SOAH DOCKET NO. 955-23-21880

APPLICATION OF VANDERPOOL MANAGEMENT, LP FOR TWO WELL PERMITS FROM BANDERA COUNTY RIVER AUTHORITY AND GROUNDWATER DISTRICT	**§**	**BEFORE THE STATE OFFICE OF ADMINISTRATIVE HEARINGS**

EXCEPTIONS OF THE GENERAL MANAGER OF THE BANDERA COUNTY RIVER AUTHORITY AND GROUNDWATER DISTRICT TO THE PROPOSAL FOR DECISION

The General Manager ("General Manager" or "GM") of the Bandera County River Authority and Groundwater District ("BCRAGD" or "District") hereby files these exceptions to the Proposal for Decision ("PFD") in this proceeding, issued on October 9, 2024, to address the analysis, conclusions and recommendations, including certain inaccuracies and misstatements, set forth in the PFD. The General Manager also relies on the previous arguments and authorities submitted to the Administrative Law Judges ("ALJs"), including in the GM's Closing Brief and the GM's Response to Applicant's Closing Brief, incorporated as if fully set forth herein. In addition, and consistent with Chapter 36, Texas Water Code, and the District's rules, following any action on these exceptions filed with the State Office of Administrative Hearings ("SOAH") in this matter, the GM intends to file a request with the Board of Directors of the District that it modify the PFD as the ALJs made technical errors in some findings of fact and did not properly apply or interpret applicable law in some cases, requiring changes to both findings of fact ("FOFs") and conclusions of law ("COLs"). *See* attached Exhibit A (General Manager's Proposed Amended Findings of Fact and Conclusions of Law).

I. SOAH is required to act in the stead of the District, charged with managing and protecting groundwater for all users, in considering the Applications.

In considering contested applications for groundwater withdrawal permits before the

District, SOAH acts in the place of the District's Board of Directors, which is required to balance conserving and protecting groundwater and preventing its waste, using the "best available science" and the District Rules and Management Plan. Groundwater conservation districts such as the District have been declared by the Texas Legislature to be "the state's preferred method of groundwater management in order to protect property rights, balance the conservation and development of groundwater to meet the needs of this state, and use the best available science in the conservation and development of groundwater through rules developed, adopted, and promulgated by a district in accordance with the provisions of" Chapter 36 of the Texas Water Code. Texas Water Code Ann. § 36.0015(b). The Water Code defines "best available science" as "conclusions that are logically and reasonably derived using statistical or quantitative data, techniques, analyses, and studies that are publicly available to reviewing scientists and can be employed to address a specific scientific question." *Id.* § 36.0015(a). The District Rules and Management Plan require that the District, among other things, prevent waste, address drought, conserve groundwater and achieve its DFC of no more than 30 feet of average water level decline in 2060, as compared to 2008 water levels, and provide for the most efficient use of groundwater. District Management Plan; Tex. Water Code Ann. § 36.1071(a); and District Rules 12.2. Unlike the District though, the ALJs do not have the benefit of decades of consideration of science, studies, reports and observations of groundwater resources in the District, nor with pending and future applications before the District. For this reason, it is critical that the ALJs consider all of the interests the District must balance and not weigh the Applicant's interests more heavily than those other interests.

II. The ALJs committed technical error and did not properly apply or interpret applicable law.

A. The ALJs committed technical error and did not properly interpret and apply the District's rules in including the additional 310-acre tract.

The Applications are only for the use of water on Applicant's 317-acre tract and do not include a request to withdraw or use groundwater on the additional 310-acre tract. Applicant is required to file a new well permit application to authorize the use of groundwater on the 310-acre tract. District Rules §§ 3.4(E), 3.7(C)(c). *See also* District Rules §§ 3.4(Q), 3.9(c); Tex. Water Code Ann. § 36.1131(b)(6) (authorizing districts to issue permits that specify "the location of the use of the water from the well"). Through the course of the contested case hearing on the Applications, Applicant has indicated that it now seeks to use groundwater to be withdrawn under the requested permits on both its 317-acre and 310-acre contiguous tracts. However, Applicant did not amend its Applications to request that the 310-acre tract be included in these Applications. As a result, the permits to be issued should not include any authorization to withdraw or use groundwater on the 310-acre tract, and the PFD should be amended to remove consideration of that tract in support of permit issuance, including in FOFs 3, 48, 74 and 75 and COLs 13 and 27.

B. The ALJs committed technical error and failed to correctly interpret and apply Chapter 36 of the Water Code in failing to use the best available science and basing FOFs and COLs regarding the availability of groundwater to support the Applications and the impacts of the requested permits on groundwater resources and other landowners on evidence that is not scientifically sound.

The ALJs incorrectly relied on Applicant's evidence as to the availability of groundwater to support the amounts of water requested in the Applications and the impacts of the requested permits on groundwater resources and other landowners, which evidence was, in some cases, not scientifically supported and not the best available science, which resulted in technical error and which is inconsistent with the District's obligation under Chapter 36 to use the best available science in managing groundwater.

In order to fulfill its mandate to use the best available science in permitting decisions, District Rules Section 3.7(C)(m) requires that permit applicants submit a hydrogeological study showing water availability and the projected effect of proposed pumping on aquifer conditions or

depletion and on existing permit holders or other groundwater users in the District. District Rules § 3.7(C)(m).

The water availability study that Applicant submitted in support of the Applications by Mr. Courtney was not reliable, and the subsequent information submitted to the District, including through this proceeding, fails to support finding that the amounts of water requested in the Applications are available to be withdrawn for the term of the permit, or that there will not be unreasonable impacts to groundwater resources and other landowners from granting the requested permits. Applicant's water availability study was inconsistent with principles of geology and was found by the ALJs to be unreliable. Moreover, the subsequent information submitted by Applicant's experts regarding the availability of groundwater and the impacts of the requested permits on groundwater and other landowners was also not the best available science as required under the Water Code and should not have been relied on to support the PFD.

The ALJs improperly relied on Applicant's experts Messrs. Thornhill and Keester to support the amounts of water requested in the Applications and to evaluate the impacts of the proposed permits on groundwater resources and other landowners but those experts' work was highly flawed in several respects. Mr. Thornhill did not calculate the storativity of the Trinity Aquifer from the pump tests he performed on Applicant's wells. Instead, he assumed storativity numbers based on an unsupported assertion that the Trinity Aquifer is leaky and does not act as a confined aquifer. This claim is inconsistent with the Texas Water Development Board's definition of the Trinity Aquifer as a confined aquifer and has no scientific support. Storativity should not have been assumed in this case as there was data available from the pump test from which the actual values of the storativity can be calculated. Indeed, the evidence from Applicant's pump test of the Aquifer at the location of Applicant's wells showed no leakage occurring, indicating lower

numbers for storativity should have been used by Applicant. In fact, the storativity number used by Mr. Thornhill was 5 to 25 times higher than the reported values for the Trinity Aquifer in the scientific literature, demonstrating its unreliability. Moreover, Mr. Thornhill failed to calculate the impacts on water availability or on groundwater resources and other landowners caused by Applicant's proposed pumping of both wells simultaneously. Mr. Thornhill also admitted that he had not determined nor attempted to determine what neighboring wells may be impacted due to pumping under either of the Application. These errors by Applicant's experts resulted in significantly overpredicting the availability of water and significantly underpredicting the impacts of the requested permits.

Additionally, Applicant's experts acknowledge problems with the PFD with respect to both groundwater availability and impacts. Applicant's expert Mr. Keester noted uncertainty regarding the ability of the Trinity Aquifer to support the requested pumping at the House and Barn Wells. Applicant's experts Mr. Thornhill and Mr. Keester testified that the pumping requested in the Applications will cause the Trinity Aquifer to change from a confined aquifer under pressure to an unconfined aquifer, which means the aquifer near the Applicant's well would become "dewatered," and thus, not available to Applicant and less available to others depending on the aquifer.

By contrast, the General Manager's expert, Mr. Beach, and the Protestant Bandera Canyonlands Alliance ("BCA")'s expert, Mr. Rice, both calculated transmissivity and storativity values based on the actual pumping data from Applicant's wells, and found that there was not likely to be sufficient water available to support the amounts of water requested in the Applications and pumping the amount of water requested in the Applications would cause significant drawdowns. Mr. Beach calculated aquifer transmissivity at 619 gallons per day per foot ("gpd/ft")

and aquifer storativity of $7.2x10^{-5}$ (0.000072). Mr. Rice calculated aquifer transmissivity at 620 gpd/ft for the House well and 580 gpd/ft for the Barn Well and aquifer storativity at .000057. Mr. Beach testified that the water level decline in the House Well is projected to be about 400 feet in one year, even though the total available drawdown in the well is only about 296 feet. Mr. Beach also testified that the water level decline in the Barn Well will be about 370 feet after 30 years, although the total available drawdown in the well is only about 382 feet. Protestant's expert Mr. Rice largely agreed with Mr. Beach's analysis. Mr. Beach and Mr. Rice's expert opinion is that the proposed pumping would impact Applicant's ability to withdraw water at its own well because the water would not be available, and the pumping would cause significant impacts to existing groundwater resources and existing permit holders.

Based on the ALJs' technical errors and improper reliance on Applicant's evidence regarding the impacts of the requested permits to groundwater and other landowners, which was neither scientifically sound nor the best available science, as required under the Water Code, the PFD should be amended, including in FOFs 36, 38, 45, 74 and 75 and COL 7, 13 and 27, to reflect that there is no support for finding that the amounts of water requested in the Applications are available or for finding that there will not be unreasonable impacts to groundwater resources and other landowners from granting the requested permits. Applicant failed to meet its burden of proof to show that sufficient water is available for the amounts requested in the Applications or that the requested permits will not unreasonably affect groundwater resources or other landowners holding permits to withdraw groundwater in the District.

C. The ALJs committed technical error and did not properly apply or interpret applicable law in finding that Applicant met its burden of proof to show that the proposed uses of all 200 acre-feet of requested water were dedicated to beneficial use and consistent with the District Management Plan and the District achieving the desired future condition for the Trinity Aquifer.

The ALJs incorrectly relied on Applicant's evidence as to Applicant's requested permit amounts for beneficial domestic, livestock and irrigation uses, without waste, which resulted in technical error, and which is inconsistent with the District's obligation under Chapter 36 to require that the amount of water requested is dedicated and will be applied to a beneficial use without waste and is consistent with the District Management Plan and the District achieving the desired future condition ("DFC") for the Trinity Aquifer. The General Manager agrees with the ALJs that the *categories* of use applied for by Applicant are beneficial uses in accordance with the Water Code and the District Rules and that applicants and districts may not always agree about the wisdom of using limited water supplies for different purposes. However, even so, the General Manager disagrees that the District's review here is limited to the categories only and not to whether the amounts requested in the Applications are sufficiently supported with adequate evidence of a proposed use that will not lead to waste and will achieve conservation and be inconsistent with the District's approved management plan. Applicant simply failed to meet its burden of proof to establish that the permit amounts it requested are for beneficial use, without waste or that granting the Applications would result in the most efficient, nonwasteful use of groundwater, would not unreasonably impact groundwater resources, other users and natural resources, and would not interfere with the District's ability to achieve its DFC for the Trinity Aquifer.

The Water Code requires that when evaluating permit applications, GCDs consider whether any proposed use of water is dedicated to a beneficial use and whether the proposed use of water is consistent with the district's management plan, which requires the District to, among other things, prevent waste, address drought, conserve groundwater and achieve its DFC for the Aquifer of no more than 30 feet of average water level decline in 2060, as compared to 2008 water

levels, and provide for the most efficient use of groundwater. District Management Plan. *See also* Tex. Water Code Ann. §§ 36.1071(a), 36.113(d)(3) and (4); and District Rules 12.2. Section 36.1131 authorizes districts to issue permits that contain the condition that "the water withdrawn under the permit be put to beneficial use at all times." District Rules § 3.7(C)(f) requires "a statement of the nature and purpose of the proposed use" in permit applications, as authorized by the Water Code. Tex. Water Code Ann. § 36.113(c)(3). Tex. Water Code Ann. § 36.1131(5), (6). As part of these considerations, GCDs are required to ensure that groundwater is not wasted and that the greatest amount of water is available for all groundwater owners, not just the applicant before a district at any given time.

It is reasonable for districts charged with conserving and protecting groundwater for all uses to require that applicants satisfy their burden to establish that they need the requested amount of water for a beneficial use without waste for the requested amount. The General Manager cited to other Texas water cases to illustrate that it is reasonable that GCDs charged with managing limited groundwater resources for all landowners require that groundwater permit applicants provide evidence of the need for the amount of water requested. *See, e.g., Guitar Holding Co., LP v. Hudspeth Cnty. Underground Water Conservation Dist.*, 263 S.W.3d 910, 916 (Tex. 2008) (finding that "historic or existing use" in Chapter 36 necessarily included both the purpose of use and the amount of water used for that purpose).

Although Applicant provided new evidence in the course of this proceeding about its plans to use the requested amounts of water for domestic, livestock, and irrigation purposes of use for a house and a barn and to grow grass or do grassland restoration for livestock, Applicant provided no specificity to justify the 200 acre-feet of water requested for irrigation, domestic or livestock uses on its 317-acre tract, nor any evidence that granting the Applications would be consistent with

the District Management Plan. Applicant admitted that it had not determined a specific amount of water needed for the requested irrigation in the Applications for the stated purpose of grassland restoration management. Applicant had no written plans about management, no forage inventory, no irrigation management plan, no plan to meet the efficiency or conservation goals of the District, no livestock grazing plan or restoration plan. Applicant stated that it mainly had a general intention to clear out the cedar from the land and then figure out details for growing grass or grassland restoration. In fact, Applicant acknowledged that the 200 acre-feet it has requested in the Applications is based, not on the amount of water it needs, which it could not state, but on pumping both wells 365 days a year for 24 hours a day at their maximum rates of withdrawal, which is neither feasible nor reasonable nor scientifically supported. Further, Applicant did not provide the requested modeled Aquifer drawdown levels in line with the District Management Plan and the levels of drawdown predicted in its water availability study are inconsistent with the District Management Plan and the DFC for the Aquifer.

The best scientific evidence demonstrates that Applicant has not met its burden of proof to support the amounts of water requested in the Applications. BCA's expert witness, Mr. Nelle, testified that Applicant's property is "not well suited to extensive irrigation." Mr. Nelle found that a mere 29 acres of Applicant's 317-acre property contain irrigable Krum-Prately soils and those acres are made up of small, irregularly-shaped plots on the valley bottom, which cannot practically be irrigated. Mr. Nelle stated that the 76 acres of Applicant's property consisting of soils with 1 to 10% slopes and the 202 acres of the property with soils with 15% to 60% slopes should not be irrigated because to do so, would lead to significant erosion. With respect to the proposed livestock use on the property, Mr. Nelle concluded that not more than one-third of an acre-foot of groundwater is needed to support the amount of livestock that the property can sustain. After

considering the evidence that Applicant submitted in the hearing itself, not originally part of its Applications, about Applicant's plans to use the requested amounts of water not just for a house and a barn but also to grow grass or do grassland restoration for livestock, the General Manager testified that a well permit of 10 acre-feet per well would be reasonable to support the proposed livestock, domestic and irrigation uses on the property.

The General Manager provided uncontroverted evidence that granting the Applications would interfere with the District's achievement of the DFCs for the Trinity Aquifer in the District. In actuality, the hydrogeologic information submitted as part of the Applications indicates that if the Applications are granted, the DFCs will be exceeded prior to their 2060 date. Applicant offered no evidence of the impacts of granting the Applications on the District's achievement of the DFC for the Trinity Aquifer. The District requested that Applicant provide modeled Aquifer drawdown levels in line with the District Management Plan, which incorporates the DFC, but Applicant failed to do so.

By determining that there is not a basis to deny any of the 200 acre-feet that Applicant requested based on the issue of beneficial purposes or waste, the ALJ has impermissibly limited the District's authority and improperly applied the law, and failed to fully recognize that the burden of proof is on Applicant. The ALJs failed to properly apply the Water Code and the District Rules in approving the requested permit for 200 acre-feet as Applicant has not met its burden of proof to support the requested amounts for beneficial use, nor to prove that granting the requested permits is consistent with the Management Plan and the District achieving the DFC for the Trinity Aquifer, therefore, the District's action approving a well permit of 28 acre-feet per year for each well should be affirmed, or a well permit should be approved for no more than 10 acre-feet per year per well. This is necessary because the ALJs appear to disregard the Water Code, District Rules and District

Management Plan and to impose their own policy in favor of Applicant in finding that Applicant has met its burden of proof with respect to the requested amounts and that the proposed use of water is not inconsistent with the District Management Plan or achievement of the DFC. As a result, the PFD should be amended, including in FOFs 36, 38, 45, 49, 50, 74 and 75 and COL 7, 10, 11, 13 and 27, to reflect that there is no support for finding that the requested permits should be granted for the amounts of water requested in the Applications and a well permit of 28 acre-feet per year for each well, or alternatively, 10 acre-feet per year per well, should be issued.

III. The permits to be issued in this matter will not authorize water to be used to fill any pond, lake or reservoir.

In accordance with the PFD's finding that no water requested in the Applications is proposed to be issued for the use of a pond, lake or reservoir, permits to be issued in this matter will not authorize water to be used to fill any pond, lake or reservoir. The General Manager has not argued that the Applications should be denied based on consideration of the use of water for a pond, but that this consideration does not provide any support for issuance of the requested permits and the apparent expansion of Applicant's pond raises concern. In any case, the PFD should be amended to reflect that permits to be issued in this matter will not authorize water to be used to fill any pond, lake or reservoir, including in FOF 61 and COL 14.

IV. In the alternative, if the PFD is not amended to issue well permits for no more than 28 acre-feet per year for each well, additional special permit conditions to manage and conserve the Aquifer should be included in the well permits.

Alternatively, if the PFD is not amended to issue well permits for no more than 28 acre-feet per year for each well, the permits issued based on the Applications should include additional special permit conditions appropriate under the Texas Water Code, District Rules and District Management Plan to manage and conserve the Aquifer. Specifically, a special condition should be included to phase in additional pumping based on the Applicant providing verification to the

General Manager of the need for additional amounts for domestic, livestock or irrigation use. Additionally, the permits should include a special condition to require monitoring of Aquifer conditions at the location of the wells and at the site of neighboring properties to ensure that sufficient groundwater is available to support pumping under the permits and to minimize the impacts of pumping on groundwater resources and other landowners. A special condition should also be included to ensure that erosion and runoff of water from irrigation use are limited. *See* attached Exhibit B (General Manager's Alternative Proposed Amended Findings of Fact and Conclusions of Law).

V. Conclusion

For the reasons stated above, the General Manager respectfully requests that (1) the Administrative Law Judges revise the PFD in accordance with these Exceptions and the proposed findings of fact and conclusions of law submitted; (2) the suggested changes to the PFD, including to the findings of fact and conclusions of law, set forth above be adopted; (3) the ALJs dismiss this proceeding with prejudice and remand it to the District; and (4) the ALJs further grant the General Manager any and all additional relief to which it is entitled.

Respectfully submitted:

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CERTIFICATE OF SERVICE

This is to certify that a true and correct copy of the above and foregoing document has been sent on this the 24th day of October, 2024, to the parties listed below via the method indicated.

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EXHIBIT A

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GENERAL MANAGER'S PROPOSED AMENDED FINDINGS OF FACT AND CONCLUSIONS OF LAW

The General Manager provides the following proposed amended findings of fact and conclusions of law in the Proposal for Decision:

RECOMMENDATION

The ALJs recommend the Applications for groundwater production well permits be issued as requested for a combined total of 56~~200~~ af/yr. In support of the recommendation, the ALJs propose the following Findings of Fact and Conclusions of Law.

FINDINGS OF FACT

Background and Procedural History

1. The Bandera County River Authority and Groundwater District (District) was created to, among other things, conserve, preserve, protect, and prevent waste of groundwater in Bandera County as a groundwater conservation district. The District serves a public use and benefit with respect to the groundwater in Bandera County; and it has the rights, powers, privileges, authority, functions, and duties provided by the Texas Water Code (Code) for groundwater conservation districts.

2. Vanderpool Management, LP (Applicant) owns a 317-acre survey tract of land and a contiguous 310-acre tract of land in Bandera County, Texas.

3. Applicant submitted two applications (Applications) to the District for groundwater production well permits on the 317-acre tract. Applicant seeks authorization to produce groundwater from the Cow-Creek Formation of the Middle Trinity aquifer for domestic, livestock, and agricultural use as follows: (1) up to 130 acre-feet per year (af/yr) at a rate up to 80 gallons per minute (gpm) from the Willow Springs-House Well (House Well); and (2) up to 70 af/yr at a rate up to 55 gpm from the Willow Springs-Barn Well (Barn Well). Through the course of the contested case hearing on the Applications, Applicant has indicated that it now seeks to use groundwater withdrawn under the requested permits on both its 317-acre and 310-acre contiguous tracts. However, the Applications are only for use of water on the 317-acre tract and do not include a request to authorize the withdrawal or use of groundwater on the additional 310-acre tract. Applicant did not amend its Applications to request that the 310-acre tract be included in these Applications. As a result, the permits to be issued do not include any authorizations to withdraw or use groundwater on the 310-acre tract.

4. Following a timely request for a contested case hearing submitted by Applicant and a timely motion for rehearing submitted by Bandera Canyonlands Association (BCA), the District

set the matter for a contested case hearing and referred this matter to the State Office of Administrative Hearings (SOAH).

5. SOAH Administrative Law Judge (ALJ) Ross Henderson convened the preliminary hearing on August 15, 2023, and named as parties the GM, the Applicant, and BCA.

6. The hearing on the merits was held April 29-30, 2024, before ALJs Meitra Farhadi and Ross Henderson, at SOAH's hearing facility in Austin, Texas. Applicant appeared and was represented by attorneys Peter T. Gregg, C. Brantly Jones and Marvin W. Jones. The GM appeared and was represented by attorneys Deborah C. Trejo and Kimberly Buser. BCA appeared and was represented by attorneys Lauren Ice and Vic McWherter.

7. At the hearing on the merits, Applicant offered the expert testimony of Michael Thornhill on direct and rebuttal, Michael Keester on rebuttal, Dr. William Rogers on rebuttal, and the lay testimony of Bob Duke. The GM offered the expert testimony of himself and James Beach. BCA offered the expert testimony of George Rice and Stephan Nelle.

8. The parties submitted post-hearing briefs and the record closed on September 5, 2024, when the transcript and exhibits were received by SOAH.

Whether the Applications conform to the requirements prescribed by Code Chapter 36 and are accompanied by the prescribed fees (Code § 36.113(d) (1)).

9. The District received the two Applications in September of 2022.

10. The GM's determination of administrative completeness does not amount to a finding that the Applications were entitled to be granted.

11. The Water Availability Study (WAS) submitted with the Applications was prepared by Craig Scott Courtney.

12. In reviewing the Applications, the District requested additional information regarding the WAS; however, Mr. Courtney did not provide the supplemental information requested.

13. The WAS lacked: (1) a sufficient identification and location (with an aerial map) of infrastructure to be used in withdrawing and using groundwater; (2) sufficient information about drawdown levels over 10 and 30 years of use of the wells, including, but not limited to, showing an impossible rectangular "cone" of depression; and (3) sufficient pump test data in a format for confirmation and analysis; and (4) sufficient articulation of the proposed use of and need for the amount of water being requested with a description of beneficial use without waste.

14. The District made the same requests for supplemental information from the Applicant's driller, Chad Hillis. In response, Mr. Hillis requested that the Applications be processed without further supplementation of the WAS. Pursuant to that request, the Applications were scheduled for public hearing and consideration at the January 19, 2023, District quarterly meeting.

15. The WAS performed by Mr. Courtney was the technical documentation submitted by the Applicant, and what the District had when it considered the Applications.

16. Mr. Courtney's work was unreliable.

17. Based on the District Rules, its management plan, and the deficiencies in Applicant's WAS, the GM recommended that the Board approve the permits for an annual production limit equal to what an exempt well could produce— 28 af/yr for each well.

18. In advance of the contested case hearing at SOAH, Applicant hired two additional hydrogeologists.

19. Michael Thornhill reviewed the Applications and provided his opinion on the sufficiency of available groundwater to support the Applications.

20. Because Mr. Courtney refused to provide the raw data from his tests, Applicant had Mr.

Thornhill direct and observe additional pumping tests using the Barn Well and House Well.

21. Michael Keester reviewed the data available from both Mr. Courtney's and Mr. Thornhill's pumping tests, and conducted a hydrogeological study as required by District Rule 3.7C(m).

22. As supplemented with the evidence of Mr. Keester and Mr. Thornhill at the contested case hearing at SOAH, the Applications conform to the content requirements prescribed by Code chapter 36.

Whether the proposed use of water unreasonably affects existing groundwater and surface water resources or existing permit holders (Code § 36.113(d) (2)).

23. Transmissivity is a measure of an aquifer's ability to transmit water. It is equal to the hydraulic conductivity (or permeability) multiplied by the aquifer thickness. The greater the transmissivity, the greater the ability of an aquifer to transmit water. All other things being equal, drawdowns in an aquifer with a high transmissivity will be less than in an aquifer with a low transmissivity.

24. Storativity is a measure of an aquifer's ability to store and release water. It is the volume of water an aquifer releases, per unit surface area, per unit decline of hydraulic head. All other things being equal, drawdowns in an aquifer with a high storativity will be less than in an aquifer with a low storativity.

25. Transmissivities and storativities should be calculated~~are usually determined~~ by analyzing data from pump tests at the relevant location, when that data is available.

26. Confined aquifers, also called artesian aquifers, are aquifers that are overlain by low permeability materials (the confining layer). Water levels in wells that are completed in confined aquifers will rise above the top of the aquifer.

27. Unconfined aquifers, also called water table aquifers, are not bounded above by a confining layer. Unconfined aquifers are open to the atmosphere. Water levels in unconfined aquifers are equal to the level of the water table.

28. In confined aquifers, water is released by the very slight compaction of aquifer materials and the very slight expansion of water. As a result, the storativity of confined aquifers is small, usually ranging from about 0.00005 (5.0×10^{-5}) to 0.005 (5.0×10^{-3}).

29. In unconfined aquifers, water is released by draining the pore spaces of the aquifer materials. As a result, the storativity of unconfined aquifers is much larger than that of confined aquifers, usually ranging from about 0.01 (1×10^{-2}) to 0.3 (3×10^{-1}).

30. The Trinity Aquifer is a confined or semi-confined aquifer; so a small storativity, in the range of 5.0×10^{-5} to 5.0×10^{-3}, would be expected.

31. The aquifer will become unconfined at the well bore, but it is unclear from this record how far out that will extend.

32. Where there is actual data available from pump tests at a location, i~~I~~t is more reliable to use a calculated storativity or transmissivity value than an assumed storativity or transmissivity value.

33. For his 30-year predictions of drawdown, Mr. Thornhill assumed a storativity of 0.05 for both the House and Barn wells, based on his assumption that the Trinity Aquifer is leaky and does not act as a confined aquifer.

34. Mr. Thornhill's assumed storativity value of 0.05 is within the range of unconfined storativity values (0.01 – 0.3), not confined storativity values.

35. At some point, Applicant's pumping will cause the aquifer level to drop below the top of

the aquifer at the well bore; once this happens, the aquifer changes from a confined aquifer to an unconfined aquifer at the well location. When this occurs, the water begins to drain from the pore space in the aquifer around the well. If the well pump removes more water than is entering the well, water levels will continue to drop. As the water level declines, there is a higher propensity for the unconfined area to expand around the well. How this expansion of drained pores occurs depends on the pumping rate, aquifer water levels, and the aquifer characteristics and this process occurs over time. By changing the storativity to 0.05, Mr. Thornhill assumed that the entire aquifer is unconfined and that the storativity value of 0.05 can be applied throughout the aquifer, which is inconsistent with the MODFLOW model, which applies the higher value of storativity representing an unconfined aquifer condition only at the pumping well where water levels have declined below the top of the aquifer.

36. The values used by Messrs. Keester and Thornhill to determine storativity were not reasonable nor~~and~~ appropriate to use in predicting drawdown at wells not located on Applicant's property. There is no scientific support for Applicant's experts using assumed numbers for aquifer storativity when data is available from which the actual values of the storativity can be calculated. The actual storativity number used by Mr. Thornhill was unrealistic and 5 to 25 times higher than the reported values for the Middle Trinity Aquifer in published scientific literature. The evidence from Applicant's pump test of the Aquifer at the location of Applicant's wells showed "the opposite of leakage occurring," indicating lower numbers for storativity should have been used by Applicant. Further, Mr. Thornhill failed to calculate the impacts caused by Applicant's proposed pumping of Applicant's Barn and House wells simultaneously. These analytical decisions by Applicant's experts resulted in significantly overpredicting the availability of groundwater and underpredicting the impacts of the requested permits.

37. Using data from the first set of pump tests, Mr. Thornhill used a transmissivity of 1150 gallons per day per foot (gpd/ft) for the House Well and 700 gpd/ft for the Barn Well.

38. Mr. Thornhill, Mr. Beach and Mr. Rice's transmissivity values are reasonable.

39. Mr. Beach calculated aquifer transmissivity at 619 gallons per day per foot ("gpd/ft") and aquifer storativity of $7.2x10^{-5}$ (0.000072).

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41. Mr. Rice also predicted 30-year drawdowns at four locations bordering Applicant's property. One of these was a well used for domestic purposes on the Albritton Family Management property, for which he predicted drawdown after 30 years of pumping the Applicant's wells to be 176 feet.

42. The long-term drawdown on the Albritton Family Management property will result in it becoming more challenging and costly to pump, and their pump may need to be lowered to compensate for the drawdown. The long-term drawdown on the Albritton Family Management property could also cause the well to go dry.

43. An unreasonableness determination is fact-specific.

44. The evidence ~~does not~~ establishes that ~~an unreasonable~~the predicted effect on the Albritton Family Management property well, from Applicant's proposed pumping may be unreasonable.

45. Impacts from Applicant's proposed pumping are not expected on surface features such as springs or streams, because of the depth of the formation from which the water is being

produced.

46. Springs would only be affected by Applicant's proposed pumping if there was a direct connection between the aquifer and surface water, though no evidence was presented on thiswhich there is not.

47. Applicant's proposed use of water maywill not unreasonably affect groundwater or surface water resources or existing permit holders. Applicant has not met its burden of proof on this issue.

Whether the proposed use of water is dedicated to any beneficial use (Code § 36.113(d) (3)).

48. Applicant seeks to use the combined requested 200 af/yr of water for a combination of domestic, livestock, and irrigation purposes across 627 acres the Applicant owns, including the 317-acre tract where the wells will reside and adjacent acreage, however, the Application is only for the 317-acre tract. The domestic, livestock, and irrigation applied for These uses are enumerated in the Code and the District's rules as beneficial purposes or uses.

49. The Applications maywill not result in waste as it is narrowly defined in the Code or the District's Rules. Applicant has not met its burden of proof on this issue.

Whether the proposed use of water is consistent with the District's approved management plan (Code § 36.113(d) (4)).

50. The District is within Groundwater Management Area (GMA) 9.

51. The Texas Water Development Board (TWDB) has developed a groundwater availability model (GAM) for each aquifer in Texas, including the Middle Trinity in the Hill Country area, to help estimate groundwater availability and water levels.

52. Desired future conditions (DFC) are quantitative descriptions of the desired condition of the groundwater resources in a management area at one or more specified future times.

53. Based on the DFC adopted for GMA 9, the executive administrator of the TWDB provided the District and GMA 9 with the modeled available groundwater (MAG) for each aquifer within the District.

54. The MAG is the amount of water the TWDB executive administrator determines may be produced on an average annual basis to achieve the DFC.

55. The MAG for the Trinity Aquifer for the District for all years through 2060 is 7,284 af/yr.

56. Using the MAG, the District developed a groundwater management plan (GMP), as well as rules, to implement the District's GMP and meet its statutory obligation to manage groundwater in Bandera County.

57. The District's GMP has factors to be considered in deciding whether to deny a permit or limit requested withdrawals of groundwater, including: the purposes of the District; the equitable distribution of groundwater; consequences of economic hardship from granting or denying the permit, and landowners' rights in groundwater beneath their property.

58. There is no basis to delineate 903 af/yr attributable to the Nueces River Basin from the total MAG for Bandera County for purposes of permitting.

59. The usage for Bandera County is projected to increase to 4,629 af/yr by 2070, potentially leaving a substantial amount of the MAG unused until 2070.

Whether, if the well will be located in the Hill Country Priority Groundwater Management Area, the proposed use of water from the well is wholly or partly to provide water to a pond, lake, or reservoir to enhance the appearance of the landscape (Code § 36.113(d) (5)).

60. The District is part of the Hill Country Priority Groundwater Management Area, which was designated by the Texas Commission on Environmental Quality as an area that is experiencing, or is expected to experience, critical groundwater problems within 50 years.
61. None of the water from either the House Well or the Barn Well is proposed to be used wholly or partly to provide water to a pond, lake or reservoir, and thus, the permits to be issued in this matter will not authorize water to be used to fill any pond, lake or reservoir.

Whether the applicant has agreed to avoid waste and achieve water conservation (Code § 36.113(d) (6)).
62. The District's Well Permit Application form requests a statement of a water conservation goal the permittee has established, water conservation measures the Permittee has adopted, and what time frames are necessary to achieve the established water conservation goals.
63. On the Well Permit Application forms, Applicant responded, "water conservation goals consistent with the reasonable and applicable standards for wildlife, agriculture, and livestock management have been adopted and will be adhered to throughout operations." Applicant also indicated it has reviewed the District's Water Conservation Information.
64. There are no specific requirements or adopted standards for achieving conservation in the Code, nor in the District's Rules or GMP.
65. Applicant agreed to comply with all the District's rules regarding waste and achieving water conservation.

Whether the Applicant has agreed that reasonable diligence will be used to protect groundwater quality and that the Applicant will follow well plugging guidelines at the time of well closure (Code § 36.113(d)(7)).
66. Applicant stated that it will use reasonable diligence to protect groundwater and that it will follow well plugging guidelines at the time of well closure.
67. There is no record evidence that the water quality from the Barn Well will have any impact on groundwater quality or Applicant's ability to follow well plugging guidelines at the time of well closure.

Whether the Applications are consistent with the District's DFC (Code § 36.1132).
68. The District and the other groundwater conservation districts located within the boundaries of GMA 9 meet regularly and at least every five years, the district consider GAMs and other data and information and propose the DFC for each of the relevant aquifers within GMA 9.
69. The DFC adopted by the districts in GMA 9 for the Trinity Aquifer is to allow for an increase in average drawdown of approximately 30 feet through 2060.
70. Because the MAG is the amount of water the TWDB executive administrator determines may be produced on an average annual basis to achieve the DFC, and there is a significant amount more than 200 af/yr in production currently available and unused under the MAG for the aquifer, the Applications, at present, do not appear likely to ~~cannot~~ (either standing alone, or in combination with all other production in the aquifer) cause exceedances of the DFC.

District Rule 3.4Q
71. District Rule 3.4Q does not mandate a specific production limit; it authorizes discretion in the amount permitted, within a range capped by the rule's specified upper production limit.

72. District Rule 3.4Q caps production to no more than one af/yr per acre owned, provided the WAS indicates sufficient water is available.
73. The burden of proof is on the Applicant to demonstrate that sufficient water is available.
74. Applicant seeks permits for production of 130 af/yr and 70 af/yr, for a total of 200 af/yr from two wells on a 317-acre tract of land. This amount is less than the maximum limit under District Rule 3.4Q. Through the course of the contested case hearing on the Applications, Applicant has indicated that it now seeks to use groundwater withdrawn under the requested permits on both its 317-acre and 310-acre contiguous tracts. However, the Applications are only for use of water on the 317-acre tract and do not include a request to authorize the withdrawal or use of groundwater on the additional 310-acre tract. Applicant did not amend its Applications to request that the 310-acre tract be included in these Applications. As a result, the permits to be issued do not include any authorizations to withdraw or use groundwater on the 310-acre tract.
75. Through the evidence offered at the hearing on the merits, Applicant did not meet its burden of proof to demonstrate by a preponderance of the evidence that sufficient water is available for permitting the 200 af/yr sought in the Applications but the evidence was sufficient to support issuance of the Applications for 28 acre-feet each for the requested domestic, livestock and irrigation uses.

Allocation of Transcript Costs

76. Applicant has submitted the required deposit to pay all costs associated with the contract for hearing.
77. Reporting and transcription of the hearing on the merits was warranted because the hearing lasted for two days.
78. Applicant requested the contested case hearing at SOAH.
79. Through the contested case hearing process, Applicant was able to supplement the unreliable WAS submitted with its Applications.
80. BCA is a non-profit organization working to protect and preserve the abundance and quality of local water sources; conserve and enhance native plants and wildlife; and promote good land stewardship.
81. The GM, as the chief executive officer of the District, is responsible for carrying out the business and activities of the District.
83. Applicant should pay the full cost of the reporting and transcription, and reimburse the GM and BCA for transcript costs incurred.

VI. CONCLUSIONS OF LAW

1. The District has jurisdiction to decide the issues raised by the Applications. Code ch. 36.
2. As the party seeking the permits, Applicant has the burden of proof by a preponderance of the evidence. 1 Tex. Admin. Code § 155.427; *Granek v. Texas State Bd. of Med. Exam'rs,* 172 S.W.3d 761, 777 (Tex. App.—Austin 2005, no pet.).
3. Notice was accomplished in accordance with Code chapter 36 and District Rules.
4. The Applications, together with the information provided through the contested case hearing process, conform to the content requirements prescribed by Code chapter 36 and are accompanied by the prescribed fees. Code § 36.113(d)(1).
5. An administratively complete application is an application in which all documentation required by District Rules, and all appropriate fees pertaining to the application, have been received by the District. District Rule 1.1.

6. District Rule 3.7C lists the permit application contents required by the District. The required contents include:

- a statement of the nature and purpose of the proposed use;
- a statement of the anticipated duration of time required for the proposed use of the water;
- information showing what water conservation measures the applicant has adopted, what water conservation goals the applicant has established, and what measures and time frames are necessary to achieve the established water conservation goals;
- information, including a hydro geological study with test wells, showing water availability and the projected effect of the proposed pumping on aquifer conditions or depletion and on existing permit holders or other groundwater users in the District; and
- water quality testing for multiple parameters.

7. The proposed use of water may~~will not~~ unreasonably affect existing groundwater and surface water resources or existing permit holders. Code § 36.113(d)(2).

8. When deciding whether or not to issue a permit, the District must consider whether the permit will result in a beneficial use and not cause or contribute to waste. Code §§ 36.113(d)(3), (6), .1131(b)(5), (6); District Rule 3.7C(f).

9. The Code includes definitions of "use for a beneficial purpose" and "waste." Code § 36.001(8), (9); District Rule 1.

10. The proposed categories of uses for domestic, livestock and irrigation ~~of water~~ under the Applications are beneficial uses. Code § 36.001(9); District Rule 1.

11. The Applications may~~will not~~ cause or contribute to waste. Code § 36.001(8); District Rule 1.

12. Prior to issuing a permit, the District is required to consider whether the proposed use of water is consistent with its GMP. Code § 36.113(d)(4).

13. The Applications are ~~not~~ inconsistent with the GMP, although~~and~~ there may~~is~~ currently be sufficient groundwater in the aquifer and under the GMA 9 MAG to support the issuance of the permits for 28 acre-feet each. Code § 36.113(d)(4).

14. The proposed use of water from the two wells is neither wholly or partly to provide water to a pond, lake, or reservoir to enhance the appearance of the landscape, and thus, the permits to be issued in this matter will not authorize water to be used to fill any pond, lake or reservoir. Code § 36.113(d)(5).

15. A district may require, as applicable under its adopted rules, a water conservation plan or a declaration that the applicant will comply with the district's management plan. Code § 36.113(c)(4).

16. District Rule 3.7C(k) requires a permit application to include, unless waived by the GM, "information showing what water conservation measures the Permittee has adopted, what water conservation goals the Permittee has established, and what measures and time frames are necessary to achieve the Permittee's established water conservation goals."

17. Before granting or denying a permit, the District must consider whether the Applicant has agreed to avoid waste and achieve water conservation. Code § 36.113(d)(6).

18. Applicant has agreed to avoid waste and achieve water conservation. Code § 36.113(d)(6).

19. Before granting or denying a permit, the District must consider whether the Applicant has agreed that reasonable diligence will be used to protect groundwater quality and that the applicant will follow well plugging guidelines at the time of well closure. Code § 36.113(d)(7); District Rule 3.7C(q).

20. Applicant has agreed that reasonable diligence will be used to protect groundwater quality, and that Applicant will follow well plugging guidelines at the time of well closure. Code § 36.113(d)(7); District's Rule 3.7C(q).

21. In issuing permits, the District shall manage total groundwater production on a long-term basis to achieve an applicable DFC and consider the availability of groundwater using the MAG for GMA 9, as well as other contributing factors. Code § 36.1132(b).

22. The Applications may be~~are~~ consistent with the DFC for GMA 9. Code §§ 36.001(25), .1132.

23. The annual production for each permitted well can be limited to one af/yr, times the total number of acres in the tract of land owned by the permit applicant and identified in the permit application as associated with the well. Any existing wells on the tract being utilized for the new well must be taken into account when setting the production limit. The total annual production for a tract with multiple wells is limited in the aggregate to one af/yr times the number of acres in the tract. District Rule 3.4Q(a), (b).

24. A production limit lower than one af/yr per acre owned by the applicant may be set in areas where water availability studies indicate insufficient water is available for permitting. District Rule 3.4Q(d).

25. The party requesting the hearing before SOAH shall pay all costs associated with the contract for the hearing and shall deposit with the District an amount sufficient to pay the contract amount before the hearing begins. At the conclusion of the hearing, the District shall refund any excess money to the paying party. Code § 36.416(c); District Rule 7.5C(b)(iv).

26. The costs of a court reporter may be assessed against the party requesting it or among the parties to the hearing. Code § 36.408(a); District Rule 7.5E. The cost of a copy of a transcript ordered by a party shall be paid by that party, unless otherwise ordered by the ALJ. 1 Tex. Admin. Code § 155.423(d)(2).

27. After weighing the factors under Code section 36.113(d) and the District Rules, the District should approve the Applications for 28 acre-feet for the House Well and 28 acre-feet for the Barn Well.

EXHIBIT B

EXHIBIT B

SOAH DOCKET NO. 955-23-21880

APPLICATION OF VANDERPOOL MANAGEMENT, LP FOR TWO WELL PERMITS FROM BANDERA COUNTY RIVER AUTHORITY AND GROUNDWATER DISTRICT	**§ § § § §**	**BEFORE THE STATE OFFICE OF ADMINISTRATIVE HEARINGS**

GENERAL MANAGER'S ALTERNATIVE PROPOSED AMENDED FINDINGS OF FACT AND CONCLUSIONS OF LAW

The General Manager provides the following alternative proposed amended findings of fact and conclusions of law in the Proposal for Decision:

RECOMMENDATION

The ALJs recommend the Applications for groundwater production well permits be issued as requested for a combined total of 200 af/yr. In support of the recommendation, the ALJs propose the following Findings of Fact and Conclusions of Law.

FINDINGS OF FACT

Background and Procedural History

1. The Bandera County River Authority and Groundwater District (District) was created to, among other things, conserve, preserve, protect, and prevent waste of groundwater in Bandera County as a groundwater conservation district. The District serves a public use and benefit with respect to the groundwater in Bandera County; and it has the rights, powers, privileges, authority, functions, and duties provided by the Texas Water Code (Code) for groundwater conservation districts.
2. Vanderpool Management, LP (Applicant) owns a 317-acre survey tract of land and a contiguous 310-acre tract of land in Bandera County, Texas.
3. Applicant submitted two applications (Applications) to the District for groundwater production well permits on the 317-acre tract. Applicant seeks authorization to produce groundwater from the Cow-Creek Formation of the Middle Trinity aquifer for domestic, livestock, and agricultural use as follows: (1) up to 130 acre-feet per year (af/yr) at a rate up to 80 gallons per minute (gpm) from the Willow Springs-House Well (House Well); and (2) up to 70 af/yr at a rate up to 55 gpm from the Willow Springs-Barn Well (Barn Well). <u>Through the course of the contested case hearing on the Applications, Applicant has indicated that it now seeks to use groundwater withdrawn under the requested permits on both its 317-acre and 310-acre contiguous tracts. Based on inclusion of the additional 310-acre tract to support the Applications, the Applications are considered to be amended to include a request to withdraw water from and use water on the 310-acre tract.</u>
4. Following a timely request for a contested case hearing submitted by Applicant and a timely motion for rehearing submitted by Bandera Canyonlands Association (BCA), the District set the matter for a contested case hearing and referred this matter to the State Office of Administrative Hearings (SOAH).

5. SOAH Administrative Law Judge (ALJ) Ross Henderson convened the preliminary hearing on August 15, 2023, and named as parties the GM, the Applicant, and BCA.
6. The hearing on the merits was held April 29-30, 2024, before ALJs Meitra Farhadi and Ross Henderson, at SOAH's hearing facility in Austin, Texas. Applicant appeared and was represented by attorneys Peter T. Gregg, C. Brantly Jones and Marvin W. Jones. The GM appeared and was represented by attorneys Deborah C. Trejo and Kimberly Buser. BCA appeared and was represented by attorneys Lauren Ice and Vic McWherter.
7. At the hearing on the merits, Applicant offered the expert testimony of Michael Thornhill on direct and rebuttal, Michael Keester on rebuttal, Dr. William Rogers on rebuttal, and the lay testimony of Bob Duke. The GM offered the expert testimony of himself and James Beach. BCA offered the expert testimony of George Rice and Stephan Nelle.
8. The parties submitted post-hearing briefs and the record closed on September 5, 2024, when the transcript and exhibits were received by SOAH.

Whether the Applications conform to the requirements prescribed by Code Chapter 36 and are accompanied by the prescribed fees (Code § 36.113(d) (1)).

9. The District received the two Applications in September of 2022.
10. The GM's determination of administrative completeness does not amount to a finding that the Applications were entitled to be granted.
11. The Water Availability Study (WAS) submitted with the Applications was prepared by Craig Scott Courtney.
12. In reviewing the Applications, the District requested additional information regarding the WAS; however, Mr. Courtney did not provide the supplemental information requested.
13. The WAS lacked: (1) a sufficient identification and location (with an aerial map) of infrastructure to be used in withdrawing and using groundwater; (2) sufficient information about drawdown levels over 10 and 30 years of use of the wells, including, but not limited to, showing an impossible rectangular "cone" of depression; and (3) sufficient pump test data in a format for confirmation and analysis; and (4) sufficient articulation of the proposed use of and need for the amount of water being requested with a description of beneficial use without waste.
14. The District made the same requests for supplemental information from the Applicant's driller, Chad Hillis. In response, Mr. Hillis requested that the Applications be processed without further supplementation of the WAS. Pursuant to that request, the Applications were scheduled for public hearing and consideration at the January 19, 2023, District quarterly meeting.
15. The WAS performed by Mr. Courtney was the technical documentation submitted by the Applicant, and what the District had when it considered the Applications.
16. Mr. Courtney's work was unreliable.
17. Based on the District Rules, its management plan, and the deficiencies in Applicant's WAS, the GM recommended that the Board approve the permits for an annual production limit equal to what an exempt well could produce— 28 af/yr for each well.
18. In advance of the contested case hearing at SOAH, Applicant hired two additional hydrogeologists.
19. Michael Thornhill reviewed the Applications and provided his opinion on the sufficiency of available groundwater to support the Applications.
20. Because Mr. Courtney refused to provide the raw data from his tests, Applicant had Mr. Thornhill direct and observe additional pumping tests using the Barn Well and House Well.
21. Michael Keester reviewed the data available from both Mr. Courtney's and Mr. Thornhill's

pumping tests, and conducted a hydrogeological study as required by District Rule 3.7C(m).

22. As supplemented with the evidence of Mr. Keester and Mr. Thornhill at the contested case hearing at SOAH, the Applications conform to the content requirements prescribed by Code chapter 36.

Whether the proposed use of water unreasonably affects existing groundwater and surface water resources or existing permit holders (Code § 36.113(d) (2)).

23. Transmissivity is a measure of an aquifer's ability to transmit water. It is equal to the hydraulic conductivity (or permeability) multiplied by the aquifer thickness. The greater the transmissivity, the greater the ability of an aquifer to transmit water. All other things being equal, drawdowns in an aquifer with a high transmissivity will be less than in an aquifer with a low transmissivity.

24. Storativity is a measure of an aquifer's ability to store and release water. It is the volume of water an aquifer releases, per unit surface area, per unit decline of hydraulic head. All other things being equal, drawdowns in an aquifer with a high storativity will be less than in an aquifer with a low storativity.

25. Transmissivities and storativities should be calculated~~are usually determined~~ by analyzing data from pump tests at the relevant location, when that data is available.

26. Confined aquifers, also called artesian aquifers, are aquifers that are overlain by low permeability materials (the confining layer). Water levels in wells that are completed in confined aquifers will rise above the top of the aquifer.

27. Unconfined aquifers, also called water table aquifers, are not bounded above by a confining layer. Unconfined aquifers are open to the atmosphere. Water levels in unconfined aquifers are equal to the level of the water table.

28. In confined aquifers, water is released by the very slight compaction of aquifer materials and the very slight expansion of water. As a result, the storativity of confined aquifers is small, usually ranging from about 0.00005 (5.0×10^{-5}) to 0.005 (5.0×10^{-3}).

29. In unconfined aquifers, water is released by draining the pore spaces of the aquifer materials. As a result, the storativity of unconfined aquifers is much larger than that of confined aquifers, usually ranging from about 0.01 (1×10^{-2}) to 0.3 (3×10^{-1}).

30. The Trinity Aquifer is a confined or semi-confined aquifer; so a small storativity, in the range of 5.0×10^{-5} to 5.0×10^{-3}, would be expected.

31. The aquifer will become unconfined at the well bore, but it is unclear from this record how far out that will extend.

32. Where there is actual data available from pump tests at a location, i~~I~~t is more reliable to use a calculated storativity or transmissivity value than an assumed storativity or transmissivity value.

33. For his 30-year predictions of drawdown, Mr. Thornhill assumed a storativity of 0.05 for both the House and Barn wells, based on his assumption that the Trinity Aquifer is leaky and does not act as a confined aquifer.

34. Mr. Thornhill's assumed storativity value of 0.05 is within the range of unconfined storativity values (0.01 – 0.3), not confined storativity values.

35. At some point, Applicant's pumping will cause the aquifer level to drop below the top of the aquifer at the well bore; once this happens, the aquifer changes from a confined aquifer to an unconfined aquifer at the well location. When this occurs, the water begins to drain from the pore space in the aquifer around the well. If the well pump removes more water than is entering the

well, water levels will continue to drop. As the water level declines, there is a higher propensity for the unconfined area to expand around the well. How this expansion of drained pores occurs depends on the pumping rate, aquifer water levels, and the aquifer characteristics and this process occurs over time. By changing the storativity to 0.05, Mr. Thornhill assumed that the entire aquifer is unconfined and that the storativity value of 0.05 can be applied throughout the aquifer, which is inconsistent with the MODFLOW model, which applies the higher value of storativity representing an unconfined aquifer condition only at the pumping well where water levels have declined below the top of the aquifer.

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43. An unreasonableness determination is fact-specific.

44. The evidence ~~does not~~ establishes that the predicted ~~an unreasonable~~ effect on the Albritton Family Management property well, from Applicant's proposed pumping may be unreasonable.

45. Impacts from Applicant's proposed pumping are not expected on surface features such as springs or streams, because of the depth of the formation from which the water is being produced.

46. Springs would only be affected by Applicant's proposed pumping if there was a direct connection between the aquifer and surface water, though no evidence was presented on this~~which there is not~~.

47. Applicant's proposed use of water may~~will not~~ unreasonably affect groundwater or surface water resources or existing permit holders. Applicant has not met its burden of proof on this issue.

Whether the proposed use of water is dedicated to any beneficial use (Code § 36.113(d) (3)).

48. Applicant seeks to use the combined requested 200 af/yr of water for a combination of domestic, livestock, and irrigation purposes across 627 acres the Applicant owns, including the 317-acre tract where the wells will reside and adjacent acreage. The domestic, livestock, and irrigation applied for ~~These uses~~ are enumerated in the Code and the District's rules as beneficial purposes or uses.

49. The Applications may~~will not~~ result in waste as it is narrowly defined in the Code or the District's Rules. Applicant has not met its burden of proof on this issue.

Whether the proposed use of water is consistent with the District's approved management plan (Code § 36.113(d) (4)).

50. The District is within Groundwater Management Area (GMA) 9.

51. The Texas Water Development Board (TWDB) has developed a groundwater availability model (GAM) for each aquifer in Texas, including the Middle Trinity in the Hill Country area, to help estimate groundwater availability and water levels.

52. Desired future conditions (DFC) are quantitative descriptions of the desired condition of the groundwater resources in a management area at one or more specified future times.

53. Based on the DFC adopted for GMA 9, the executive administrator of the TWDB provided the District and GMA 9 with the modeled available groundwater (MAG) for each aquifer within the District.

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56. Using the MAG, the District developed a groundwater management plan (GMP), as well as rules, to implement the District's GMP and meet its statutory obligation to manage groundwater in Bandera County.

57. The District's GMP has factors to be considered in deciding whether to deny a permit or limit requested withdrawals of groundwater, including: the purposes of the District; the equitable distribution of groundwater; consequences of economic hardship from granting or denying the permit, and landowners' rights in groundwater beneath their property.

58. There is no basis to delineate 903 af/yr attributable to the Nueces River Basin from the total MAG for Bandera County for purposes of permitting.

59. The usage for Bandera County is projected to increase to 4,629 af/yr by 2070, potentially leaving a substantial amount of the MAG unused until 2070.

Whether, if the well will be located in the Hill Country Priority Groundwater Management Area, the proposed use of water from the well is wholly or partly to provide water to a pond, lake, or reservoir to enhance the appearance of the landscape (Code § 36.113(d) (5)).

60. The District is part of the Hill Country Priority Groundwater Management Area, which was designated by the Texas Commission on Environmental Quality as an area that is experiencing, or is expected to experience, critical groundwater problems within 50 years.

61. None of the water from either the House Well or the Barn Well is proposed to be used wholly or partly to provide water to a pond, lake or reservoir, and thus, the permits to be issued in this matter will not authorize water to be used to fill any pond, lake or reservoir.

Whether the applicant has agreed to avoid waste and achieve water conservation (Code § 36.113(d) (6)).

62. The District's Well Permit Application form requests a statement of a water conservation goal the permittee has established, water conservation measures the Permittee has adopted, and what time frames are necessary to achieve the established water conservation goals.

63. On the Well Permit Application forms, Applicant responded, "water conservation goals consistent with the reasonable and applicable standards for wildlife, agriculture, and livestock management have been adopted and will be adhered to throughout operations." Applicant also indicated it has reviewed the District's Water Conservation Information.

64. There are no specific requirements or adopted standards for achieving conservation in the Code, nor in the District's Rules or GMP.

65. Applicant agreed to comply with all the District's rules regarding waste and achieving water conservation.

Whether the Applicant has agreed that reasonable diligence will be used to protect groundwater quality and that the Applicant will follow well plugging guidelines at the time of well closure (Code § 36.113(d)(7)).

66. Applicant stated that it will use reasonable diligence to protect groundwater and that it will follow well plugging guidelines at the time of well closure.

67. There is no record evidence that the water quality from the Barn Well will have any impact on groundwater quality or Applicant's ability to follow well plugging guidelines at the time of well closure.

Whether the Applications are consistent with the District's DFC (Code § 36.1132).

68. The District and the other groundwater conservation districts located within the boundaries of GMA 9 meet regularly and at least every five years, the district consider GAMs and other data and information and propose the DFC for each of the relevant aquifers within GMA 9.

69. The DFC adopted by the districts in GMA 9 for the Trinity Aquifer is to allow for an increase in average drawdown of approximately 30 feet through 2060.

70. Because the MAG is the amount of water the TWDB executive administrator determines may be produced on an average annual basis to achieve the DFC, and there is a significant amount more than 200 af/yr in production currently available and unused under the MAG for the aquifer, the Applications, at present, do not appear likely to ~~cannot~~ (either standing alone, or in combination with all other production in the aquifer) cause exceedances of the DFC.

District Rule 3.4Q

71. District Rule 3.4Q does not mandate a specific production limit; it authorizes discretion in the amount permitted, within a range capped by the rule's specified upper production limit.

72. District Rule 3.4Q caps production to no more than one af/yr per acre owned, provided the WAS indicates sufficient water is available.

73. The burden of proof is on the Applicant to demonstrate that sufficient water is available.

74. Applicant seeks permits for production of 130 af/yr and 70 af/yr, for a total of 200 af/yr from two wells on a 317-acre tract of land. This amount is less than the maximum limit under District Rule 3.4Q. Through the course of the contested case hearing on the Applications, Applicant has indicated that it now seeks to use groundwater withdrawn under the requested permits on both its 317-acre and 310-acre contiguous tracts. Based on inclusion of the additional

310-acre tract to support the Applications, the Applications are considered to be amended to include a request to withdraw water from and use water on the 310-acre tract.

75. Through the evidence offered at the hearing on the merits, Applicant met its burden of proof to demonstrate by a preponderance of the evidence that sufficient water is available for permitting the 200 af/yr sought in the Applications for the requested domestic, livestock and irrigation uses.

Allocation of Transcript Costs

76. Applicant has submitted the required deposit to pay all costs associated with the contract for hearing.

77. Reporting and transcription of the hearing on the merits was warranted because the hearing lasted for two days.

78. Applicant requested the contested case hearing at SOAH.

79. Through the contested case hearing process, Applicant was able to supplement the unreliable WAS submitted with its Applications.

80. BCA is a non-profit organization working to protect and preserve the abundance and quality of local water sources; conserve and enhance native plants and wildlife; and promote good land stewardship.

81. The GM, as the chief executive officer of the District, is responsible for carrying out the business and activities of the District.

83. Applicant should pay the full cost of the reporting and transcription, and reimburse the GM and BCA for transcript costs incurred.

VI. CONCLUSIONS OF LAW

1. The District has jurisdiction to decide the issues raised by the Applications. Code ch. 36.

2. As the party seeking the permits, Applicant has the burden of proof by a preponderance of the evidence. 1 Tex. Admin. Code § 155.427; *Granek v. Texas State Bd. of Med. Exam'rs*, 172 S.W.3d 761, 777 (Tex. App.—Austin 2005, no pet.).

3. Notice was accomplished in accordance with Code chapter 36 and District Rules.

4. The Applications, together with the information provided through the contested case hearing process, conform to the content requirements prescribed by Code chapter 36 and are accompanied by the prescribed fees. Code § 36.113(d)(1).

5. An administratively complete application is an application in which all documentation required by District Rules, and all appropriate fees pertaining to the application, have been received by the District. District Rule 1.1.

6. District Rule 3.7C lists the permit application contents required by the District. The required contents include:

- a statement of the nature and purpose of the proposed use;
- a statement of the anticipated duration of time required for the proposed use of the water;
- information showing what water conservation measures the applicant has adopted, what water conservation goals the applicant has established, and what measures and time frames are necessary to achieve the established water conservation goals;
- information, including a hydro geological study with test wells, showing water

availability and the projected effect of the proposed pumping on aquifer conditions or depletion and on existing permit holders or other groundwater users in the District; and

- water quality testing for multiple parameters.

7. The proposed use of water may~~will not~~ unreasonably affect existing groundwater and surface water resources or existing permit holders. Code § 36.113(d)(2).

8. When deciding whether or not to issue a permit, the District must consider whether the permit will result in a beneficial use and not cause or contribute to waste. Code §§ 36.113(d)(3), (6), .1131(b)(5), (6); District Rule 3.7C(f).

9. The Code includes definitions of "use for a beneficial purpose" and "waste." Code § 36.001(8), (9); District Rule 1.

10. The proposed categories of uses for domestic, livestock and irrigation ~~of water~~ under the Applications are beneficial uses. Code § 36.001(9); District Rule 1.

11. The Applications may~~will not~~ cause or contribute to waste. Code § 36.001(8); District Rule 1.

12. Prior to issuing a permit, the District is required to consider whether the proposed use of water is consistent with its GMP. Code § 36.113(d)(4).

13. The Applications are not inconsistent with the GMP, and there may~~is~~ currently be sufficient groundwater in the aquifer and under the GMA 9 MAG to support the issuance of the permits as requested. Code § 36.113(d)(4).

14. The proposed use of water from the two wells is neither wholly or partly to provide water to a pond, lake, or reservoir to enhance the appearance of the landscape, and thus, the permits to be issued in this matter will not authorize water to be used to fill any pond, lake or reservoir. Code § 36.113(d)(5).

15. A district may require, as applicable under its adopted rules, a water conservation plan or a declaration that the applicant will comply with the district's management plan. Code § 36.113(c)(4).

16. District Rule 3.7C(k) requires a permit application to include, unless waived by the GM, "information showing what water conservation measures the Permittee has adopted, what water conservation goals the Permittee has established, and what measures and time frames are necessary to achieve the Permittee's established water conservation goals."

17. Before granting or denying a permit, the District must consider whether the Applicant has agreed to avoid waste and achieve water conservation. Code § 36.113(d)(6).

18. Applicant has agreed to avoid waste and achieve water conservation. Code § 36.113(d)(6).

19. Before granting or denying a permit, the District must consider whether the Applicant has agreed that reasonable diligence will be used to protect groundwater quality and that the applicant will follow well plugging guidelines at the time of well closure. Code § 36.113(d)(7); District Rule 3.7C(q).

20. Applicant has agreed that reasonable diligence will be used to protect groundwater quality, and that Applicant will follow well plugging guidelines at the time of well closure. Code § 36.113(d)(7); District's Rule 3.7C(q).

21. In issuing permits, the District shall manage total groundwater production on a long-term basis to achieve an applicable DFC and consider the availability of groundwater using the MAG for GMA 9, as well as other contributing factors. Code § 36.1132(b).

22. The Applications may be~~are~~ consistent with the DFC for GMA 9. Code §§ 36.001(25), .1132.

23. The annual production for each permitted well can be limited to one af/yr, times the total number of acres in the tract of land owned by the permit applicant and identified in the permit application as associated with the well. Any existing wells on the tract being utilized for the new well must be taken into account when setting the production limit. The total annual production for a tract with multiple wells is limited in the aggregate to one af/yr times the number of acres in the tract. District Rule 3.4Q(a), (b).

24. A production limit lower than one af/yr per acre owned by the applicant may be set in areas where water availability studies indicate insufficient water is available for permitting. District Rule 3.4Q(d).

25. The party requesting the hearing before SOAH shall pay all costs associated with the contract for the hearing and shall deposit with the District an amount sufficient to pay the contract amount before the hearing begins. At the conclusion of the hearing, the District shall refund any excess money to the paying party. Code § 36.416(c); District Rule 7.5C(b)(iv).

26. The costs of a court reporter may be assessed against the party requesting it or among the parties to the hearing. Code § 36.408(a); District Rule 7.5E. The cost of a copy of a transcript ordered by a party shall be paid by that party, unless otherwise ordered by the ALJ. 1 Tex. Admin. Code § 155.423(d)(2).

27. After weighing the factors under Code section 36.113(d) and the District Rules, the District should approve the Applications with special conditions included in the permits: (1) to phase in additional pumping authorizations based on Applicant providing verification to the General Manager of the need for additional amounts for domestic, livestock or irrigation use; (2) to require monitoring of Aquifer conditions at the location of the wells and at the site of neighboring properties to ensure that sufficient groundwater is available to support pumping under the permits and to minimize the impacts of pumping on groundwater resources and other landowners; and (3) to ensure that erosion and runoff of water from irrigation use are limited.