewater treatment facilities. This subchapter includes evaluation of buffer zones for noise and odor abatement and geologic considerations such as floodplains, faulting, soil conditions, and location of aquifers. This subchapter is intended to be utilized in both the evaluation of permit applications and the review/approval of construction plans and specifications.

Subchapter C, §309.20, describes the general policy of land disposal of sewage effluent. It discusses design considerations of irrigation and percolation systems.

Irrigation is typically limited by either the evaportranspiration rate of the crop or the nitrogen removal capacity of the soil-vegetation matrix. The hydraulic application rate will be determined through a water balance study, an example of which is provided in this section. Note that this determination must be made for each project because of varying climatic conditions across the state. A wastewater storage study must be performed for each project because of varying climatic conditions across the state. A wastewater storage study must be performed for each project. The acceptable nitrogen application rate must also be determined as per the formulas included in this section.

The rapid infiltration process is basically a percolation system. A range of maximum hydraulic application rates is listed as well as requirements for minimum storage. Nitrogen removal rates must be justified. A soil profile evaluation should be performed and should extend to a depth of at least 12 feet. Multiple dosing basins must be provided. A minimum of three groundwater monitoring points are required.

Mr. Roger Bourdeau, chief fiscal officer, has determined that for the first five-year period the proposed sections are in effect, there will be direct fiscal implications as a result of enforcing or administering these sections.

There will be no direct effect on state government or small businesses for the first five-year period the proposed sections are in effect. The direct effect on local government for the first five-year period the proposed sections are in effect will be estimated additional cost of $5,763,380 in 1989; $573, 390 in 1990; $573,390 in 1991; $636,380 in 1992; and $636,380 in 1993.

Mr. Bourdeau also has determined that for each year of the first five years the sections are in effect, the public benefit anticipated as a result of enforcing the sections will be improved water quality and public health and reduction in potential nuisance conditions. The possible economic cost to individuals who are required to comply with the sections as proposed will be $1, 236,380 in 1989-1990; and $636,380 in 1992-1993.

Comments on the proposal may be submitted to Kevin McCalla, Senior Attorney, Legal Division, Texas Water Commission, P.O. Box 13087, Austin, Texas 78711-3087, (512) 463-8069, for 30 days after the date of publication.

• 31 TAC §§309.1, 309.3, 309.4

The new sections are proposed under the Texas Water Code, §§5.103, 5.105, and 5.120, which provides the commission with the authority to promulgate rules as necessary to carry out its powers and duties under the Texas Water Code and other laws of the state; and to establish and approve all general policies of the commission.

§309.1. Purpose.

(a) The purpose of these sections is to promulgate a set of effluent quality limitations for treated domestic sewage which will be required of permittees as appropriate to maintain water quality in accordance with the commission s surface water quality standards.

(b) Secondary treatment, with exceptions applicable to certain oxidation pond systems, is defined as a reduction of pollutants to the following quality:

Biochemical Oxygen Demand (BOD), 5-Day	
(milligram per liter, mg/l)	
30-Day Average	20
7-Day Average	30
Daily Maximum	45
Single Grab	65

Total Suspended Solids (TSS) (mg/l)	
30-Day Average	20
7-Day Average	30
Daily Maximum	45
Single Grab	65

Dissolved Oxygen (DO) (mg/l)	
Single Grab	2

pH (Standard Units)
Within limits of 6.0 - 9.0

(c) Effective April 1988, all permits containing an ammonia nitrogen effluent limit are hereby modified to change BOD5 to carbonaceous biochemical oxygen demand (CBOD5).

(d) Effective January 1, 1988, any permit containing a BOD5 effluent limitation may be monitored and reported as CBOD5 as long as nitrogen is monitored and reported as ammonia-nitrogen at the same sampling frequency. If the permit authorizes a discharge to land or an evaporation pond only, ammonia-nitrogen monitoring and reporting are not required to change to CBOD5

(e) The State of Texas has established a state water quality management program and a continuing planning process which sets forth the strategy and procedures for accomplishing the management program's objectives. Essential elements of the program include updates of basin plans and wasteload evaluations by basin segments. In order to achieve compliance with water quality standards within certain segments, more stringent effluent quality limitations other than basic secondary treatment may be required to protect water quality.

§309.3. Application of Effluent Sets.

(a) Discharges into effluent limited segments.

(1) All discharges into effluent limited segments shall, at a minimum, achieve secondary treatment. An effluent limited segment is any segment which is presently meeting or will meet applicable water quality criteria following incorporation of secondary treatment for domestic sewage treatment plants and/or best practicable treatment for industries.

(2) New or increased discharges into effluent limited segments shall achieve that level of treatment deemed necessary by the commission, based on the assimilative capacity and uses of the receiving stream.

(b) Discharges into water quality limited segments.

(1) All discharges into water quality limited segments for which wasteload evaluations have been developed shall, at a minimum, achieve the treatment level specified in the recommendations of the wasteload evaluation for that discharge. In the event that analyses indicate that different treatment levels are required due to changed conditions or other factors, the commission may consider alternate treatment levels on a case-by-case basis. A water quality limited segment is a surface water segment classified by the commission as water quality limited where conventional treatment of waste discharged to the segment is not stringent enough for the segment to meet applicable water quality standards; monitoring data have shown significant violations of water quality standards; advanced waste treatment for point sources is required to protect existing exceptional water quality; or the segment is a domestic water supply reservoir.

(2) Discharges into water quality limited segments for which wasteload evaluations have not been performed shall, at a minimum, achieve secondary treatment.

(c) Discharges into certain reservoirs. Effluent Set 2 in §309.4 of this title (relating to Table 1, Effluent Limitations for Domestic Wastewater Treatment Plants) shall apply to any discharge from other than an oxidation pond made within five miles upstream of a reservoir or lake, which is subject to onsite/private sewage facility regulation adopted pursuant to the Texas Wat Code, Chapter 26, or subject to onsite age disposal system regulation adopted pursuant to the Texas Solid Waste Disposal Act, Article 4477-7e, or which may be used as a source for public drinking water supply. Any such discharge shall employ filtration to supplement suspended solids removal. Existing dischargers shall be allowed until January 1, 1993, to provide filtration. Five miles shall be measured in stream miles from the normal conservation pool elevation. The commission may grant exceptions to this requirement where it can be demonstrated that the exception would not significantly adversely impact water quality.

(d) Discharges from oxidation ponds. Effluent Set 3 shall apply to oxidation pond facilities in which oxidation ponds are the primary process used for secondary treatment and in which the ponds have been designed and constructed in accordance with applicable design criteria. Effluent Set 3 is considered equivalent to secondary treatment for oxidation pond systems.

(e) Discharge to an evaporation pond. Effluent discharged to evaporation ponds must receive, at a minimum, primary treatment, be within the pH limits of 6.0-9 0 standard units, and have a quality of 1(mg/1 BOD5 or less on a grab sample. F the purpose of this subsection, primary treatment means solids separation which is

typically accomplished by primary clarifiers, Imhoff tanks, facultative lagoons, septic tanks, and other such units.

(f) Land disposal of treated effluent. The commission may authorize land disposal of treated effluent when the applicant demonstrates that the groundwaters or surface waters in the state will not be adversely affected. Each project must be consistent with laws relating to water rights. The primary purpose of such a project must be to dispose of treated effluent and/or to further enhance the quality of effluent prior to discharge.

(1) When irrigation systems ultimately dispose of effluent on land to which the public has access, Effluent Set 6, at a minimum, shall apply. The pH shall be within the limits of 6.0-9.0 standard units unless a specific variance is provided in the permit based upon site specific conditions. When lands to which the public does not have access are to be used for ultimate disposal of effluent, the effluent must, at a minimum, receive primary treatment. Effluent Set 7 shall apply and the pH shall be within the limits of 6.0-9.0 standard units unless a specific variance is provided in the permit based upon site specific conditions. For irrigation systems, primary treatment is the same as described in subsection(e) of this section. Effluent may be used for irrigation only when consistent with environmental safeguards and the protection of ground and surface waters.

(2) When overland flow systems are utilized for effluent treatment, the public shall not have access to the treatment area. Primary treated effluent meeting Effluent Set 8, within the pH limits of 6.0-9.0 standard units, may be used consistent with environmental safeguards and protection of ground and surface waters. For overland flow systems, primary treatment is the same as described in subsection (e) of this section. At a minimum, Effluent Set 1 shall apply to discharges from overland flow facilities except where more stringent treatment levels are required to meet water quality standards.

(3) When evapotranspiration beds and subsurface drain fields are utilized for land disposal systems, the effluent shall, at a minimum, receive primary treatment and meet Effluent Set 9. Use of evapotranspiration beds and subsurface drain fields shall be consistent with environmental safeguards and the protection of ground and surface waters. For evapotranspiration beds and subsurface drain fields, primary treatment is the same as described in subsection (e) of this section.

(g) Disinfection.

(1) Except as provided in this subsection, disinfection in a manner conducive to the protection of both public health and aquatic life shall be achieved on all domestic wastewaters which discharge into waters in the state. Any appropriate process may be considered and approved on a case-by-case basis.

(2) Where chlorination is utilized, any combination of detention time and chlorine residual where the product of chlorine (C12 mg/l) X Time (T minutes) equals or exceeds 20, is satisfactory provided that the minimum detention time is at least 20 minutes and the minimum residual is at least 0.5 mg/l. The maximum chlorine residual in any discharge shall in no event be greater than four mg/l per grab sample, or that necessary to protect aquatic life.

(3) Except as provided herein, disinfection of domestic wastewaters which are discharged by means of land disposal or evaporation pond shall be reviewed on a case-by-case basis to determine the need for disinfection. All effluent discharged to land to which the public has access, must be disinfected. If the effluent is to be transferred to a holding pond or tank, the effluent shall be rechlorinated to a trace chlorine residual at the point of irrigation application.

(4) Unless otherwise specified in a permit, chemical disinfection is not required for oxidation ponds when the total retention time in the wastewater treatment system (based on design flow) is at least 21 days.

(h) More stringent requirements. The commission may impose more stringent requirements in permits than those specified in subsections (a)-(g) of this section, on a case-by-case basis, where appropriate to maintain desired water quality levels.

§309.4. Table 1, Effluent Limitations for Domestic Wastewater Treatment Plants. The following is a table which contains the sets of effluent criteria for waste discharge permits.

Table 1
Effluent Limitations for Domestic Treatment Plants

Set	Direct Discharge	30-Day Average		7-Day Average		Daily Maximum		Single Grab		
		BOD_5	TSS	BOD_5	TSS	BOD_5	TSS	BOD_5	TSS	DO MIN
1	Secondary treatment	20	20	30	30	45	45	65	65	2
2	Enhanced secondary treatment	10	15	15	25	25	40	35	60	4
3	Oxidation ponds	30	90	45	--	70	--	100	--	--
	Land Treatment/Disposal									
6	Irrigation (public exposure)	--	--	--	--	--	--	65	--	--
	Using oxidation pond	--	--	--	--	--	--	100	--	--
7	Irrigation (no public exposure)	--	--	--	--	--	--	100	--	--
8	Overland flow (applied effluent)	--	--	--	--	--	--	100	--	--
9	Evapotranspiration beds and subsurface drain fields	--	--	--	--	--	--	100	--	--

		30-Day Average			7-Day Average			Daily Maximum			Single Grab		
		$CBOD_5$	TSS	NH_3-N	$CBOD_5$	TSS	NH_3-N	$CBOD_5$	TSS	NH_3-N	$CBOD_5$	TSS	NH_3-N
:N	Enhanced Secondary with Nitrification	10	15	3	15	25	6	25	40	10	35	60	15
		10	15	2	15	25	5	25	40	10	35	60	15

This agency hereby certifies that the proposal has been reviewed by legal counsel and found to be within the agency's authority to adopt.

Issued in Austin, Texas, on September 18, 1989.

TRD-8908597 Jim Haley
Director, Legal Division
Texas Water Commission

Earliest possible date of adoption: October 23, 1989

For further information, please call: (512) 463-8087

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Subchapter B. Location Standards

• 31 TAC §§309.10-309.14

The new sections are proposed under the Texas Water Code, §§5.103, 5. 105, and 5.120, which provides the commission with the authority to promulgate rules as necessary to carry out its powers and duties under the Texas Water Code and other laws of the state and to establish; and approve all general policies of the commission.

§309.10. Purpose, Scope, and Applicability.

(a) This chapter establishes minimum standards for the location of domestic wastewater treatment facilities. These standards are to be applied in the evaluation of an application for a permit to treat and dispose of domestic wastewaters and sludges, and for obtaining approval of construction plans and specifications. This chapter applies to domestic wastewater permit applications and construction plans and specifications filed on or after the effective date of the new rules, for new facilities, and existing units which undergo substantial change for the continued purpose of domestic wastewater treatment and/or sludge disposal.

(b) The purpose of this chapter is to condition issuance of a permit and/or approval of construction plans and specifications for new domestic wastewater treatment facilities, or the substantial change of an existing unit on selection of a site that reasonably minimizes possible contamination of ground and surface waters; to define the characteristics that make an area unsuitable or inappropriate for a wastewater treatment facility; to minimize the possibility of exposing the public to nuisance conditions; and to prohibit issuance of a permit for a facility to be located in an area determined to be unsuitable or inappropriate, unless the design, construction, and operational features of the facility will prevent adverse effects from unsuitable site characteristics.

§309.11. Definitions. The following words and terms when used in this chapter, shall have the following meanings, unless the context clearly indicates otherwise.

Active geologic processes–Any natural process which alters the surface and/or subsurface of the earth, including, but not limited to, erosion (including shoreline erosion along the coast), submergence, subsidence, faulting, karst formation, flooding in alluvial flood wash zones, meandering river bank cutting, and earthquakes.

Aquifer–A geologic formation, group of formations, or part of a formation capable of yielding a significant amount of groundwater to wells or springs. Portions of formations, such as clay beds, which are not capable of yielding a significant amount of groundwater to wells or springs, are not aquifers.

Erosion–The group of natural processes, including weathering, deterioration, detachment, dissolution, abrasion, corrosion, wearing away, and transportation, by which earthen or rock material is removed from any part of the earth's surface.

Existing facility–Any facility used for the storage, processing, or disposal of domestic wastewater and/or sludges and which has obtained approval of construction plans and specifications. Facilities for which plans and specifications have been submitted prior to November 1, 1989, will be considered existing facilities.

New facility–Any domestic wastewater treatment facility which is not an existing facility.

One hundred-year flood plain–Any land area which is subject to a 1.0% or greater chance of flooding in any given year from any source.

Wastewater treatment plant sludges, screenings, and grit or sludges–Any solid, semi-solid, or liquid residue that contains materials, organic or inorganic, removed during domestic wastewater treatment.

Wastewater treatment plant unit–Any apparatus necessary for the purpose of providing treatment of wastewater (i.e. aeration basins, splitter boxes, bar screens, sludge drying beds, clarifiers overland flow sites, treatment ponds or basins that contain wastewater, etc.).

Wetlands–Those areas that are inundated or saturated by surface water or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas.

§309.12. Site Selection to Protect Groundwater or Surface Water. The commission may not issue a permit for a new facility or the substantial change of an existing facility unless it finds that the proposed site, when evaluated in light of proposed design, construction, or operational features, reasonably minimizes possible contamination of surface water and groundwater. In making this determination, the commission may consider the following factors:

(1) active geologic processes such as flooding, erosion, subsidence, submergence, and faulting;

(2) groundwater conditions such as groundwater flow rate, groundwater quality, length of flow path to points of discharge, and aquifer, recharge or discharge conditions;

(3) soil conditions such as stratigraphic profile and complexity, hydraulic conductivity of strata, and separation distance from the facility to the aquifer, and points of discharge to surface water; and

(4) climatological conditions.

§309.13. Unsuitable Site Characteristics.

(a) A wastewater treatment unit may not be located in the 100-year flood plain unless the plant is protected from inundation and damage that may occur during that flood event.

(b) A wastewater treatment unit may not be located in wetlands, except that wetlands may be used as a polishing unit for treated wastewater. (This prohibition is not applicable to constructed wetlands.)

(c) A wastewater treatment unit may not be located closer than 500 feet from a public water well nor 250 feet from a private water well.

(d) A wastewater treatment facility surface impoundment may not be located in areas overlying regional aquifers unless the regional aquifer is separated from the base of the containment structure by a minimum of three feet of material with a hydraulic conductivity toward the aquifer not greater than 10-7 cm/sec or a thicker interval of more permeable material which provides equivalent or greater retardation of pollutant migration. A synthetic membrane liner may be substituted with a minimum of 30 mils thickness and an underground leak detection system with appropriate sampling points.

(e) Lagoons with zones of anaerobic activity (e.g. facultative lagoons) may not be located closer than 500 feet to the nearest property line. All other wastewater treatment plant units, excluding lift stations, may not be located closer than 150 feet to the nearest property line. Land used to treat primary effluent is considered a plant unit. Buffer zones for land used to dispose of treated effluent by irrigation shall be evaluated on a case-by-case basis. If the buffer zone requirement cannot be met by legal ownership on an undivided tract of land, one of the following alternatives shall be required.

(1) For a facility for which a permit application is made after the effective date of this section, if the facility will

not meet the buffer zone requirement, the applicant shall include in the application for the discharge permit a result of variance. Variances may be granted by the commission under the following circumstances:

(A) acceptable means of nuisance prevention is provided, such as enclosing the treatment plant in a structure designed and suitable for noise and odor abatement;

(B) the applicant possesses a restrictive easement on the part of the property in the buffer zone not owned by the applicant which prohibits a residential structure on that property;

(C) other reasons that justice may require, consistent with the policies set out in the Texas Water Code, §26.003; or

(D) a variance granted by the commission shall be included as a condition in the new permit.

(2) For a facility for which a permit amendment application is made which involves a substantial design change to a wastewater treatment plant unit, if the facility will not meet the buffer zone requirement, the applicant shall include in the application for amendment a request for variance. Variances may be granted by the commission under the circumstances described in paragraph (1) of this subsection.

(3) For a permitted facility for which plans and specifications approval only is sought, if the facility will not meet the buffer zone requirement, the applicant shall apply to the executive director for a variance. Variances may be granted by the executive director under the following circumstances:

(A) acceptable means of nuisance prevention is provided, such as enclosing the treatment plant in a structure designed and suitable for noise and odor abatement;

(B) the applicant possesses a restrictive easement on the part of the property in the buffer zone not owned by the applicant which prohibits residential structures on that property;

(C) no residential structure is located within the buffer zone at the time request is filed; or

(D) any variance granted by the executive director shall be stated in writing. If a variance request is denied by the executive director, a permittee may appeal, by application for major permit amendment, to the commission, which may hear the appeal or remand the matter to the office of hearings examiners for a hearing conducted in accordance with the rules of the commission.

(4) For a permitted facility for which no design change is requested, the facility shall not be required to comply with these buffer zone requirements, but shall comply with the buffer zone requirements in effect on the date the permit was issued.

(5) Facilities for which plans and specifications have been submitted by the effective date to this section, are not required to resubmit revised plans and specifications to meet changed requirements in this section.

(f) Storage and/or disposal of sludges in the 100-year flood plain shall not restrict the flow of the 100-year flood, reduce the temporary water storage capacity of the flood plain, or result in washout of solid wastes.

(g) A sludge land treatment facility or landfill may not be located in wetlands.

(h) Buffer zones for the storage and/or disposal of sludges shall be evaluated on a case-by-case basis.

(i) A sludge landfill may not be located in areas overlying regional aquifers unless:

(1) it is an area where the average annual evaporation exceeds average annual rainfall by more than 40 inches and the depth to the regional aquifer is greater than 100 feet from the base of the containment structure; or

(2) the regional aquifer is separated from the base of the containment structure by a minimum of three feet with a hydraulic conductivity toward the aquifer not greater than 10-7 cm/sec, or a thicker interval of more permeable material which provides equivalent or greater retardation to pollutant migration. A synthetic liner of equivalent permeability may be substituted with a minimum of 30 mils thickness and an underground leak detection system with appropriate sampling points.

§309.14. Prohibition of Permit Issuance.

(a) The commission may not issue a permit for a new wastewater treatment plant or for the substantial change of an existing plant, if the facility or expanding facility does not meet the requirements of §309.13 of this title (relating to Unsuitable Site Characteristics).

(b) Nothing in this chapter shall be construed to require the commission to issue a permit, notwithstanding a finding that the proposed facility would satisfy the requirements of §309.12 of this title (relating to Site Selection to Protect Groundwater or Surface Water), and notwithstanding the absence of site characteristics which would disqualify the site from permitting pursuant to §309.13 of this title (relating to Unsuitable Site Characteristics).

This agency hereby certifies that the proposal has been reviewed by legal counsel and found to be within the agency's authority to adopt.

Issued in Austin, Texas, on September 18, 1989.

TRD-8908596 Jim Haley
Director, Legal Division
Texas Water Commission

Earliest possible date of adoption: October 23, 1989

For further information, please call: (512) 463-8087

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Subchapter C. Land Disposal of Sewage Effluent

• 31 TAC §309.20

The new section is proposed under the authority of the Texas Water Code, §§5.103, 5.105, and 5.120, which provides the commission with the authority to promulgate rules as necessary to carry out its powers and duties under the Texas Water Code and other laws of the state, and to establish and approve all general policies of the commission.

§309.20. Land Disposal of Sewage Effluent.

(a) Technical report. Each project shall be accompanied by a preliminary engineering report outlining the design of the wastewater disposal system. The report shall include maps, diagrams, basis of design, calculations, and other pertinent data as described in this section.

(1) Location.

(A) Site map. A copy of the United States Geological Survey topographic map of the area which indicates the exact boundaries of the disposal operation will be included in the technical report. A map from the 7 1/2 minute series is required if it is published for the site area.

(B) Site drawing. A scale drawing and legal description of all land which is to be a part of the disposal operation will be included in the technical report. The drawing will show the location of all existing and proposed facilities to include: buildings, waste disposal or treatment facilities, effluent storage and tail water control facilities, distribution and application systems, buffer zones, and water wells. This drawing should have an index of wells, adjacent property, and other prominent features. Ownership of land tracts adjacent to the irrigated land shall be shown on the site drawing and identified by listing legal ownership.

(2) Geology. The existence of any unusual geological formations such faults or sink holes on the waste disposa site shall be noted in the technical report and identified on the site map. The concep-

tual design of the waste disposal system shall include appropriate engineering considerations with respect to limitations presented by these features.

(3) Soils. A general survey of soils with regard to standard classifications shall be compiled for all areas of waste application to the soil. Soil surveys compiled by the United States Department of Agriculture Soil Conservation Service shall be utilized where available. Conceptual design aspects related to waste application rates, crop systems, seepage, and runoff controls shall be based upon the soil physical and chemical properties, hydraulic characteristics, and crop use suitabilities for the waste application site.

(4) Groundwater quality. The technical report shall fully assess the impact of the waste disposal operation on the uses of local groundwater resources. In regard to performing this assessment, the report shall systemautomatically address subparagraphs (A) and (B) of this paragraph.

(A) All water wells within a half mile radius of the disposal site boundaries shall be located. If available, the water uses from each well shall be identified. In addition, aspects of construction such as well logs, casing, yield, static elevation, water quality, and age shall be furnished and evaluated in the technical report. Local groundwater resources below the wastewater disposal site shall be monitored to establish preoperational baseline groundwater quality when monitoring wells are available. Monitoring shall provide the following analytical determination: total dissolved solids, nitrate nitrogen, chlorides, sulfates, pH, and coliform bacteria.

(B) Groundwater resources serving as sources or potential sources of domestic raw water supply will be protected by limiting wastewater application rates. Effluent storage and/or treatment ponds presenting seepage hazards to these groundwater resources shall be constructed with adaquate liners.

(5) Agricultural practice. The technical report shall describe the crop system proposed for the waste disposal operation. This description shall include a discussion of the adaptability of the crop to the particular soil, climatological, and wastewater sensitivity conditions that will exist at the waste disposal site. Annual nutrient uptake of the crop system shall be specified, and crop harvesting frequencies shall be described within the report. An agronomist should be consulted on cover crop selection for the project. Written approval from the Texas Department of Health shall be obtained with regard to the crops selected for the disposal areas if the crop is intended for human consumption.

(b) Irrigation. Irrigation disposal systems utilize effluent to supply the growth needs of the cover crop.

(1) Secondary effluent. Land disposal system operators who use land accessible to the general public shall provide a degree of treatment equivalent to secondary treatment standards, as defined by the commission, prior to application of waste to land areas.

(2) Primary effluent. Land disposal systems may provide for the disposal of effluent from primary treatment units provided that the wastewater disposal system conforms with the requirements contained in Subparagraphs (A)-(E) of this paragraph as follows.

(A) The wastewater disposal system shall be designed and operated to prevent a discharge from entering surface waters, and to prevent recharge of groundwater resources which supply or offer the potential of supplying domestic raw water.

(B) The land disposal system shall be designed and operated to achieve disposal of effluent without adversely affecting the agricultural productivity of the land disposal site.

(C) The economic benefits derived from agricultural operations carried out at the land disposal site are secondary to the proper disposal of wastewater.

(D) The sewerage system owner shall maintain direct responsibility and control over all aspects of the sewage pretreatment and application operations, as well as all aspects of any agricultural activities carried out on the disposal site.

(E) The land disposal system shall contain sufficient area to provide for normal expansion of the facility service area. In most cases, the disposal system shall have a design life of at least 20 years.

(3) Design analysis. The designing engineers shall utilize a detailed design analysis of limiting hydraulic and nutrient application rates, and effluent storage needs, as the basis of the disposal system design. All projects shall include the detailed design analysis described in Subparagraphs (A)-(C) of this paragraph.

(A) Hydraulic application rate. A water balance study shall be provided as a part of a detailed application rate analysis in order to determine the irrigation water requirement, including a leaching requirement if needed, for the crop system on the wastewater application areas. The water balance study should generally follow the example development shown in Table 1 of this subparagraph. Precipitation inputs to the water balance shall utilize the average yearly rainfall and the monthly precipitation distribution based on past rainfall records. The consumptive use requirements (evapotranspiration losses) of the crop system shall be developed on a monthly basis. The method of determining the consumptive use requirement shall be documented as a part of the water balance study. A leaching requirement, calculated as shown in Table 1 of this subparagraph, shall be included in the water balance study when the total dissolved solids concentration of the effluent presents the potential for developing excessive soil salinity buildup due to the long term operation of the irrigation system.

TABLE 1
WATER BALANCE EXAMPLE
(All Units are Inches of Water per Acre of Irrigated Area)

Month (1)	a Avg. Precip. (2)	b Average Runoff (3)	Ri Average Infiltrated Rainfall (4)	c Evapotrans-piration (5)	d Required Leaching (6)	Total Water Needs (5)+(6) (7)	Effluent Needed in Root Zone (7)+(4) (8)	e Evaporation from Resevoir Surface (9)	f Effluent to be Applied to Land (8)/K (10)	g Consumption from Reservoir (9)+(10) (11)
Jan.	2.11	0.40	1.71	0.80	0.00	0.80	0.00	0.02	0.00	0.02
Feb.	2.43	0.57	1.86	1.20	0.00	1.20	0.00	0.01	0.00	0.01
Mar.	2.02	0.36	1.66	2.80	0.20	3.00	1.34	0.09	1.58	1.67
April	3.19	1.03	2.16	3.40	0.22	3.63	1.46	0.05	1.72	1.77
May	4.19	1.74	2.45	6.10	0.64	6.74	4.29	0.10	5.05	5.15
June	3.30	1.10	2.20	6.50	0.76	7.26	5.06	0.20	5.95	6.15
July	2.20	0.45	1.75	6.70	0.87	7.57	5.82	0.34	6.85	7.19
Aug.	2.12	0.41	1.71	4.60	0.51	5.11	3.40	0.34	4.00	4.34
Sept.	3.58	1.30	2.28	5.10	0.50	5.60	3.32	0.19	3.91	4.10
Oct.	3.09	0.96	2.13	4.10	0.35	4.45	2.32	0.14	2.73	2.87
Nov.	2.23	0.46	1.77	2.10	0.06	2.16	0.39	0.07	0.46	0.53
Dec.	2.34	0.52	1.82	1.00	0.00	1.00	0.00	0.03	0.00	0.03
	32.80	9.30	23.50	44.40	4.11	48.51	27.40	1.58	32.25	33.83

a. Up-to-date rainfall and evaporation data sets are available from the Texas Natural Resource Information System.

b. Runoff should be determined by an acceptable method such as the Soil Conservation Service method found in SCS Technical Release No. 55. For calculation purposes only, a CN value of 74 was assumed for good pasture with Class "C" soils.

c. Suggested source of values is the "Bulletin 6019, Consumptive Use of Water by Major Crops in Texas", Texas Board of Water Engineers.

d. In low rainfall areas, this is the required leaching to avoid salinity build-up in the soil where:

$$L = \frac{Ce}{} (E-Ri)$$

Ce = Electrical Conductivity of Effluent

E = Evapotranspiration

Ri = Infiltrated Rainfall

Cl = Maximum Allowable Conductivity of Soil Solution (Table 3)

For calculation purposes only, Ce is measured to be 1.5 millimbos/cm @ 25^{o}C and Cl is 10.0 (Bermuda Grass)

e. Net Average Evaporation from Reservoir Surface. For the purpose of this calculation, irrigation area = 100 acres and reservoir surface area = 5 acres. Therefore, values are 5% of Evaporation figures of Austin, Texas.

f. K is the irrigation efficiency. K value is 0.85 unless specific information is provided to support a different value.

g. The total of this column is the maximum allowable application rate in Acre-in./Ac./yr.

TABLE 2
EXAMPLE CALCULATION OF STORAGE VOLUME REQUIREMENTS
(All Units are Inches of Water per Acre of Irrigated Area)

Month (12)	a Effluent Received for Application or Storage (13)	b Rainfall Worst Year in Past 25 Year (14)	c Runoff Worst Year in Past 25 Year (15)	Infiltrated Rainfall (14)+(15) (16)	Available Water (13)+(16) (17)	d Net 25 Year Low Evaporation from Regur.Surf. (18)	e Storage (19)	f Accumulated Storage (20)
Jan.	2.70	3.28	1.09	2.19	4.89	0.00	2.69	8.49
Feb.	2.70	3.80	1.45	2.35	5.05	0.01	2.69	11.18
Mar.	2.70	3.18	1.02	2.16	4.86	0.04	1.67	12.85
April	2.70	4.98	2.35	2.63	5.33	0.02	1.51	14.36
May	2.70	6.57	3.67	2.90	5.60	0.04	-1.86	12.50
June	2.70	5.13	2.47	2.66	5.36	0.09	-2.80	9.70
July	2.70	3.44	1.20	2.24	4.94	0.16	-3.73	5.97
Aug.	2.70	3.33	1.12	2.21	4.91	0.16	-0.87	5.10
Sept.	2.70	5.59	2.84	2.75	5.45	0.08	-0.74	4.36
Oct.	2.70	4.82	2.22	2.60	5.30	0.07	0.45	0.45
Nov.	2.70	3.49	1.23	2.26	4.96	0.03	2.67	3.12
Dec.	2.70	3.64	1.34	2.30	5.00	0.02	2.68	5.80
	32.40	51.25	22.00	29.25	61.65	0.73		

a. For calculation purposes only, disposal rate is for a 240,000 gpd facility (2.7 Ac.-ft/AC./yr.) irrigating 100 Acres. Maximum values for Column 13 are the value (total) of Column 11 divided by 12. Note that the values in Column 13 could be adjusted to allow for seasonal variation in effluent output.

b. Annual rainfall amount from the worst year in past 25 years of data. Total rainfall is then distributed proportional to monthly averages.

c. Using rainfall figures in Column 14, calculate runoff with the same method used in Column 3.

d. Lowest annual evaporation in past 25 years from reservoir surface. Distribute annual value proportionally to monthly average evaporation expressed in inches per irrigated acre. For purpose of this calculation, irrigation area = 100 acres and reservoir surface area = 5 acres. Therefore, values in Column 18 are 5% of Evaporation figures for Austin, Texas.

e. Storage = [(13)-(18)]-{[(7)-(16)]/k}. If the term {[(7)-(16)]/k} is negative, then the value for storage = [(13)-(18)]. Irrigation efficiency is 0.85 unless specific information is provided to support a different value.

f. To allow for the worst condition, the summation was started in Oct. which gives a maximum storage requirement of 14.36 in./irrigated acre or 120 Acre-feet.

TABLE 3
Salt Tolerance of Various Crop Plants

Best growth yields of each crop would occur at a salinity level below the salinity range given.

Relatively Nontolerant	Moderately Salt Tolerant	Relatively Salt Tolerant	Highly Salt Tolerant
Electrical Conductivity (millimhos/cm at 25 degrees C)			
2.0 - 4.0	4.0 - 6.0	6.0 - 8.0	8.0 - 12.0
		Field Crops	
Field bean	Sorghum (grain)	Cotton	Barley (grain)
Cowpeas	Corn (field)	Rye (grain)	Sugar beet
	Castorbean	Wheat (grain)	Rape
	Soybean	Oats (grain)	
		Rice	
		Forage Crops	
White clover	Tall fescue	Wheat-grasses	Alkali sacaton
Alsike clover	Meadow fescue	Sudan grass	Bermuda grass
Red clover	Orchard-grass	Sweetclover	Barley (hay)
Ladino clover	Millet	Alfalfa	Rhodesgrass
Crimson clover	Sour clover	Ryegrass	Blue grama
Rose clover	Birdsfoot trefoil	Rye (hay)	Panicgrass
Burnet clover		Wheat (hay)	
		Oats (hay)	

(B) Effluent storage. An effluent storage study shall be performed to determine the necessary storage requirements. The storage requirements shall be based on a design rainfall year with a return frequency of at least 25 years (the expected 25 year–one year rainfall, alternately the highest annual rainfall during the last 25 years of record may be used) and a normal monthly distribution, the application rate and cycle, the effluent available on a monthly basis, and evaporation losses. An example of an effluent storage study is shown in Table 3 of this subparagraph.

(C) Nitrogen application rate. Irrigation shall be limited to prevent excessive nitrogen application. The annual liquid loading shall not exceed that which would introduce more nitrogen than is annually required by the crop plus 20% volatilization. Values of crop nitrogen requirements shall be justified in the design report. The application rate shall be calculated by the formula

C = effluent nitrogen concentration - mg/l

N = annual crop requirement of nitrogen plus 20% volatilization pound/acre/yr.

$L = \frac{N}{2.7C}$ where,

L = annual liquid loading - feet/year

(D) Land disposal application rates. The following figure establishes maximum application rates for land disposal of treated effluent.

(4) Soil testing. Representative soil samples shall be taken from the root zones of wastewater application sites to establish pre-operational soil concentrations of pH, total nitrogen, potassium, phosphorus, and conductivity. Sampling procedures shall employ accepted techniques of soil science for obtaining representative analytical results. Base-line values of the parameters specified above shall be furnished in the technical report. The project development shall provide for a minimum of one soil test annually from each wastewater application site for the duration of the disposal system design life.

(5) Design considerations.

(A) Screening devices should be installed on all lift pump suction intakes.

(B) The design of sprinkler irrigation systems should allow operational flexibility and efficiency and ease of maintenance.

(i) The system should be designed to provide a uniform water distribution.

(ii) The designing engineer should consider such items as permanently buried mains with readily accessible valve boxes, two or more lateral lines, and quick coupling valves at the main/lateral connections.

(iii) Cross connection with a potable water supply system is prohibited. Cross connection with a well water system will be reviewed on a case-by-case basis.

(C) Vehicular access to conveyance system locations and equipment should be provided at intervals of 1,000 feet to 1,300 feet.

(D) The cover crop of each wastewater application area shall be harvested a minimum of once per year. Consideration should be given to the selection of crops which will allow two or more harvests per year to be made.

(E) All effluent applied as irrigation water should have a pH within the range of 6.5 to 9.5.

(c) Percolation. Percolation disposal systems provide for ultimate disposal of the wastewater by evaporation and percolation with no resulting discharge to surface waters.

(1) Percolation systems will not be permitted in those locations where seepage would adversely affect the uses of groundwater resources.

(2) Primary treatment of the raw sewage shall be provided prior to land disposal.

(3) Percolation systems shall be limited to sites having soil textures suitable for sustaining a rapid intake rate. Percolation dosing sites shall be limited to soils classified as sands, loamy sands, or sandy loams having a minimum infiltration rate of six inches per hour.

(4) Multiple dosing basins shall be provided for the application of wastewater. The wastewater distribution system shall be designed to provide a maximum dosing period of 24 hours upon any individual dosing basin and a minimum resting period for any individual dosing basin of five days following a period of dosing.

(5) The hydraulic loading rate will be considered on a case-by-case basis. The designing engineer shall identify the permeability of the limiting soil layer.

(6) The design shall provide an area equal to a minimum of 20% of the total disposal site area for the construction of wastewater storage for utilization during periods of wet or freezing weather and to provide flexibility of dosing site utilization.

This agency hereby certifies that the proposal has been reviewed by legal counsel and found to be within the agency's authority to adopt.

Issued in Austin, Texas, on September 18, 1989.

TRD-8908595 Jim Haley
Director, Legal Divisions
Texas Water Commission

Earliest possible date of adoption: October 23, 1989

For further information, please call: (512) 463-8087

ATTACHMENT B

Kevin McCalla
Director, Legal Division
Texas Natural Resource Conservation Commission
Earliest possible date of adoption: January 26, 1998
For further information, please call: (512) 239–6087

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Chapter 309. Domestic Wastewater Effluent Limitation and Plant Siting

The Texas Natural Resource Conservation Commission (commission) proposes amendments to §§309.1-309.4 and §§309.10-309.14, concerning effluent quality limitations for treated domestic sewage, and minimum standards for the location of domestic wastewater treatment facilities.

The proposed changes amend and update requirements relating to effluent limitations and facility location standards. The proposed changes will ease the administrative burden on the commission as well as provide added flexibility to those regulated by the rules by clarifying allowances for case-by-case reviews of modifications, allowing the use of smaller disinfection basins under certain conditions, and simplifying the methods used to meet the buffer zone requirements for the siting of wastewater treatment facilities to abate nuisance conditions. The proposed changes to the distance requirements from water wells and other sources of drinking water conform with other agency rules contained in Chapter 290 of this title (relating to Water Hygiene).

The purpose of the amendments is to also update the rules to meet current commission permitting practices and make corrections to domestic effluent limitations. Additionally, the amendments are intended to clarify the location requirements for wastewater treatment plants, including buffer zone requirements to abate nuisance conditions. The amendments will also update the rules to meet technology advancements and current engineering industry practices. The amendments are also intended to allow for performance based compliance. The amendments should reduce the need for the number of variances requested from permittees since modifications that in the past initiated requests for variances will now be more clearly defined in the rule.

The existing language in Subchapter A establishes the minimum effluent sets that must be used in permitting. Often, "natural" systems such as aerated lagoons, stabilization ponds, facultative ponds or constructed wetlands cannot meet the pH or total suspended solids criteria because of their operational nature. The proposed changes to §309.1 and §309.2, relating to Effluent Sets, allow the agency to consider flexible, alternative criteria when evaluating certain existing, natural systems that cannot meet pH or total suspended solids criteria. Several existing facilities, obtaining approvals through variances, use a chlorination system that does not meet the sizing criteria set out in the existing rule. The proposed changes to §309.3 would provide these facilities with an alternative, performance-based criteria to ensure disinfection of the wastewater effluent necessary to meet applicable water quality standards. In addition, a rule revision in 1990 inadvertently lowered the effluent criteria for wastewater irrigated on publicly-accessible land, causing confusion between the regulated public and commission regional inspectors. The proposed changes to §309.4 correct the requirements for disposal of treated effluent by irrigation at publicly accessible sites.

Subchapter B sets the siting criteria for wastewater treatment plants. Revisions to §309.12 are needed to simplify the requirements for compliance with the agency's ground water protection efforts. Nearly 40% of all amendments submitted for domestic wastewater treatment facilities are the result of existing requirements for the buffer zones. The proposed changes to §309.13, Unsuitable Site Characteristics, clarify the prohibition of using wetlands for wastewater treatment, correlate the distance requirements from water wells and other sources of drinking water with other agency rules, and allow the use of public easements to meet the buffer zone requirements for wastewater treatment facilities without requiring an amendment to a permit. Finally, this rule change will correct typographical errors, clarify the effective date of the location standards, and add definitions to clarify the meaning of certain terms used in the rule.

EXPLANATION OF PROPOSED RULE

Proposed changes to §309.1, relating to Scope and Applicability, clarify that the rule is applicable to stabilization ponds and other natural systems such as aerated lagoons followed by stabilization ponds, facultative ponds, stabilization ponds, and constructed wetlands.

Proposed changes to §309.2, relating to Rationale for Effluent Sets, allow for and clarify case-by-case reviews of modifications made to certain existing natural systems which cannot meet pH or total suspended solids criteria.

Proposed changes to §309.3, relating to Application of Effluent Sets, allow for the use of smaller disinfection basins for certain existing facilities and updates the nomenclature to that currently used by the agency.

Proposed changes to §309.4, relating to Effluent Limitations for Domestic Wastewater Treatment Plants, clarify the requirements for disposal of treated effluent by irrigation at publicly accessible sites.

Proposed changes to §309.10, relating to Purpose, Scope and Applicability, clarify the effective date of the location standards as previously adopted.

Proposed changes to §309.11, relating to Definitions, add definitions to clarify the meaning of certain terms used in the rule.

Proposed changes to §309.12, Site Selection to Protect Groundwater or Surface Water, simplify the use of the term "Active geologic processes."

Proposed changes to §309.13, Unsuitable Site Characteristics, clarify the prohibition of using wetlands for wastewater treatment, correlate the distance requirements from water wells and other sources of drinking water with other agency rules, and allow the use of public easements to meet the buffer zone requirements for wastewater treatment facilities without requiring an amendment to a permit.

Proposed changes to §309.14, Prohibition of Permit Issuance, clarify the subsection's prohibition of permit issuance for a facility not in compliance with §309.13.

FISCAL NOTE

Stephen Minick, Strategic Planning and Appropriations Division, has determined that for the first five years these sections as proposed are in effect, there will be fiscal implications as a result of enforcement and administration of the sections. There are no

significant implications anticipated for state government. Local governments affected by the provisions could realize potential cost savings as a result of adoption of the proposed changes. The cost savings for local governments will result from the avoidance of enforcement actions due to reduced nuisance complaints that are anticipated to result from the proposed buffer zone requirements.

PUBLIC BENEFIT

Mr. Minick has also determined that for the first five years these sections as proposed are in effect the public benefit anticipated as a result of enforcement of and compliance with these sections will be the clarification of existing requirements relating to effluent limitations and location standards for wastewater facilities, the reduction of monitoring requirements for certain types of wastewater facilities, and more cost effective regulation of wastewater discharges. There are no economic costs anticipated for any person, including any small business, required to comply with the sections as proposed.

REGULATORY IMPACT ANALYSIS

The Commission has reviewed the proposed rulemaking in light of the regulatory analysis requirement of Texas Government Code §2001.0225 and has determined that the rulemaking is not subject to §2001.0225 because it does not meet the definition of a "major environmental rule" as defined in the act, and it does not meet any of the four applicability requirements listed in §2001.0225(a).

TAKINGS IMPACT ASSESSMENT

The commission has prepared a Takings Impact Assessment for these rules pursuant to Texas Government Code Annotated, §2007.043. The following is a summary of that Assessment. The specific purpose of the proposed rule is to ease the burden on the commission and those regulated by rule in establishing effluent limits and buffer zone requirements. Promulgation and enforcement of these proposed amendments will not affect private real property which is the subject of the rules.

PUBLIC HEARING

A public hearing on the proposal will be held January 12, 1997 at 10:00 a.m. in Room 2210 of the commission Building F, located at 12100 Park 35 Circle, Austin. The hearing is structured to receive oral or written comments by interested persons. Individuals may present oral statements, when called upon, in the order of registration. Open discussion within the audience will not occur during the hearing; however, a commission staff member will be available to discuss the proposal 30 minutes prior to the hearing and will answer questions before and after the hearing.

SUBMITTAL OF COMMENTS

Written comments on the proposal should refer to Rule Log No. 96107-309-WT and may be submitted to Lutrecia Oshoko, Texas Natural Resource Conservation Commission, Office of Policy and Regulatory Development, MC 205, P.O. Box 13087, Austin, Texas 78711-3087, (512) 239-4640. Comments may be faxed to (512) 239-5687, but must be followed up with the submission and receipt of the written comments within three working days of when they were faxed. Written comments must be received by 5:00 p.m., January 26, 1998. For further information concerning this proposal, please contact Randall B. Wilburn, Texas Natural Resource Conservation Commission, Water Quality Division, (512) 239-5768.

COASTAL MANAGEMENT PLAN

The executive director has reviewed the proposed rulemaking and found that the rule is neither identified in Coastal Coordination Act Implementation Rules, 31 TAC §505.11, relating to Actions and Rules Subject to the Coastal Management Program (CMP), nor will affect any action/authorization identified in Coastal Coordination Act Implementation Rules, 31 TAC §505.11. Therefore, the proposed rule is not subject to the CMP.

Subchapter A. Domestic Wastewater Effluent Limitations

30 TAC §§309.1–309.4

STATUTORY AUTHORITY

These amendments are proposed under the Texas Water Code, §5.102, which provides the commission with the authority to carry out duties and general powers of the commission under its jurisdictional authority as provided by Texas Water Code §5.103. These amendments are also proposed under the Texas Water Quality Control Act which gives the commission the authority to adopt rules for the approval of disposal system plans under §26.034 of the Texas Water Code as well as the authority to set standards to prevent the discharge of waste that is injurious to the publich health under §26.041 of the Texas Water Code.

There are no other codes or statutes that will be affected by this proposal.

§309.1. Scope and Applicability.

(a) The purpose of these sections is to promulgate a set of effluent quality limitations for treated domestic sewage which will be required of permittees as appropriate to maintain water quality in accordance with the commission's surface water quality standards. Any incorporation of federal regulations into this chapter shall apply only to disposal of domestic sewage.

(b) Secondary treatment, with exceptions applicable to certain stabilization [~~oxidation~~] pond systems and other natural systems , is defined as a minimum reduction of pollutants to meet the following quality:
Figure 1: 30 TAC §309.1 (b)

(c) Effective April 1988, all permits containing an ammonia-nitrogen effluent limit are hereby modified to change BOD_5 to carbonaceous biochemical oxygen demand ($CBOD_5$).

(d) Effective January 1, 1988, any permit containing a BOD_5 effluent limitation may be monitored and reported as $CBOD_5$ as long as nitrogen is monitored and reported as ammonia-nitrogen at the same sampling frequency. If the permit authorizes a discharge to land or an evaporation pond only, ammonia-nitrogen monitoring and reporting are not required to change to $CBOD_5$.

(e) The State of Texas has established a state water quality management program and a continuing planning process which sets forth the strategy and procedures for accomplishing the management program's objectives. Essential elements of the program include updates of basin plans, total maximum daily loads, and wasteload evaluations by basin segments. In order to achieve compliance with water quality standards within certain segments, more stringent effluent quality limitations other than basic secondary treatment may be required to protect water quality.

§309.2. Rationale for Effluent Sets.

(a) The effluent sets in §309.4 of this title (relating to Table 1, Effluent Limitations for Domestic Wastewater Treatment Plants) are intended to represent standard levels of treatment normally required for domestic wastewater treatment plants.

(b) Modifications to the uniform sets of effluent criteria listed in §309.4 of this title [~~(relating to Table 1, Effluent Limitations for Domestic Treatment Plants)~~] may be considered by the commission when effluent limits more stringent than secondary treatment are required in order to maintain desired water quality levels.

(c) On a case-by-case basis, modifications to the uniform effluent criteria listed in §309.4 of this title may be considered by the commission for certain existing, natural systems which cannot consistently meet pH or total suspended solids criteria due to the inherent variability of a particular system. Modifications to the criteria may be allowed for a natural system designed for treatment or polishing with a discharge directly into surface waters. Natural systems include, but are not necessarily limited to, aerated lagoons followed by stabilization ponds, facultative ponds, stabilization ponds, and constructed wetlands. For the purpose of this chapter, playa lakes are not considered natural systems. The commission will consider the following factors in approving a modification to the criteria:

(1) Any modification shall not allow a discharge which would cause a violation of the commission's surface water quality standards or any applicable total maximum daily loads (TMDLs) or wasteload evaluation.

(2) A proposal for a modification must be supported by an engineering report, prepared and sealed by a qualified professional engineer representing the permit applicant, which justifies the request for modification with specific information relating to the proposed design and that design's inherent limitations. For considering a request for modification of an existing system that cannot achieve permitted pH or TSS limitations, the engineering report must also document past efforts of design modification, operation, and maintenance, and include data showing for the past three years, influent and effluent hydraulic and organic loadings and the resultant effluent quality achieved.

(3) The commission may set narrative effluent limitations and effluent monitoring requirements as an alternative to a specific numerical effluent limitation when a specific numeric effluent limitation cannot be met because of, but not limited to, seasonal or operational factors. These narrative requirements shall ensure that necessary operational and maintenance actions are consistently carried out by the permittee to meet applicable water quality standards.. The commission may request resumption of the original numerical limitations at the expiration of the permit based on a review of the discharge effluent data.

(4) The commission may suspend setting a specific numerical effluent limitation for a temporary period of time not to exceed the remainder of the permit term, pending a review of the actual performance of a natural system's design as long as the facility meets paragraph (1) of this subsection. During any temporary suspension, the permittee must document that the system is operated and maintained for optimal performance in accordance with an operation and maintenance manual prepared in accordance with Chapter 317 of this title (relating to Design Criteria for Sewerage Systems) and is meeting water quality standards. After review of performance data and related information submitted by the permittee in a permit application, at time of permit renewal or amendment, or when submitted at the request of the executive director, the commission may set specific numerical effluent limitations consistent with the criteria of this subchapter and the performance documented for the particular system.

§309.3. Application of Effluent Sets.

(a) Discharges into effluent limited segments.

(1) All discharges into effluent limited segments shall, at a minimum, achieve secondary treatment. An effluent limited segment is any segment which is presently meeting or will meet applicable water quality criteria following incorporation of secondary treatment for domestic sewage treatment plants and/or best practicable treatment for industries.

(2) New or increased discharges into effluent limited segments shall achieve that level of treatment deemed necessary by the commission, based on the assimilative capacity and uses of the receiving stream.

(b) Discharges into water quality limited segments.

(1) All discharges into water quality limited segments for which evaluations have been devel- oped shall, at a minimum, achieve the treatment level specified in the recommendations of the wasteload evaluation for that discharge. [~~In the event that analyses indicate that different treatment levels are required due to changed conditions or other factors, the commission may consider alternate treatment levels on a case-by-case basis.~~] A water quality limited segment is a surface water segment classified by the commission as water quality limited where conventional treatment of waste discharged to the segment is not stringent enough for the segment to meet applicable water quality standards; monitoring data have shown significant violations of water quality standards; advanced waste treatment for point sources is required to protect existing exceptional water quality; or the segment is a domestic water supply reservoir used to supply drinking water .

(2) Discharges into water quality limited segments for which wasteload evaluations or total maximum daily loads have not been developed [~~performed~~] shall, at a minimum, achieve secondary treatment as provided by §309.1 of this title (relating to Scope and Applicability).

(c) Discharges into certain reservoirs. Any discharge made within five miles upstream of a reservoir or lake which is subject to onsite/private sewage facility regulation adopted pursuant to Chapter 26 of the Texas Water Code or Article 4477-7e of the Texas Revised Civil Statutes [~~Texas Solid Waste Disposal Act, Article 4477-7e~~], or which may be used as a source for public drinking water supply shall achieve, at a minimum, Effluent Set 2 in §309.4 of this title (relating to Table 1, Effluent Limitations for Domestic Wastewater Treatment Plants). Five miles shall be measured in stream miles from the normal conservation pool elevation. The commission may grant exceptions to this requirement where it can be demonstrated that the exception would not adversely impact water quality.

(d) Discharges from stabilization [~~oxidation~~] ponds. Effluent Set 3 shall apply to stabilization [~~oxidation~~] pond facilities in which stabilization [~~oxidation~~] ponds are the primary process used for secondary treatment and in which the ponds have been designed and constructed in accordance with applicable design criteria. Effluent Set 3 is considered equivalent to secondary treatment for stabilization [~~oxidation~~] pond systems.

(e) Discharge to an evaporation pond. Effluent discharged to evaporation ponds must receive, at a minimum, primary treatment, be within the pH limits of 6.0-9.0 standard units and have a quality of 100 mg/l BOD_5 or less on a grab sample. For the purpose of this subsection, primary treatment means solids separation which is

typically accomplished by primary clarifiers, Imhoff tanks, facultative lagoons, septic tanks, and other such units.

(f) Land disposal of treated effluent. The commission may authorize land disposal of treated effluent when the applicant demonstrates that the quality of ground [~~groundwaters~~] or surface waters in the state will not be adversely affected. Each project must be consistent with laws relating to water rights. The primary purpose of such a project must be to dispose of treated effluent and/or to further enhance the quality of effluent prior to discharge.

(1) When irrigation systems ultimately dispose of effluent on land to which the public has access, Effluent Set 6, at a minimum, shall apply. The pH shall be within the limits of 6.0-9.0 standard units unless a specific variance is provided in the permit based upon site-specific conditions. When lands to which the public does not have access are to be used for ultimate disposal of effluent, the effluent must, at a minimum, receive primary treatment. Effluent Set 7 shall apply and the pH shall be within the limits of 6.0-9.0 standard units unless a specific variance is provided in the permit based upon site-specific conditions. For irrigation systems, primary treatment is the same as described in subsection (e) of this section. Effluent may be used for irrigation only when consistent with Subchapters B and C of this chapter (relating to Location Standards and Land Disposal of Sewage Effluent).

(2) When overland flow systems are utilized for effluent treatment, the public shall not have access to the treatment area. Primary treated effluent meeting Effluent Set 8, within the pH limits of 6.0-9.0 standard units may be used consistent with environmental safeguards and protection of ground and surface waters. For overland flow systems, primary treatment is the same as described in subsection (e) of this section. At a minimum, Effluent Set 1 shall apply to discharges from overland flow facilities except where more stringent treatment levels are required to meet water quality standards.

(3) When evapotranspiration beds, low pressure dosing, drip irrigation, or similar soil absorption [~~and subsurface drain fields are utilized for land disposal~~] systems are utilized for on-site land disposal , the effluent shall, at a minimum, receive primary treatment and meet Effluent Set 9. Use of these on-site systems [~~evapotranspiration beds and subsurface drain fields~~] shall be consistent with environmental safeguards and the protection of ground and surface waters. Primary [~~For evapotranspiration beds and subsurface drain fields, primary~~] treatment is the same as described in subsection (e) of this section.

(g) Disinfection.

(1) Except as provided in this subsection, disinfection in a manner conducive to the protection of both public health and aquatic life shall be achieved on all domestic wastewater [~~wastewaters~~] which discharges [~~discharge~~] into waters in the state. Any appropriate process may be considered and approved on a case-by-case basis.

(2) Where chlorination is utilized, any combination of detention time and chlorine residual where the product of chlorine (Cl_2 mg/l) X Time (T minutes) equals or exceeds 20 is satisfactory provided that the minimum detention time is at least 20 minutes and the minimum residual is at least 0.5 mg/l. The maximum chlorine residual in any discharge shall in no event be greater than four mg/l per grab sample, or that necessary to protect aquatic life. Where an existing system, constructed prior to October 8, 1990, has a detention time of less than 20 minutes at peak flow, the waste discharge permit will be amended at renewal by the commission to require limits for both chlorine residual and fecal coliform.

(3) On a case-by-case basis, the commission will allow chlorination or disinfection alternatives to the specific criteria of time and detention described in paragraph (2) of this subsection that achieve equivalent water quality protection. These alternatives will be considered and their performance standards determined based upon supporting data submitted in an engineering report, prepared and sealed by a registered, professional engineer. The report should include supporting data, performance data, or field tracer studies, as appropriate. The commission will establish effluent limitations as necessary to verify disinfection is adequate, including chlorine residual testing, other chemical testing, and/or fecal coliform testing.

[~~(3) Except as provided herein, disinfection of domestic wastewaters which are discharged by means of land disposal or evaporation pond shall be reviewed on a case-by-case basis to determine the need for disinfection. All effluent discharged to land to which the public has access must be disinfected and if the effluent is to be transferred to a holding pond or tank, the effluent shall be rechlorinated to a trace chlorine residual at the point of irrigation application.~~]

(4) Except as provided herein, disinfection of domestic wastewater which is discharged by means of land disposal or evaporation pond shall be reviewed on a case-by-case basis to determine the need for disinfection. All effluent discharged to land to which the public has access must be disinfected and if the effluent is to be transferred to a holding pond or tank, the effluent shall be rechlorinated to a trace chlorine residual at the point of irrigation application.

(5) [~~4~~] Unless otherwise specified in a permit, chemical disinfection is not required for stabilization [~~oxidation~~] ponds when the total retention time in the free-water-surface ponds [~~wastewater treatment system~~] (based on design flow) is at least 21 days.

(h) More stringent requirements. The commission may impose more stringent requirements in permits than those specified in subsections (a)-(g) of this section, on a case-by-case basis, where appropriate to maintain desired water quality levels.

§309.4. Table 1, Effluent Limitations for Domestic Wastewater Treatment Plants.

This table contains the sets of effluent criteria for waste discharge permits.
Figure 1: 30 TAC §309.4.

This agency hereby certifies that the proposal has been reviewed by legal counsel and found to be within the agency's legal authority to adopt.

Issued in Austin, Texas, on December 15, 1997.

TRD-9716750
Kevin McCalla
Director, Legal Division
Texas Nautral Resource Conservation Commission
Earliest possible date of adoption: January 26, 1998
For further information, please call: (512) 239–4640

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Subchapter B. Location Standards

30 TAC §§309.10–309.14

These amendments are proposed under the Texas Water Code, §5.102, which provides the commission with general powers to carry out duties under the Texas Water Code and §26.034, which provides the commission with the authority to adopt rules

for the approval of disposal system plans. There are no other codes or statutes that will be affected by this proposal.

§309.10. Purpose, Scope and Applicability.

(a) This chapter establishes minimum standards for the location of domestic wastewater treatment facilities. These standards are to be applied in the evaluation of an application for a permit to treat and dispose of domestic wastewater [~~wastewaters and sludges~~] and for obtaining approval of construction plans and specifications. This chapter applies to domestic wastewater permit applications and construction plans and specifications filed on or after October 8, 1990 [~~the effective date of the new rules~~], for new facilities and existing units which undergo substantial change for the continued purpose of domestic wastewater treatment [~~and/or sludge disposal~~].

(b) The purpose of this chapter is to condition issuance of a permit and/or approval of construction plans and specifications for new domestic wastewater treatment facilities or the substantial change of an existing unit on selection of a site that minimizes possible contamination of ground and surface waters; to define the characteristics that make an area unsuitable or inappropriate for a wastewater treatment facility; to minimize the possibility of exposing the public to nuisance conditions; and to prohibit issuance of a permit for a facility to be located in an area determined to be unsuitable or inappropriate, unless the design, construction, and operational features of the facility will mitigate the unsuitable site characteristics.

§ 309.11. Definitions.

The following words and terms when used in this chapter, shall have the following meanings, unless the context clearly indicates otherwise:

Active geologic processes —Any natural process which alters the surface and/or subsurface of the earth, including, but not limited to, erosion (including shoreline erosion along the coast), submergence, subsidence, faulting, karst formation, flooding in alluvial flood wash zones, meandering river bank cutting, and earthquakes.

Aquifer - A geologic formation, group of formations, or part of a formation capable of yielding a significant amount of groundwater to wells or springs. Portions of formations, such as clay beds, which are not capable of yielding a significant amount of groundwater to wells or springs are not aquifers.

Erosion - The group of natural processes, including weathering, deterioration, detachment, dissolution, abrasion, corrosion, wearing away, and transportation, by which earthen or rock material is removed from any part of the earth's surface.

Existing facility - Any facility used for the storage, processing, or disposal of domestic wastewater [~~and/or sludges~~] and which has obtained approval of construction plans and specifications as of March 1, 1990.

New facility - Any domestic wastewater treatment facility which is not an existing facility.

Nuisance odor prevention - The reduction, treatment, and dispersal of potential odor conditions that interfere with another's use and enjoyment of property that are caused by or generated from a wastewater treatment plant unit,which conditions cannot be prevented by normal operation and maintenance procedures of the wastewater treatment unit.

One hundred-year flood plain -Any land area which is subject to a 1.0% or greater chance of flooding in any given year from any source.

Substantial change in the function or use - an increase in the pollutant load or modification in the existing purpose of the unit.

[~~Wastewater treatment plant sludges, screenings, and grit or Sludges - Any solid, semi-solid, or liquid residue that contains materials organic or inorganic, removed during domestic wastewater treatment.~~]

Wastewater treatment plant unit- Any apparatus necessary for the purpose of providing treatment of wastewater (i.e., aeration basins, splitter boxes, bar screens, sludge drying beds, clarifiers, overland flow sites, treatment ponds or basins that contain wastewater, etc.). For purposes of compliance with the requirements of §309.13(e) of this title (relating to Unsuitable Site Characteristics), this definition does not include off-site bar screens, off-site lift stations, flow metering equipment, or post-aeration structures needed to meet permitted effluent minimum dissolved oxygen limitations.

Wetlands - Those areas that are inundated or saturated by surface water or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, playa lakes , and similar areas.

§309.12. Site Selection to Protect Groundwater or Surface Water.

The commission may not issue a permit for a new facility or the substantial change of an existing facility unless it finds that the proposed site, when evaluated in light of the proposed design, construction or operational features, minimizes possible contamination of surface water and groundwater. In making this determination, the commission may consider the following factors:

(1) active geologic processes [~~such as flooding, erosion, subsidence, submergence and faulting~~];

(2) groundwater conditions such as groundwater flow rate, groundwater quality, length of flow path to points of discharge and aquifer recharge or discharge conditions;

(3) soil conditions such as stratigraphic profile and complexity, hydraulic conductivity of strata, and separation distance from the facility to the aquifer and points of discharge to surface water; and

(4) climatological conditions.

§309.13. Unsuitable Site Characteristics.

(a) A wastewater treatment plant unit may not be located in the 100-year flood plain unless the plant unit is protected from inundation and damage that may occur during that flood event.

(b) A wastewater treatment plant unit may not be located in wetlands[~~, except that wetlands may be used as a polishing unit for treated wastewater~~]. (This prohibition is not applicable to constructed wetlands.)

(c) A wastewater treatment plant unit may not be located closer than 500 feet from a public water well as provided by §290.41(c)(1)(A) of this title (relating to Ground Water Sources and Development) nor 250 feet from a private water well. The following separation distances apply to any facility used for the storage, processing, or disposal of domestic wastewater. Exceptions to these requirements will be considered at the request of a permit applicant on a case-by-case basis, and alternative provisions will be established in a permit if the alternative condition provides adequate protection to potable water sources and supplies:

(1) A wastewater treatment plant unit, land where surface irrigation using wastewater effluent occurs, or soil absorption systems (including low pressure dosing systems, drip irrigation systems, and evapotranspiration beds) must be located a minimum horizontal

distance of 150 feet from a private water well as provided by §290.41 (c)(1)(A) of this title;

(2) A wastewater treatment plant unit, land where surface irrigation using wastewater effluent occurs, or soil absorption systems (including low pressure dosing systems, drip irrigation systems, and evapo-transpiration beds) must be located a minimum horizontal distance of 500 feet from an elevated or ground potable-water storage tank as provided by §290.43 (b)(1) of this title (relating to Location of Clear Wells, Standpipes, and Ground Storage and Elevated Tanks.);

(3) A wastewater treatment plant unit, land where surface irrigation using wastewater effluent occurs, or soil absorption systems (including low pressure dosing systems, drip irrigation systems, and evapo-transpiration beds) must be located a minimum horizontal distance of 500 feet from a public water well site as provided by §290.41(c)(1)(C) of this title, spring, or other similar sources of public drinking water;

(4) A wet well or pump station at a wastewater treatment facility must be located a minimum horizontal distance of 300 feet from a public water well site, spring, or other similar sources of public drinking water as provided by §290.41(c)(1)(B) of this title; and

(5) A wastewater treatment plant unit, soil absorption systems (including low pressure dosing systems, drip irrigation systems, and evapo-transpiration beds), or land where surface irrigation using wastewater effluent occurs must be located a minimum horizontal distance of 500 feet from a surface water treatment plant as provided by §290.41(e)(3)(A) of this title.

(d) A wastewater treatment facility surface impoundment may not be located in areas overlying the recharge zones of major or minor aquifers, as defined by the Texas Water Development Board, unless the aquifer is separated from the base of the containment structure by a minimum of three feet of material with a hydraulic conductivity toward the aquifer not greater than 10^{-7} cm/sec or a thicker interval of more permeable material which provides equivalent or greater retardation of pollutant migration. A synthetic membrane liner may be substituted with a minimum of 30 mils thickness and an underground leak detection system with appropriate sampling points.

(e) One of the following alternatives must be met as a compliance requirement to abate and control a nuisance of odor prior to construction of a new wastewater treatment plant unit, or substantial change in the function or use of an existing wastewater treatment unit:

(1) Lagoons with zones of anaerobic activity (e.g., facultative lagoons, un-aerated equalization basins, etc.) may not be located closer than 500 feet to the nearest property line. All other wastewater treatment plant units may not be located closer than 150 feet to the nearest property line. Land used to treat primary effluent is considered a plant unit. Buffer zones for land used to dispose of treated effluent by irrigation shall be evaluated on a case-by-case basis. The permittee must hold legal title or have other sufficient property interest to a contiguous tract of land necessary to meet the distance requirements specified in this paragraph during the time effluent is disposed by irrigation;

(2) The applicant must submit a nuisance odor prevention request for approval by the executive director. A request for nuisance odor prevention must be in the form of an engineering report, prepared and sealed by a licensed professional engineer in support of the request. At a minimum, the engineering report shall address existing climatological conditions such as wind velocity and atmospheric stability, surrounding land use which exists or which is anticipated in the future, wastewater characteristics in affected units pertaining to the area of the buffer zone, potential odor generating units, and proposed solutions to prevent nuisance conditions at the edge of the buffer zone and beyond. Proposed solutions shall be supported by actual test data or appropriate calculations. The request shall be submitted, prior to construction, either with a permit application and subject to review during the permitting process or submitted for executive director approval after the permitting process is completed; or,

(3) The permittee must submit sufficient evidence of legal restrictions prohibiting residential structures within the part of the buffer zone not owned by the applicant. Sufficient evidence of legal restriction may, among others, take the form of a suitable restrictive easement, right-of-way, covenant, deed restriction, deed recorded, or a private agreement provided as a certified copy of the original document. The request shall be submitted, prior to construction, either with a permit application and subject to review during the permitting process or submitted for executive director approval after the permitting process is completed.

(f) For a facility for which a permit application, other than a renewal application, is made after October 8, 1990, if the facility will not meet the buffer zone requirement by one of the alternatives described in subsection (e) of this section, the applicant shall include in the application for the discharge permit a request for a variance. A variance will be considered on a case-by-case basis and, if granted by the commission, shall be included as a condition in the permit. This variance may be granted by the commission, consistent with the policies set out in Texas Water Code, §26.003.

(g) Any approved alternative for achieving the requirements of this subsection must remain in effect as long as the wastewater treatment plant is permitted by the commission. To comply with this requirement, the permittee must carry out the nuisance odor prevention plan at all times, shall ensure sufficient property ownership or interest and shall maintain easements prohibiting residential structures, as appropriate.

(h) For a permitted facility undergoing renewal of an existing permit with plans and specifications approved prior to March 1, 1990, for which no design change is requested, the facility will not be required to comply with the requirements of this subsection.

(i) Facilities for which plans and specifications have been approved prior to March 1, 1990, are not required to resubmit revised plans and specifications to meet changed requirements in this section in obtaining renewal of an existing permit.

~~[(d) A wastewater treatment facility surface impoundment may not be located in areas overlying regional aquifers unless the regional aquifer is separated from the base of the containment structure by a minimum of 3 feet of material with a hydraulic conductivity toward the aquifer not greater than 10^{-7} cm/sec or a thicker interval of more permeable material which provides equivalent or greater retardation of pollutant migration. A synthetic membrane liner may be substituted with a minimum of 30 mils thickness and an underground leak detection system with appropriate sampling points.~~

~~[(e) Lagoons with zones of anaerobic activity (e.g. facultative lagoons) may not be located closer than 500 feet to the nearest property line. All other wastewater treatment plant units, excluding lift stations, may not be located closer than 150 feet to the nearest property line. Land used to treat primary effluent is considered a plant unit. Buffer zones for land used to dispose of treated effluent by irrigation shall be evaluated on a case-by-case basis. If the buffer zone requirement cannot be met by legal ownership on an undivided tract of land, one of the following alternatives shall be required:~~

[(1) For a facility for which a permit application is made after the effective date of this section, if the facility will not meet the buffer zone requirement, the applicant shall include in the application for the discharge permit a request for a variance. A variance granted by the commission under this subsection shall be included as a condition in the new permit. Variances may be granted by the commission under the following circumstances:

[(A) acceptable means of nuisance prevention is provided, such as enclosing the treatment plant in a structure designed and suitable for noise and odor abatement;

[(B) the applicant possesses a restrictive easement on the part of the property in the buffer zone not owned by the applicant which prohibits a residential structure within the buffer zone; or

[(C) other reasons that justice may require, consistent with the policies set out in the Texas Water Code, §26.003.

[(2) For a facility for which a permit amendment application is made which involves a substantial design change to a wastewater treatment plant unit, if the facility will not meet the buffer zone requirement, the applicant shall include in the application for amendment a request for variance. Variances may be granted by the commission under the circumstances described in paragraph (1) of this subsection.

[(3) For a permitted facility for which plans and specifications approval only is sought, if the facility will not meet the buffer zone requirement, the applicant shall apply to the executive director for a variance. Any variance granted by the executive director shall be stated in writing. If a variance request is denied by the executive director, a permittee may appeal, by application for a major permit amendment, to the commission, which may hear the appeal or remand the matter to the Office of Hearings Examiners for a hearing conducted in accordance with the Rules of the commission. Variances may be granted by the executive director under the following circumstances:

[(A) acceptable means of nuisance prevention is provided, such as enclosing the treatment plant in a structure designed and suitable for noise and odor abatement;

[(B) the applicant possesses a restrictive easement on the part of the property in the buffer zone not owned by the applicant which prohibits a residential structure within the buffer zone; or

[(C) no residential structure is located within the buffer zone at the time the request is filed.

[(4) For a permitted facility with plans and specifications approved prior to March 1, 1990, for which no design change is requested, the facility shall not be required to comply with these buffer zone requirements.

[(5) Facilities for which plans and specifications have been approved prior to March 1, 1990 are not required to resubmit revised plans and specifications to meet changed requirements in this section.

[(f) Storage and/or disposal of sludges in the 100-year flood plain shall not restrict the flow of the 100-year flood, reduce the temporary water storage capacity of the flood plain, or result in washout of solid wastes.

[(g) A sludge land treatment facility or landfill may not be located in wetlands.

[(h) Buffer zones for the storage and/or disposal of sludges shall be evaluated on a case-by-case basis.

[(i) A sludge landfill may not be located in areas overlying regional aquifers unless:

[(1) It is an area where the average annual evaporation exceeds average annual rainfall by more than 40 inches and the depth to the regional aquifer is greater than 100 feet from the base of the containment structure; or

[(2) The regional aquifer is separated from the base of the containment structure by a minimum of 3 feet with a hydraulic conductivity toward the aquifer not greater than 10^{-7} cm/sec or a thicker interval of more permeable material which provides equivalent or greater retardation to pollutant migra- tion. A synthetic liner of equivalent permeability may be substituted with a minimum of 30 mils thickness and an underground leak detection system with appropriate sampling points.]

§309.14. Prohibition of Permit Issuance.

(a) The commission may not issue, amend, or renew a permit for a [new] wastewater treatment plant [or for the substantial change of an existing plant] if the facility [or expanding facility] does not meet the requirements of §309.13 of this title (relating to Unsuitable Site Characteristics).

(b) Nothing in this chapter shall be construed to require the commission to issue a permit, notwithstanding a finding that the proposed facility would satisfy the requirements of §309.12 of this title (relating to Site Selection to Protect Groundwater or Surface Water) and notwithstanding the absence of site characteristics which would disqualify the site from permitting pursuant to §309.13 of this title (relating to Unsuitable Site Characteristics).

This agency hereby certifies that the proposal has been reviewed by legal counsel and found to be within the agency's legal authority to adopt.

Issued in Austin, Texas, on December 15, 1997.

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Kevin McCalla
Director, Legal Division
Texas Nautral Resource Conservation Commission
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For further information, please call: (512) 239–4640

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Chapter 335. Industrial Solid Waste and Municipal Hazardous Waste

Subchapter A. Industrial Solid Waste and Municipal Hazardous Waste in General

30 TAC §335.28

The Texas Natural Resource Conservation Commission (TNRCC) proposes an amendment to §335.23(3), concerning Adoption of Memoranda of Understanding by Reference.

EXPLANATION OF PROPOSED RULES. The proposed MOU update redefines and clarifies jurisdiction between the TNRCC and the RRC with regard to oil, gas, and related wastes. The oil, gas, and related waste MOU was last updated in December 1987. Since that time, several statutory changes in jurisdiction and agency reorganizations have taken place that require the MOU to be updated. For instance, jurisdiction over "hazardous wastes" from natural gas and natural gas liquids processing plants, pressure maintenance plants, and repressur-

ATTACHMENT C

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

AN ORDER denying the application of Far Hills Utility District for proposed TPDES Permit No. WQ0014555001; Docket No. 2005-1899-MWD; SOAH Docket No. 582-06-0568

On August 22, 2007, the Texas Commission on Environmental Quality (Commission or TCEQ) considered the application of Far Hills Utility District (Applicant, Far Hills, or District) for proposed Texas Pollutant Discharge Elimination System (TPDES) Permit No. WQ0014555001. The application was presented to the Commission with a proposal for decision by Carol Wood, Administrative Law Judge (ALJ) with the State Office of Administrative Hearings (SOAH).

After considering the ALJ's proposal for decision and the evidence and arguments presented, the Commission makes the following Findings of Fact and Conclusions of Law:

I. FINDINGS OF FACT

1. Far Hills filed its application for a TPDES permit on August 31, 2004, and on December 2, 2004, the Commission's Executive Director (ED) made a preliminary decision that the proposed permit would meet all statutory and regulatory requirements.

2. On November 8, 2005, Applicant requested that the matter be directly referred to SOAH.

3. On November 21, 2005, the Commission's Chief Clerk sent notice of hearing to an attached list of persons.

4. On December 7, 2005, notice of hearing was published in *The Courier*, a newspaper regularly published or generally circulated in Montgomery County, Texas.

5. A preliminary hearing regarding the application was held in Conroe, Texas, on January 11, 2006. The Judge designated the following as parties to the proceeding: Far Hills, the ED, the Commission's Public Interest Counsel, Capps Concerned Citizens (Capps), and Ralph and Marcia Sandall (Sandalls). The Judge also designated the San Jacinto River Authority (River Authority) as a party; however, the River Authority participated mainly as an observer.

6. Although the ED participated in the preliminary hearing, he later withdrew as a party after reaching an agreement with Far Hills regarding disputed provisions of the proposed permit.

7. The hearing on the merits was held in Austin, Texas, from June 26 to June 28, 2006.

8. Far Hills was created as a water control and improvement district by Commission order in 1972 and encompasses about 327 acres on a peninsula in the southeast quadrant of Lake Conroe in Montgomery County. Far Hills is located near the City of Willis and in the extraterritorial jurisdiction of the City of Conroe, but not within the corporate limits of any city. The District's boundaries include seven residential subdivisions for which it provides water and wastewater services.

9. Far Hills provides water service to 320 residential connections and sewer service to 302 residential connections. The District currently serves a population of approximately 591

people. Its projections of future growth indicate that it will serve a total of 1,021 connections at full build-out of the subdivisions that Far Hills serves.

10. Currently, Far Hills' wastewater is being treated by Montgomery County Utility District (MCUD) No. 2 at its Seven Coves Plant (Plant). Far Hills' collection lines transport wastewater to a Far Hills sewer main located along Cude Cemetery Road. After passing through a Far Hills' lift station located at Virginia Street, the wastewater is conveyed about two miles north and west to the Plant.

11. In January 2004, MCUD No. 2 told Far Hills that the Plant and lift station needed major repairs. A few months later, MCUD No. 2 advised the District that the Plant was reaching its permitted flow capacity and would have to be expanded in the very near future. The engineer of MCUD No. 2 estimated repair costs of approximately $568,500, which did not include the cost of a plant expansion for which Far Hills' share would equal about one million dollars. MCUD No. 2 asked Far Hills to fund about 29 percent of the repair costs.

12. Far Hills decided it was more cost effective to terminate its agreement with MCUD No. 2 and build its own wastewater treatment plant.

13. Far Hills' contract with MCUD No. 2 to provide wastewater service expires in 2012.

14. The proposed Far Hills facility would be an activated sludge process plant operated in the complete mix mode and would be located north of Virginia Street at the intersection of Cude Cemetery Road and Virginia Street in Montgomery County. Treatment units in the interim phase are proposed to include a lift station, a manual bar screen, an aeration basin, a clarifier, a sludge digester, and a chlorine contact chamber. The final phase is proposed to include the following treatment units: a lift station, a manual bar screen, two aeration basins, two clarifiers, two sludge digesters, and two chlorine contact chambers.

15. The proposed permit authorizes a discharge of treated domestic wastewater at an interim volume not to exceed a daily average flow of 0.25 million gallons per day (MGD) and a final volume not to exceed a daily average flow of 0.5 MGD.

16. The proposed effluent limitations in the interim and the final phase of the proposed permit, based on a 30-day average, are the following: 10 milligrams per liter (mg/l) carbonaceous biochemical oxygen demand (CBOD), 15 mg/l total suspended solids (TSS), 3 mg/l ammonia nitrogen, and 4.0 mg/l minimum dissolved oxygen (DO). The effluent must contain a chlorine residual of at least 1.0 mg/l and must not exceed a chlorine residual of 4.0 mg/l after a detention time of at least 20 minutes, based on peak flow.

17. Far Hills' proposed wastewater treatment plant would be partially located in wetlands.

a. Hydrophytic vegetation, such as *planera aquatica*, exists throughout the designated wetlands area.

b. Wetland hydrology exists throughout the area designated as wetlands.

(1) There is a clear watermark on a tree at the data point closest to the District's proposed wastewater treatment units.

(2) Drift lines are a primary indicator of wetland hydrology, and such lines exist at two observation points within the wetlands area.

(3) Drainage patterns in wetlands are a primary indicator of wetland hydrology, and such patterns exist at two observation points within the wetlands area.

c. Hydric soils with distinct gleyed colors are present in the area where Far Hills' wastewater treatment units are proposed to be located.

18. The site of Far Hills' proposed wastewater treatment facility lies on a floodplain of an unnamed tributary to the West Fork of the San Jacinto River (Lake Conroe). The area is mapped as Trinity Clay, frequently flooded, and Ferris Clay, 1-5 % slopes, eroded, by U.S.Soil Survey Staff (1972). The area is not a mapped FEMA floodplain. It is

hydrologically adjacent to the unnamed tributary and to Lake Conroe, waters of the United States. While not a mapped floodplain, the area is frequently flooded.

19. Transcription and reporting costs for the hearing in this case totaled $ 6, 640.20. Of that total amount, Far Hills should be assessed 93 percent and Capps should be assessed 7 percent.

a. The ALJ ordered the transcript.

b. Far Hills requested that the transcript be expedited, which cost $ 2,602.40 of the total amount of transcription costs.

c. Applicant has substantial financial resources as a result of its significant tax base.

d. Capps is funded by donations from individuals and families. The Sandalls have only the financial resources of a single family.

e. Capps presented five witnesses compared to Applicant's seven witnesses, and cross-examination was about equal. The extent of participation by all the parties was appropriate, and none of the parties unduly burdened the transcript with frivolous arguments or unnecessary questioning of witnesses.

f. No other factor affects the assessment of transcription costs. All parties had plausible, good-faith arguments for the issues they raised.

II. CONCLUSIONS OF LAW

1. The Commission has jurisdiction over this matter, pursuant to TEX. WATER CODE (Water Code) ch. 26.

2. SOAH has jurisdiction over all matters relating to the conduct of a hearing in this proceeding, including the preparation of a proposal for decision with findings of fact and conclusions of law, pursuant to TEX. GOV'T CODE ch. 2003.

3. Wetlands are those areas that are inundated or saturated by surface water or groundwater at a

frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, playa lakes, and similar areas. 30 TEX. ADMIN. CODE (TAC) § 309.11(10).

4. A wastewater treatment plant unit may not be located in wetlands. 30 TAC § 309.13(b).

5. The Commission may not issue a permit for a wastewater treatment plant if the facility does not meet the requirements of 30 TAC § 309.13.

6. Based on the above findings of fact and conclusions of law, issuance of the proposed permit should be denied.

EXPLANATION OF CHANGES

Pursuant to Texas Government Code § 2003.047(m) the Commission provides the following Explanation of Changes to the Proposal for Decision prepared by the Administrative Law Judge:

1. The Commission deleted proposed Finding of Fact No. 17 based on its determination not to exercise its discretionary power to deny a permit on the basis of need or regionalization, and renumbered the following Findings of Fact accordingly.
2. Conclusions of Law No. 3, 4, and 5 have been deleted based on the Commission's determination not to exercise its discretionary power to deny a permit on the basis of need or regionalization and renumbered the following Conclusions of Law accordingly.

NOW, THEREFORE, BE IT ORDERED BY THE TEXAS COMMISSION ON ENVIRONMENTAL QUALITY, THAT:

1. The application of Far Hills Utility District for a TPDES permit is DENIED.

2. Applicant shall pay 93 percent of the total transcription costs of $6,640.20 and Capps Concerned Citizens shall pay the remainder.

3. All other motions, requests for entry of specific findings of fact or conclusions of law submitted by any party and any other request for general or specific relief not expressly granted or adopted herein are denied for want of merit.

4. The Commission's Chief Clerk shall forward a copy of this Order to all parties.

5. If any provision, sentence, clause, or phrase of this Order is for any reason held invalid, the invalidity of such shall not affect the validity of the remaining portions of the Order.

ISSUED: SEP 07 2007

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Buddy Garcia

Buddy Garcia, Chairman

ATTACHMENT D

2006 WL 4486602 (TX.St.Off.Admin.Hgs.)

State of Texas

Office of Administrative Hearings

Application of Far Hills Utility District for Water Quality Permit No. WQ0014555001 in Montgomery County

SOAH Docket No. 582-06-0568
TCEQ Docket No. 2005-1899-MWD
November 27, 2006

PROPOSAL FOR DECISION

I. INTRODUCTION

***1** Far Hills Utility District (Applicant, Far Hills, or District) has applied to the Texas Commission on Environmental Quality (Commission or TCEQ) for a proposed new Texas Pollutant Discharge Elimination System (TPDES) permit, authorizing the discharge of treated domestic wastewater at a daily average flow not to exceed 500,000 gallons per day (gpd) from Applicant's facility to be located in Montgomery County, Texas. The treated effluent would be discharged via pipeline to Lake Conroe in Segment No. 1012 of the San Jacinto River Basin. The designated uses for Segment No. 1012 are high aquatic life uses, public water supply, and contact recreation. For reasons explained below, the Administrative Law Judge (Judge) recommends that the permit be denied.

II. PROCEDURAL HISTORY

Far Hills filed its application on August 31, 2004, and on December 2, 2004, the Commission's Executive Director (ED) made a preliminary decision that the proposed permit would meet all statutory and regulatory requirements. On November 8, 2005, Applicant requested that the matter be directly referred to the State Office of Administrative Hearings.

The preliminary hearing was held in Conroe, Texas, on January 11, 2006. After determining that proper notice had been given, the Judge designated Far Hills, represented by Stephen Dickman; the ED, represented by John Williams; the Commission's Public Interest Counsel (PIC), represented by Christina Mann; Protestants Capps Concerned Citizens (Capps), represented by Eric Allmon, and Ralph and Marcia Sandall (Sandalls) as parties to the proceeding. Although the ED participated in the preliminary hearing, the ED later withdrew as a party after reaching an agreement with Far Hills regarding disputed provisions of the draft permit. The Judge also designated the San Jacinto River Authority (River Authority), represented by Reed Eichelberger, general manager, as a party; however, the River Authority participated mainly as an observer and did not attend the hearing on the merits.

The hearing on the merits was held in Austin, Texas, from June 26 to June 28, 2006. After the parties submitted final arguments on September 25, 2006, the record closed.

III. FACILITY DESCRIPTION AND PERMIT CONDITIONS

The proposed Far Hills facility would be an activated sludge process plant operated in the complete mix mode. Treatment units in the interim phase are proposed to include a lift station, a manual bar screen, an aeration basin, a clarifier, a sludge digester, and a chlorine contact chamber. The final phase is proposed to include the following treatment units: a lift station, a manual bar screen, two aeration basins, two clarifiers, two sludge digesters, and two chlorine contact chambers. The plant would be located north of Virginia Street at the intersection of Cude Cemetery Road and Virginia Street in Montgomery County.

***2** The draft permit authorizes a discharge of treated domestic wastewater at an interim volume not to exceed a daily average flow of 0.25 million gallons per day (MGD) and a final volume not to exceed a daily average flow of 0.5 MGD.

The proposed effluent limitations in the interim and the final phase of the draft permit, based on a 30-day average, are the following: 10 milligrams per liter (mg/l) carbonaceous biochemical oxygen demand (CBOD), 15 mg/l total suspended solids (TSS), 3 mg/l ammonia nitrogen, and 4.0 mg/l minimum dissolved oxygen (DO). The effluent must contain a chlorine residual of at least 1.0 mg/l and must not exceed a chlorine residual of 4.0 mg/l after a detention time of at least 20 minutes, based on peak flow.

IV. APPLICABLE LAW

TEX. WATER CODE (Water Code) § 26.003 reads in pertinent part as follows:

> It is the policy of this state ... to maintain the quality of water in the state consistent with the public health and enjoyment, the propagation and protection of terrestrial and aquatic life, and the operation of existing industries ... *to encourage and promote the development and use of regional and areawide waste collection, treatment, and disposal systems* to serve the waste disposal needs of the citizens of the state; and to require the use of all reasonable methods to implement this policy. (Emphasis added.)

In pertinent part, Water Code § 26.0282 reads as follows:

> In considering the issuance ... of a permit to discharge waste, the commission may deny or alter the terms of conditions of the proposed permit ... based on consideration of need, including ... the availability of existing or proposed areawide or regional waste collection, treatment, and disposal systems not designated as such by commission order ....

Water Code § 11.502(1) states, in pertinent part, the following:

> The definition of the term "wetlands" within the State of Texas, for the purposes of the Clean Water Act ... and all Texas laws, rules, and regulations adopted pursuant to Chapter 2001, Government Code and interpretation and implementation of any kind whatsoever of both federal and state laws by agencies of the state ... relating to wetlands, means an area (including a swamp, marsh, bog, prairie pothole, or similar area) having a predominance of hydric soils that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support and that under normal circumstances supports the growth and regeneration of hydrophytic vegetation.

Commission rule, 30 TEX. ADMIN. CODE (TAC) § 309.11(10), reads as follows:

> Wetlands — Those areas that are inundated or saturated by surface water or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, playa lakes, and similar areas.

***3** According to 30 TAC § 309.13(b), in applicable part:

> A wastewater treatment plant unit may not be located in wetlands.

V. MAJOR ISSUES

A. Whether issuance of the proposed permit would further the State policy for promoting regionalization, as set forth in Water Code § 26.082.

The Judge recommends the Commission find that issuance of the proposed permit would not further the State's regionalization policy.

1. Background

Far Hills Utility District was created as a water control and improvement district by Commission order in 1972, and the District encompasses about 327 acres on a peninsula in the southeast quadrant of Lake Conroe in Montgomery County. It is located near the City of Willis and in the extraterritorial jurisdiction of the City of Conroe, but not within the corporate limits of any city. The District's boundaries include seven residential subdivisions for which it provides water and wastewater services.[1]

Far Hills provides water service to 320 residential connections and sewer service to 302 residential connections. The District currently serves a population of approximately 591 people. Its projections of future growth indicate that it will serve a total of 1,021 connections at full build-out of the subdivisions that Far Hills serves.[2]

Currently, Far Hills' wastewater is being treated by Montgomery County Utility District (MCUD) No. 2 at its Seven Coves Plant. Far Hills' collection lines transport wastewater to a Far Hills sewer main located along Cude Cemetery Road. After passing through a Far Hills lift station located at Virginia Street, the wastewater is conveyed about two miles north and west to the Seven Coves Plant (Plant).[3]

In January 2004, MCUD No. 2 told Far Hills that the Plant and lift station needed major repairs. A few months later, MCUD No.2 advised the District that the Plant was reaching its permitted flow capacity and would have to be expanded in the very near future.[4] The engineer of MCUD No. 2 estimated repair costs of approximately $568,500, which did not include the cost of a plant expansion for which Far Hills' share would equal about one million dollars. MCUD No. 2 asked Far Hills to fund about 29 percent of the repair costs.[5] The District decided it was more cost effective to terminate its agreement with MCUD No. 2 and build its own wastewater treatment plant.[6] 7 Far Hills' contract with MCUD No. 2 to provide wastewater service expires in 2012.[7]

2. Applicant's Argument

Applicant asserts there are no entities within three miles of its proposed facility that have the ability or willingness to serve the District. TCEQ requires a permit applicant to make inquiries of other wastewater plants located within three miles of the proposed facility to determine whether they have the capacity and willingness to provide the wastewater service to meet the needs of the applicant. Far Hills notes it sent inquiries to the five existing wastewater providers within three miles and received negative responses from three of the providers,[8] no response from Montgomery County Utility District No. 3, and a "qualified response" from MCUD No. 2.

***4** In a letter dated September 17, 2004, MCUD No. 2 stated that currently it did not have sufficient capacity to accept the District's proposed wastewater volume of 250,000 gallons per day (gpd) and that it would have to properly evaluate the possibility of expanding its facility to accommodate the District's requested volume.[9] Although that same letter noted that MCUD No. 2 would consider expanding its plant to accept Far Hills' request for service, Applicant argues the subsequent agreement between Far Hills and MCUD No. 2 in November 2004[10] that allowed the District to withdraw from the Plant "forecloses" the possibility — that is, makes it legally impossible — for MCUD No. 2 to continue serving Far Hills beyond 2012. Additionally, Applicant contends that TCEQ does not have jurisdiction to evaluate alternatives to what an applicant has requested.

3. Capps' Argument

Capps argues that Far Hills has not established a need for its proposed facility. Capps contends that wastewater service is already being provided by an alternate service provider, that is, MCUD No.2; the infrastructure is already in place to continue providing that service; and MCUD No.2, the alternate service provider, has expressed a willingness to expand its plant in the future to continue accepting Far Hills' wastewater. Citing the following testimony of Larry Folk, president of the board of MCUD No. 2, Capps asserts that Applicant has failed to demonstrate that MCUD No. 2 refused to provide service to the District after 2012:
Q. (Allmon) How long has [MCUD No. 2] provided [wastewater service to Far Hills]?

A. (Folk) I don't know exactly, but I think our — maybe our original agreement was in the early 1970s.

Q. Okay. When does that contract expire?

A. I believe the year 2012.

Q. ... Has [MCUD No. 2] ever stated it would refuse to extend service past 2012?

A. No.[11]

Capps also contends that, because Far Hills requested that MCUD No. 2 cease service to the District in order to facilitate its permit application, the District cannot use its agreement with MCUD No. 2 to withdraw from the Plant to demonstrate a need for service. Capps points out that only after Far Hills submitted its application for a new permit did Far Hills and MCUD No. 2 negotiate an agreement that would allow Applicant to withdraw from the Plant.

Furthermore, Capps asserts that, contrary to Applicant's argument, the Commission can evaluate alternative service providers and may deny a permit application on the basis of regionalization if alternative providers exist.

4. Sandalls' Argument

The Sandalls contend that Far Hills has provided conflicting information regarding the need for constructing a new wastewater treatment facility. They note that, in December 2004, Far Hills informed its residents that it had decided to build its own facility because the District would need to invest capital to expand the plant of MCUD No. 2, yet the District would have no input or control in the construction or operation of the new facility.[12] However, the Sandalls point out that Mr. Folk indicated that MCUD No. 2 had not ruled out allowing Far Hills to have representation on the board controlling the Plant.[13] Thus, the Sandalls argue that Far Hills' application for a permit should be denied because it has provided conflicting information regarding the need for the new facility.

5. River Authority's Position

***5** In setting forth its position, the River Authority reiterated what it had stated in a March 24, 2005, letter to TCEQ; that is, the Directors are concerned "with the continued development of small 'tin-can' treatment plants around Lake Conroe." The River Authority noted that its directors prefer "that a regional facility be developed at an appropriate location to serve the multiple existing and future developments" in the area. The River Authority also stated that it recognizes "that there are differences in costs and that there will be reluctance on the part of some who are involved to lose total control and share facilities, but the improvements in maintenance and manning of regional facilities is worth the effort."[14]

6. Judge's Analysis

The Judge concurs with Capps' assertion that Far Hills has failed to establish a need for the proposed facility. Contrary to Applicant's argument, there is an entity within three miles of the proposed facility that has the ability and willingness to serve the District. The Judge notes that, at the time Far Hills filed its application for a permit on August 31, 2004, MCUD No. 2 had neither refused to serve the District nor had it and Far Hills signed an agreement that would allow the District to withdraw from the Plant's service. Furthermore, MCUD No. 2 has never stated that it would refuse to extend service to Far Hills beyond 2012, when the contract between Far Hills and MCUD No. 2 expires. Indeed, Mr. Folk, president of the MCUD board, testified that the board has "an obligation as caretakers of an agency of the state" to do whatever the Commission requires it to do.[15]

Furthermore, it is not legally impossible for MCUD No. 2 to continue serving Far Hills. Pursuant to Water Code § 26.003, the Commission has the authority to promote the use of regional waste treatment. With that authority, the Commission can demand that Far Hills continue to send its wastewater to the Plant for treatment and can require MCUD No. 2 to continue treating the District's wastewater. Because wastewater service for the District is already being provided by MCUD No. 2; the infrastructure is already in place to continue providing that service, and MCUD No. 2 has expressed a willingness to expand the Plant to continue accepting Far Hills' wastewater, the Judge recommends the Commission find that issuance of the proposed permit would not further the State policy of promoting regionalization and thus the permit should be denied.

B. Whether the proposed wastewater treatment plane would be located in wetlands.

The Judge recommends the Commission find that the proposed treatment plant would be partially located in wetlands.

1. Applicant's Argument

Applicant argues that none of its proposed wastewater treatment units will be located in a wetlands. Far Hills contends that Nicholas Laskowski, a certified wetlands delineator, performed a jurisdictional wetlands determination in accordance with the United States Army Corps of Engineers (Corps) standards. He ascertained that, of the 4.287-acre tract, only 0.0045 acres would be classified as "adjacent headwater wetlands" and 0.0082 acres would be classified as "headwaters."[16] According to Applicant, neither of these two small areas are located on or near the site where Fall Hills proposes to construct its wastewater treatment units. (*See* Attachment A, Laskowski map.)

***6** Far Hills asserts that the wetlands delineation report prepared by Capps' expert, John Jacobs, Ph.D., "exhibits a surprising number of deficiencies and careless errors all tending to cast doubts on the reliability of his delineation of wetlands." According to Applicant, the following are the deficiencies and errors committed by Dr. Jacobs:
a. He did not define a specific study area or determine its acreage.

b. He failed to determine wetland acreage through surveying or using GPS instruments.

c. Dr. Jacobs' delineation of his wetland boundary was based only on hydrologic conditions, not documented observations of hydric soils or hydrophytic vegetation.

d. He failed to include documentation of hydric soils in his wetland delineation.

Far Hills argues that these deficiencies and errors indicate that Dr. Jacobs' wetland delineation was not performed in accordance with Corps requirements; thus, his "facile conclusion about the location of wetlands is highly suspect."

2. Capps' Argument

Capps asserts that Far Hills' proposed wastewater treatment units will be partially located in wetlands, as depicted by Exhibit P-2D. (*See* Attachment B, Jacobs' depiction of wetlands location, outlined in red.) According to Capps, Dr. Jacob testified that the most prominent indicators for the presence of wetlands in this case are vegetation, water marks, and the hydrology. He further noted that the requirement for hydric soils is also met.[17]

Capps contends that wetlands vegetation exists throughout the area Dr. Jacob designated as wetlands. Capps points out that, at Observation Point 2, 100 percent of the plant species Dr. Jacob observed were consistent with wetland vegetation, while 80 percent of the species present at Observation Point 3 were consistent with wetland vegetation.[18] Furthermore, Capps notes that, included among the wetland vegetation observed by Dr. Jacob at Point 3, was *planer a aquatica*, an obligate, meaning a plant species found 99 percent of the time within wetlands.[19] Capps also asserts that, although Dr. Jacob only formally documented his observations at three locations, he walked around the remainder of the area which he designated as wetlands to confirm the presence of wetland vegetation.[20]

Additionally, Capps argues that Mr. Laskowski observed wetland vegetation in many areas of the site. For example, at observation point Up1, 83 percent of the vegetation species he observed were OBL (obligate wetland plants), FACW (falcultative wetland plants), or FAC (falcultative plants).[21] Similarly, at Point Up2, he found that 88 percent of the species met this criteria;[22] at Point Up3, he determined that 80 percent of the species met this criteria;[23] at Point Up4, he found that 60 percent met this criteria;[24] and at Point UP5, he determined that 100 percent of the species met this criteria.[25] Mr. Laskowski concluded that these species are not associated with wetlands in this location. Yet, Capps notes that Dr. Jacob testified that, according to the Corps' 1987 *Wetlands Delineation Manual* (Manual), if 50 percent or more of the plants meet this criteria, "then you have to say it is hydrophytic vegetation."[26]

***7** Capps also asserts Dr. Jacob determined that wetland hydrology exists throughout the area he designated as wetlands. Capps contends that Observation Point No. 2 is the closest data point to the District's proposed treatment units;[27] that Dr. Jacob

observed a clear watermark on a tree at this point; and that he documented his observation photographically.[28] Dr. Jacob testified that the water mark is a "very clear indicator that could only be derived from standing water for significant periods of time, probably weeks."[29] Capps asserts that the presence of a watermark on a tree is considered by the Corps to be a "primary indicator" with regards to hydrology, "which alone is adequate to demonstrate the presence of wetland hydrology when accompanied by findings of hydrophytic vegetation and hydric soils."[30]

Furthermore, Capps argues that the landscape of the site indicates those areas where wetland hydrology exists. Capps contends that, in this case, a flat, water-gathering area covers much of the site, while more convex, water-shedding areas exist in the northeast and southeast corners of the site. And, in order to account for the changes in landscape at the site, Dr. Jacob oriented his observation points to account for both the site's flat areas and its sloped areas.[31] By observing "the lay of the land," Dr. Jacob determined that the flat areas of the site where water tends to gather extended into those eastern areas of the site where he has depicted wetlands.[32]

Capps also argues that the observation of inundation at a site is another primary indicator that an area is a wetland. Capps contends that the record includes evidence of inundation at this site, such as Mr. Laskowski's photographs of inundation in eastern areas of the site;[33] photographs presented by Capps' witness, Patsy Clemons;[34] and Applicant's own map showing the site to be normally inundated with water in a continuous swath from the western boundary to the eastern boundary.[35]

Moreover, citing the Manual, Capps argues that drift lines are a primary indicator of wetland hydrology.[36] Capps notes that Dr. Jacob observed such lines at both Points 2 and 3.[37] Lastly, again citing the Manual, Capps asserts that drainage patterns in wetlands are a primary indicator of wetland hydrology[38] and Dr. Jacob observed such patterns at both Observation Points 2 and 3.[39]

Regarding wetland soils, Capps argues the evidence demonstrates the presence of hydric soils at the site in the area where the wastewater treatment units are proposed to be located. Capps points out that Dr. Jacob observed that the soils in the area had distinct gleyed colors, for example 5Y 3/1, which is consistent with wetland status.[40] Capps also asserts, "Applicant did not meaningfully dispute the presence of hydric soils at the site in areas designated as wetlands by Dr. Jacob."[41]

***8** As for Applicant's criticism of Dr. Jacob's delineation report, Capps responds that his deviations from the procedures in the Manual were minor, with no consequence for his ultimate conclusions regarding the location of wetlands at the site, that is, that there are continuous wetlands "right up to the stream."[42] With regard to the extent of Dr. Jacob's study area, Capps argues that Applicant has not disputed that the area studied by Dr. Jacob included the areas where the wastewater treatment units are proposed; hence, the extent of his study area beyond those areas is irrelevant. Similarly, Capps contends that a determination of the exact acreage occupied by wetlands on the site is not necessary to determine whether treatment units are to be located within wetland areas. Also, Capps asserts that, contrary to Applicant's argument, Dr. Jacob considered and stressed that all three factors or parameters set out in the Manual, that is, hydrophytic vegetation, hydric soils, and wetland hydrology, must be present to meet the definition of wetlands.[43]

3. PIC's Argument

The PIC argues that Far Hills has failed to establish by a preponderance of the evidence that its wastewater treatment units will not be located in wetlands, as required by 30 TAC § 309.13(b). According to the PIC, the record reflects ample lay discussion of the nature of the geomorphology at the site, such as Ms. Clemons' testimony concerning a series of photographs showing the area inundated for some period of time.[44] The PIC also asserts that the testimony and wetlands delineation of Dr. Jacob — an experienced wetland scientist and professional geoscientist who has developed and taught short courses on wetland delineations — is more persuasive and informative than that of Mr. Laskowski, a recently certified wetlands delineator who is not a certified soils scientist. Furthermore, the PIC argues that Far Hills has only presented evidence regarding the location of federal jurisdiction wetlands rather than proving that the proposed wastewater treatment units will not be located in wetlands. Capps, on the other hand, has provided evidence that strongly contradicts even Applicant's narrow presentation of evidence. For these reasons, the PIC argues that Far Hills has failed to demonstrate compliance with all applicable TCEQ location standards with regard to wetlands.

4. Sandalls' Argument

The Sandalls assert that Far Hills has presented misleading information regarding the site for the proposed treatment facility. They note that Far Hills sent an informational letter to the District's residents and property owners in August 2004, in which Far Hills described the site as "low and swampy and in a flood plain."[45] However, the Sandalls contend that the District's application filed that same month with TCEQ described the proposed site as "undeveloped grass land."[46]

5. Judge's Analysis

***9** The Judge recommends that the Commission find that the proposed wastewater treatment units will be partially located in wetlands. Like the PIC, the Judge finds that the testimony of Dr. Jacob and his delineation of wetlands at the site of the proposed wastewater treatment facility, depicted in Exhibit P-2D, are more credible and persuasive than those of Mr. Laskowski. Dr. Jacob, a professor at Texas A & M University and a professional geoscientist, has extensive experience in wetlands delineation and an educational background in soil science.[47] Mr. Laskowski, on the other hand, is a recently certified wetland delineator who is not yet a licensed soil scientist.[48]

According to Dr. Jacob in his wetlands delineation report, the proposed site "lies on a floodplain of an unnamed tributary to the West Fork of the San Jacinto River (Lake Conroe)." The area "is mapped as Trinity Clay, frequently flooded, and Ferris Clay, 1-5 % slopes, eroded, by Soil Survey Staff (1972)." The "area is not a mapped FEMA floodplain ... [it] is hydrologically adjacent to the unnamed tributary and to Lake Conroe, a waters of the U.S. While not a mapped floodplain, the area is clearly frequently flooded as evidenced by common rack lines observed in the area."[49] Dr. Jacob also testified that the east side of the subject area is connected hydrologically to the stream on the west side; thus, there are continuous wetlands right up to the stream.[50]

The Judge concurs with Capps' assertion that Dr. Jacob in his wetlands delineation report considered hydrophytic vegetation, wetland hydrology, and hydric soils in his delineation of wetlands at the proposed site. Those considerations are amply set out above under Capps' argument. Furthermore, the Judge agrees with Capps that Dr. Jacob's deviations from the Manual's procedures were minor and of no consequence for his ultimate conclusions regarding the delineation of wetlands at the proposed site.

Appellant asserts that wastewater treatment units can be located in a wetlands so long as a Corps permit is obtained, and the applicable standard for determining which wetlands are subject to TCEQ's location standards are those used for making Corps jurisdictional determinations as administered by the Corps' Galveston District office.[51] In other words, Applicant is arguing that a determination of federal "jurisdictional" wetlands definitively restricts state law and the Commission's authority to define the characteristics that make an area suitable or inappropriate for a wastewater treatment plant. The Judge disagrees.

Pursuant to Commission Rule § 309.13(b) entitled "Unsuitable Site Characteristics," a wastewater treatment plant unit may not be located in wetlands. "Wetlands" are defined in the same chapter of Commission rules at § 309.11(10) [quoted above], which, except for the inclusion of playa lakes, is the exact definition of wetlands found in 40 CFR § 122.2.[52] And Commission Rule § 309.14(a), entitled "Prohibition of Permit Issuance," declares that the Commission may not issue a permit for a wastewater treatment plant if the facility does not meet the requirements of § 309.13.

***10** *Jurisdictional wetlands* are a subset of "waters of the United States" and thus subject to Section 404 of the Clean Water Act that authorizes the Secretary of the Army to issue permits for the discharge of dredged or fill material into the waters of the United States, including wetlands.[53] The Corps' Manual, utilized by both Dr. Jacob and Mr. Laskowski, is intended to provide guidelines and methodology for determining whether an area is a wetland for purposes of Section 404.

The purpose of Chapter 309 of Commission rules, however, is to condition issuance of a permit for new domestic wastewater treatment facilities "on the selection of a site that minimizes possible contamination of ground and surface waters; to define the characteristics that make an area suitable or inappropriate for a wastewater treatment facility; to minimize the possibility of exposing the public to nuisance conditions; and to prohibit issuance of a permit for a facility to be located in an area determined to be unsuitable or inappropriate ...."[54] Under its own rules, therefore, the Commission may not issue a permit for a wastewater treatment plant that will be located in wetlands — regardless whether those wetlands are determined to be jurisdictional waters of the United States.[55]

C. What is the proper assessment of transcription costs pursuant to Commission rules?

By Order No. 5, the Judge required a transcript be prepared in this case because the evidentiary hearing was scheduled to last longer than one day. Applicant requests that transcription costs be divided equally between it and all Protestants. Capps argues that transcription costs remaining after deduction of all costs associated with the expediting of the transcript should be assessed 90 percent to Far Hills and 10 percent to Capps.

The Judge recommends that the Commission find that 93 percent of the total transcription costs of $6,640.20 should be assessed to Far Hills and 7 percent should be assessed to Capps.

Commission rules at 30 TAC § 80.23(d) list the factors that the Commission shall consider in assessing reporting and transcription costs. The factors relevant to this case include the following:
(A) *The party who requested the transcript*. The Judge ordered the transcript. Applicant requested that the transcript be expedited.

(B) *The financial ability of the party to pay costs*. Applicant has substantial financial resources as a result of its significant tax base. Capps is funded by donations from individuals and families. The Sandalls have only the financial resources of a single family.

(C) *The extent to which the party participated in the hearing*. Far Hills argues that Protestants participated to an almost equal extent as Applicant. Capps presented five witnesses compared to Applicant's seven witnesses, and cross-examination was about equal. The Judge finds that the extent of participation by all the parties was appropriate and that none of the parties unduly burdened the transcript with frivolous arguments or unnecessary questioning of witnesses.

***11** (D) *The relative benefits to the various parties of having a transcript*. As the party bearing the burden of proof, Far Hills could anticipate the greatest potential benefit from an ability to cite and reassemble the information within the record, although all parties benefitted from having a transcript.

(G) *Any other factor which is relevant to a just and reasonable assessment of costs*. The Judge does not find that any other factor should affect the assessment of transcription costs. The Judge finds that all parties had plausible, good-faith arguments for the issues they raised.

Considering all of the factors set out in the Commission's rules, the Judge finds that Applicant's financial ability, its potential benefit from having a transcript, and its expediting of the transcript weigh in favor of assessing 93 percent of the total transcription costs of $6,640.20 to Far Hills and 7 percent to Capps.

VI. OTHER ISSUES

Capps presented arguments addressing such issues as, among others, purported errors in the ED's modeling that demonstrated that the water quality standard for dissolved oxygen would not be violated in the immediate receiving waters; alleged errors in the ED's anti-degradation review; and Far Hills purported failure to prove an adequate buffer zone for all wastewater treatment plant units. Because of the Judge's discussion and recommendations regarding the major issues, the Judge declines to address these other issues.

VII. CONCLUSION

After a review of the record and for the reasons given above, the Judge recommends that the Commission adopt the proposed Order denying Far Hills Utility District a TPDES permit.

Carol Wood
Administrative Law Judge

Footnotes

1 Ex. A-4 at 3.

2 Ex. A-4 at 4.

3 Ex. A-5 at 4.

4 Ex. A-4 at 4-5.

5 Ex. A-4 at 5.

6 Ex. A-5 at 4.

7 Ex. P-5 at 7.

8 Montgomery County Utility District No. 8, Lake Conroe Hills Municipal Utility District (MUD), and Point Aquarius MUD.

9 Ex. A-5-6.

10 The evidence shows that the agreement was executed "somewhere around" October 29, 2004. Ex. P-5 at 19.

11 Ex. P-5 at 7.

12 Ex. S-1, Attachment 8 at 1.

13 Ex. P-5 at 15.

14 River Authority's closing argument (letter dated August 31, 2006).

15 Ex. P-5 at 24.

16 Ex. A-7-NL-5, Appendix F.

17 Tr. v.2 at 273.

18 Ex. P-2B, Appendix A.

19 Ex. P-2C at 14.

20 Tr. v. 2 at 233.

21 Ex. A-7 at A00957.

22 A-7 at A000959.

23 A-7 at A000961.

24 A-7 at A000963.

25 A-7 at A000965.

26 Tr. v. 2 at 245. *See* Ex. P-2C at 17.

27 Ex. P-2B at 8.

28 Ex. P-2B at 10.

29 Tr. v. 2 at 236-237.

30 Capps' closing argument, citing Ex. P-2C at 34.

31 Tr. v. 2 at 234-235.

32 Tr. v. 2 at 275-277.

33 Ex. A-7 at A00953, Photos 9 & 10.

34 Exs. P-1G, P-1H, P1I.

35 Ex. A-7 at A00937.

36 Ex. P-2C at 32-33.

37 Ex. P-2B, Appendix A, p. 1 of data forms for Observation Points 2 and 3.

38 Ex. P-2C at 33-34, esp. at paragraph (6).

39 Ex. P-2B, Appendix A, p.1 of data forms for Points 2 and 3.

40 Ex. P-2B at 3.

41 Capps' closing argument at p.33.

42 Tr. v. 2 at 262-263.

43 Tr. v. 2 at 272-273.

44 Ex. P-1.

45 Ex. S-1-6 at p. 3.

46 Ex. A-5-4 at A00718, Item 12

47 *See* Ex. P-2A.

48 *See* Ex. A-6-1; Tr. v. 1 at 166-167.

49 Ex. P-2B at 2.

50 Tr. v. 2 at 263.

51 Applicant's closing argument, p. 16.

52 *See* Ex. P-2C at 9.

53 Ex. P-2C at 1 - 2.

54 30 TAC § 309.10(b).

55 Indeed, the Judge notes that under the federal definition of wetlands, playa lakes are not included. According to Applicant's argument, playa lakes, not being jurisdictional wetlands, would, therefore, be suitable sites for locating wastewater treatment facilities-clearly, something that Commission rules and definition of wetlands would determine as unsuitable.

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