



## Member Organizations

Alamo Group of the Sierra Club  
Aquifer Guardians in Urban Areas  
Austin Regional Sierra Club  
Bexar Audubon Society  
Bexar Green Party  
Boerne Together  
Cibolo Nature Center  
Citizens Allied for Smart Expansion  
Citizens for the Protection of Cibolo Creek  
Environment Texas  
First Universalist Unitarian Church of San Antonio  
Friends of Canyon Lake  
Friends of Government Canyon  
Fuerza Unida  
Green Party of Austin  
Hays Community Action Network  
Headwaters Coalition  
Helotes Heritage Association  
Helotes Nature Center  
Hill Country Planning Association  
Guadalupe River Road Alliance  
Guardians of Lick Creek  
Kendall County Well Owners Association  
Kinney County Ground Zero  
Medina County Environmental Action Association  
Northwest Interstate Coalition of Neighborhoods  
Preserve Castroville  
Preserve Lake Dunlop Association  
San Antonio Audubon Society  
San Antonio Conservation Society  
San Geronimo Nature Center  
San Geronimo Valley Alliance  
San Marcos Greenbelt Alliance  
San Marcos River Foundation  
Santuario Sisterfarm  
Save Barton Creek Association  
Save Our Springs Alliance  
Scenic Loop/Boerne Stage Alliance  
Securing a Future Environment  
SEED Coalition  
Solar San Antonio  
Sisters of the Divine Providence  
Texas Water Alliance  
Water Aid, Texas State University  
West Texas Springs Alliance  
Wildlife Rescue & Rehabilitation  
Wimberley Valley Watershed Association

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**[www.AquiferAlliance.org](http://www.AquiferAlliance.org)**

October 30, 2014

Bridget C. Bohac, Chief Clerk  
MC105  
Texas Commission on Environmental Quality  
P.O. Box 13087  
Austin, TX 78711-3087

Re: Greater Edwards Aquifer Alliance Comment on Proposed Permit  
NO. WQ0015219001; CN604516112 RN107104929

Dear Ms. Bohac:

The comments below are in reference to proposed permit No. WQ0015219001 submitted by Trio Residential Developers, Inc., the Notice of Preliminary Decision which was published on August 1, 2014 in the Boerne Star and draft permit that was issued on July 17, 2014.

The Greater Edwards Aquifer Alliance, comprised of fifty-one member organizations, is concerned about this draft wastewater permit and related development due to water quality concerns and water quantity issues. The wastewater project for which the applicant seeks this permit is located too close to the Edwards Aquifer Contributing Zone. The Contributing Zone is a mere 600 feet from the sewer plant and irrigation area, and a portion of the development is over the Contributing Zone (see attachments 1 and 2). Boundaries of the Contributing Zone are arbitrary, and often do not reflect geology. Given that the boundary in this instance is based upon the County line, it is probably not terribly accurate.

Studies currently being conducted by Southwest Research Institute for the Edwards Aquifer Authority indicate that the Contributing Zone of the Edwards Aquifer, especially areas within the Glenrose formations of the Trinity Aquifer, may be far more significant in terms of recharge to the Edwards than was previously believed.

Therefore, our primary concerns are related to water quality. The site for the package plant and wastewater irrigated greenbelt is in southeastern Kendall County. The site is also approximately 600 feet northwest of the Edwards Aquifer Contributing Zone. The 40.5 acres proposed for land irrigation is more accurately described as

karst surface and intermittent creek bed with potential for aquifer recharge. This package plant would be sited in a location that potentially is the boundary of the Upper and Lower Glen Rose formations. Our understanding is that recharge features are frequently found along this boundary. The presence of karst features on the tract immediately to the south of the Reserve at Ammann Road is a strong indicator that there could be karst features on the Reserve at Ammann Road site. We understand the owner of the K-7 Ranch will be submitting a detailed comment letter with maps/ photos and that several karst features have been found. The applicant should be required to hire a consultant to conduct a professional survey for cave or recharge features on the proposed site and the results reported to TCEQ. Then the wastewater permit writers at TCEQ should evaluate the results of such a study and evaluate the propriety of siting a wastewater plant and 40.5 acre irrigation system at this location.

Also, the site is approximately 1.5 miles north (upstream) of Cibolo Creek and runoff may end up in Cibolo Creek via tributaries during heavy rain events. Also, a package plant may be insufficient to handle the large nutrient load from 635 houses (51 million gallons per year maximum capacity, 140,000 gallons per day per the NORI and draft permit) and could result in groundwater or surface water contamination. This is a large volume for a package plant and it will be difficult to treat this much effluent to appropriate standards for ammonia, phosphorus, and total suspended solids and to contain this on site during heavy rain events. Even if permit limits are met, if the 40.5 acres are indeed located over karst features, this may contaminate the Trinity Aquifer, possibly the Edwards Aquifer, or local groundwater wells.

In addition, it appears that the package plant may be undersized based on the size of the development and expected outflow volume. Under 30 TAC §217.32, "For a (wastewater treatment) facility less than 1.0 mgd, the permitted flow is the maximum 30-day average flow estimated by multiplying the average annual flow by a factor of at least 1.5." Assuming 71 gallons per day per person (American Water Works Association, AWWA, 1999 study) for wastewater generation sent to the wastewater package plant and an average 2.81 people per household (Texas, 2010 census), the average wastewater treatment plant load would be about  $635 \times 2.81 \times 71 = 127,000$  gal/day (46 million gal/yr), which is very close to the 140,000 gal/day (51 million gal/yr) used in the draft permit. Using the 1.5 factor above, the permitted 30-day average flow rate should be 190,000 gal/day. If the water numbers per household from the rest of Fair Oaks Ranch are used per their 2012 Annual Drinking Water Quality Report (see enclosure 4), the result is even farther away from 30 TAC §217.32's mandate of at least 1.5 times average annual flow.

GEAA's 2011 study on "Land-Applied Wastewater Effluent Impacts on the Edwards Aquifer"

(<http://www.aquiferalliance.net/Library/GEAAPublications/GlenroseEdwardsWastewaterReport20111103.pdf>) outlines many causes for concern with this type of project. The report examines existing evidence that wastewater effluent discharged in the San

Antonio Edwards Aquifer contributing zones under Texas Land Application Permits (TLAPs), issued by the Texas Commission on Environmental Quality, have failed to protect springs, creeks, rivers, and groundwater.

Significant findings of the study include:

- TLAPs are wildly inconsistent in terms of requirements for wastewater treatment, offline effluent storage volume, irrigation area size, or downgradient monitoring. The result of these inconsistencies is widely different levels of protection for downgradient springs, streams, rivers, and wells.
- Sparsely available monitoring data from streams and/or springs downstream from TLAPs indicate significant degradation of the high quality water that would naturally occur at those locations.
- Regulations governing TLAPs should be overhauled to provide a consistent and high level of water quality protection across the Edwards Aquifer.

In the context of the thin soils, numerous springs, and sensitive Texas Hill Country streams, rivers, and aquifers, any wastewater effluent system represents a threat of permanent and significant degradation. Only by soundly based and strictly enforced regulations can we balance provision of wastewater infrastructure to suburban residences with protection of the natural streams and springs that draw people to these areas.

There are also several administrative irregularities in the applicant's application, which create gaps in the draft permit. For example, on page 10 of the permit application technical report item 3 "[a]re there any domestic permitted wastewater treatment facilities and/or collection systems located within a three-mile radius of the proposed facility?" The answer is checked "No", however, the City of Fair Oaks Ranch has a wastewater treatment plant 2.0 miles from the proposed facility. Following from this error, the applicant did not include certified letters to the wastewater treatment plant owner and a response whether they would be willing to allow the applicant to connect to their facility, or analysis on the cost to connect versus the cost to expand the existing facility.

Also, the copy of the application at Fair Oaks Ranch City Hall (the public place for viewing) does not contain the full correspondence from the file. No TCEQ correspondence is included. The developer should provide this full information and the 30-day comment period should be extended to allow the public to view this additional information. For example, none of the correspondence explaining why the irrigation area was increased from the application's projected 26.6 acre to the draft permit's 40.5 acres is in the public viewing file, which is a substantial change. This deprives interested parties from fully participating in the comment process. Also, the application and draft

permit were not placed in the county (Kendall County) where the site is located as the draft permit requires (page 3 under PROCEDURES FOR FINAL DECISION), but instead were placed at Fair Oaks City Hall in Bexar County.

The other substantive concern is related to water quantity. This package plant would support 635 houses on 345 acres and from our understanding, would use wells from the Trinity Aquifer as their source of drinking water. If these 635 houses use the same rate cited in the Fair Oaks Ranch 2012 Safe Drinking Water Act Consumer Confidence Report of 556 gallons per household, that would equate to nearly 129 million additional gallons a year. In 2012 Fair Oaks Ranch pumped 242 million gallons from the Trinity Aquifer and obtained 276 million gallons from Canyon Lake. This new pumping rate would constitute a 53% increase in local groundwater withdrawals by the City of Fair Oaks Ranch (129 million gallons divided by 242 million gallons).

While almost all of this development is within Kendall County which is covered by the Cow Creek Groundwater Conservation District, the developer's plan to drill wells in Comal County precludes limits on his groundwater pumping. There is currently no groundwater conservation district in Comal County, thus there would be no regulatory mechanism to restrain the developer from exporting large amounts of water into Kendall County. TCEQ had designated a Priority Groundwater Management Area (PGMA), the Hill Country PGMA, which included western Comal County, and had pursued an action to put western Comal County under a groundwater conservation district. We believe that enabling legislation to create a groundwater district for Comal County will be submitted during the 2015 Session of the Legislature.. This development has a level of density that cannot be supported by the already depleted aquifer in this area.

This water quality permit may be followed by an application for a Municipal Utility District (MUD) and the criteria for such include the public welfare and sufficiency of water quantity. These issues should be looked at now as part of this water quality permit, rather than handled piecemeal.

30 TAC §293.11. Information Required to Accompany Applications for Creation of Districts. (c)(5)

(G) an investigation and evaluation of the availability of comparable service from other systems including, but not limited to, water districts, municipalities, and regional authorities;

(J) complete justification for creation of the district supported by evidence that the project is feasible, practicable, necessary, will benefit all of the land and residents to be included in the district, and will further the public welfare;

30 TAC §293.11. Information Required to Accompany Applications for Creation of Districts.

(c) Creation applications for TWC, Chapter 51, Water Control and Improvement Districts, within two or more counties shall contain items listed in subsection (a) of this section and the following:

...

(5) (H) an evaluation of the effect the district and its systems and subsequent development within the district will have on the following:

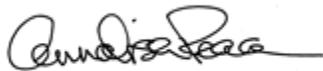
- (i) land elevation;
- (ii) subsidence;
- (iii) groundwater level within the region;
- (iv) recharge capability of a groundwater source;
- (v) natural run-off rates and drainage; and
- (vi) water quality;

Given the water quality and water quantity concerns this development poses, the Greater Edwards Aquifer Alliance requests a public meeting to address these issues. We share the concerns of the 2,300 residents of Fair Oaks Ranch who have signed a petition in April 2014 opposing this development on the grounds that such high density development is not appropriate for this environmentally sensitive area.

We further recommend necessary regulatory changes to protect the character and quality of Texas Hill Country streams and springs against an onslaught of expanding development and larger wastewater effluent volumes that come with increased human habitation. We hope you will review the new Edwards Aquifer Authority report when it is released, and act accordingly to revise the Edwards Rules to include protection, as warranted, for any areas deemed essential to Edwards Aquifer Recharge.

Thank you for the opportunity to submit these comments.

Respectfully,



Annalisa Peace  
Executive Director