

Alamo, Austin, and Lone Star chapters of
the Sierra Club

Bexar Audubon Society

Austin, Bexar and Travis Green Parties

Bexar Grotto

Boerne Together

Bulverde Neighborhood Alliance

Bulverde Neighbors for Clean Water

Cibolo Center for Conservation

Citizens for the Protection of Cibolo Creek

Comal County Conservation Alliance

Environment Texas

First Universalist Unitarian Church of SA

Friends of Canyon Lake

Friends of Dry Comal Creek

Friends of Government Canyon

Fuerza Unida

Green Society of UTSA

Guadalupe River Road Alliance

Guardians of Lick Creek

Headwaters at Incarnate Word

Helotes Heritage Association

Hill Country Alliance

Kendall County Well Owners Association

Kinney County Ground Zero

Leon Springs Business Association

Native Plant Society of Texas – SA

Northwest Interstate Coalition of
Neighborhoods

Pedernales River Alliance – Gillespie Co.

Preserve Castroville

Preserve Lake Dunlop Association

Preserve Our Hill Country Environment

RiverAid San Antonio

San Antonio Audubon Society

San Antonio Conservation Society

San Geronimo Valley Alliance

San Marcos Greenbelt Alliance

San Marcos River Foundation

Save Barton Creek Association

Save Our Springs Alliance

Scenic Loop/Boerne Stage Alliance

Securing a Future Environment

SEED Coalition

Signal Hill Area Alliance

Sisters of the Divine Providence

Solar San Antonio

Texas Cave Management Association

Trinity Edwards Spring Protection Assoc.

Water Aid – Texas State University

Wildlife Rescue & Rehabilitation

Wimberley Valley Watershed Association

**PO Box 15618
San Antonio, Texas 78212
(210) 320-6294**

July 5, 2022

Laurie Gharis, Chief Clerk
Office of the Chief Clerk, MC 105
Texas Commission on Environmental Quality
PO Box 13087
Austin, TX 78711-3087

Submitted electronically at <https://www14.tceq.texas.gov/epic/eComment/>

Re: Comments and Meeting Request Regarding Application South Central Texas
Water Company for TPDES Permit No. WQ0016060001

Please accept the attached comments on behalf of the fifty-four member groups of
the Greater Edwards Aquifer Alliance

1. **Background.** South Central Water Company, P.O. Box 570177, Houston, Texas
77257, has applied to the Texas Commission on Environmental Quality (TCEQ) for a
new Texas Pollutant Discharge Elimination System (TPDES) Permit No.
WQ0016060001, to authorize the discharge of treated domestic wastewater at a
daily average flow not to exceed 600,000 gallons per day. TCEQ received this
application on October 19, 2021.

The facility will be located approximately 4,300 feet north of the intersection of
Farm-to-Market Road 1863 and Stahl Lane, in Comal County, Texas 78163. The
treated effluent will be discharged via pipe to an unnamed ditch; thence to Upper
Cibolo Creek in Segment No. 1908 of the San Antonio River Basin

2. **Greater Edwards Aquifer Alliance (GEAA).** GEAA submits the following
comments on behalf of our fifty-four member organizations and requests a
contested case hearing regarding this permit application. GEAA is a 501(c)(3)
nonprofit organization that promotes effective broad-based advocacy for the
protection and preservation of the Edwards Aquifer, its springs, watersheds, and
the Texas Hill Country that sustains it. GEAA has multiple members who would be
adversely affected by the proposed application of South Central Texas Water
Company

GEAA's members have serious concerns regarding the permit application and
regarding the degradation to the Upper Cibolo Creek that will likely occur with the
discharge of treated sewage into these waterways. GEAA and its members' specific
areas of concern are summarized in the following section of this letter.

3. **Comments on the application.** As noted in the Notice of Receipt of Application,
Intent to Obtain Water Quality Permit, Notice of Application, and Preliminary
Decision for TPDES Permit for Municipal Wastewater, the proposed discharge route
is from the plant site via pipe to an unnamed ditch; thence to Upper Cibolo Creek
in Segment No. 1908 of the San Antonio River Basin.

There are several areas of concern with the current application:

A. Effluent Discharge Levels: The effluent discharge levels in the application currently depict a phased approach for effluent discharge levels as construction of the Diamante Ranch Wastewater Treatment Facility occurs, with the applicant requesting effluent discharge level limits of 5 mg/l carbonaceous biochemical oxygen demand (CBOD₅), 5 mg/l total suspended solids (TSS), 2 mg/l ammonia-nitrogen (NH₃-N), 1 mg/l dissolved oxygen (DO), and no set amount mg/l amount for total phosphorus (TP).

Dissolved oxygen refers to the amount of oxygen that is readily available in a waterbody, and is a direct indicator of an aquatic system's ability to support aquatic life. While fish and crustaceans rely on dissolved oxygen for respiration through their gills, plant life and phytoplankton require dissolved oxygen for respiration when there is no light for photosynthesis. Promoting low levels of oxygen (hypoxia) threatens the survival of waterbodies' aquatic organisms. Further, utilizing low levels of dissolved oxygen in the wastewater treatment process threatens the biomass (a blend of beneficial microscopic organisms, bacteria, and solids) used to treat organic wastes entering a wastewater treatment facility. Lastly, Phosphorus is a "limiting nutrient" in ecosystems, meaning the quantity of this nutrient controls the pace of algal and aquatic plant production. However, excess quantities of phosphorus, even in small amounts, can lead to eutrophication and harmful algal growth in a waterbody.

GEAA strongly encourages the adoption of a Total Phosphorus limit of .50mg/l and a dissolved oxygen level of 5 mg/l ; **bringing the effluent discharge level to a 5mg/l CBOD₅, 5mg/l TSS, 2 mg/l NH₃-N .50 mg/l TP, and a 5 mg/l DO maximum effluent discharge limit.**

B. Implementation of Beneficial Reuse: As it stands today, the Diamante Ranch Wastewater Treatment Facility application does not include any capacity to conduct beneficial reuse, promoting environmental harm to Upper Cibolo Creek and the surrounding watershed areas. Accordingly, GEAA urges South Central Texas Water Company to utilize a "One Water" approach for their wastewater treatment system, incorporating beneficial reuse of effluent, thereby eliminating the need to discharge effluent into Upper Cibolo Creek. In the event South Central Texas Water Company are unable to reuse all the wastewater generated, it is GEAA's recommendation that the remaining amounts be land applied, with South Central Texas Water Company purchasing the necessary land for such and obtaining the requisite TLAP permit from TCEQ.

C. Disinfectant Method: The application indicates that South Central Texas Water Company will be utilizing chlorine contact chambers as a means of disinfectant to further treat the effluent from the Diamante Ranch Wastewater Treatment Facility. We urge the disinfectant method to be changed to an ultraviolet light disinfectant. Ultraviolet light disinfectant treatment requires less space and is a physical process (rather than a chemical process) that has no residual effect that could harm humans or aquatic life.

All forms of chlorine are highly corrosive and toxic, and chlorine residuals could cause negative impacts on aquatic life. Further, chlorine residuals are unstable in the presence of high concentrations of chlorine-demanding materials (BOD). This would require wastewater with high BOD concentrations to be treated with high chlorine doses for adequate disinfection, increasing the likelihood of hazardous compounds such as trihalomethanes.

D. Application Discrepancies- Facility Location: Under Section 1 of the Domestic Technical Report 1.1, Justification for Permit, South Central Texas Water Company indicated that no portion of the proposed service area is located in an incorporated city. However, examining the Public Viewer Interactive Map developed by Comal County's Engineer's Office, the proposed facility is to be constructed on property zoned to be a part of the City of Bulverde. GEAA urges the applicant to follow appropriate correspondence and notify the City of Bulverde of this proposed development. Further, GEAA encourages TCEQ to thoroughly examine this application for additional discrepancies.

E. Discharge Point of Proposed Facility: The anticipated discharge point for the Diamante Ranch Wastewater Treatment Plant will be from the plant site via pipe to an unnamed ditch; thence to Upper Cibolo Creek in Segment No. 1908 of the San Antonio River Basin. In the application, the discharge point is noted to be approximately +/- 400 ft. proximal to the Edwards Aquifer Recharge Zone (EARZ) and the Federal Emergency Management Agency (FEMA) Floodplain. This close approximation to these features raises serious environmental concerns.

The Edwards Aquifer is a karst aquifer, meaning that the aquifer forms over soluble rock types such as limestone by reacting with mildly acidic waters. This reaction results in the Edwards Aquifer exhibiting high porosity and permeability. With this high permeability, the Edwards Aquifer allows for the transmission of large volumes of water, enabling groundwater levels to respond quickly to rainfall (recharge) events. The EARZ of the Edwards Aquifer, one of three main zones across the aquifer, is composed of exposed Edwards limestone at the ground surfaces that allows substantially quick entering of surface waters into the Aquifer. The stated discharge point being located about 400ft away from EARZ raises serious water quality concerns as this effluent will have direct, quick access to the Edwards Aquifer. The Edwards Aquifer has been identified as a principal source of water for the region's agricultural and industrial activities and provides necessary spring flow for endangered species habitats, as well as recreational purposes and downstream uses. Also of great concern is the potential impact to privately owned Edwards wells that area landowners rely on for potable water supplies.

According to the USGS¹, this recharge section of Cibolo Creek was dry more than 95% of the time over the past five years. Therefore, introducing a stream of effluent would create a direct undiluted path from the wastewater treatment plant directly into the Edwards Aquifer, which provides drinking water for 1.7 million Texans. This effluent would have high levels of nitrogen and phosphorous and would also contain Contaminants of Emerging Concern (CECs) including pharmaceuticals, surfactants, and other pollutants. There are numerous human health risks associated with the contamination of the Edwards Aquifer with wastewater plant effluent.

F. Accidental Spills: Due to the close proximity of the outfall point to the Edwards Aquifer recharge zone, an accidental spill or discharge of raw sewage or partially-treated sewage from the proposed wastewater plant would prove catastrophic, given the local conditions described above. But even under normal operation, following standard procedures and safeguards for wastewater treatment plants, the local impacts would still be severe, not only to Texas Hill Country wildlife, but to the health of those Texas residents who live near Cibolo Creek.

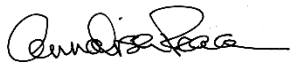
¹ USGC stream discharge data, 2013-2018 for USGS station 08184050 Cibolo Creek
https://waterdata.usgs.gov/nwis/uv?site_no=08184050

G. Cumulative Impacts: There are several other Cibolo Creek-area wastewater permits that have either been approved or are currently in the TCEQ permit approval process. As hundreds of thousands of gallons per day of effluent becomes millions of gallons per day, with each new permit, the cumulative impacts of wastewater discharges become greater and are felt further and further downstream. To date, no studies or analysis has been done by any entity regarding the cumulative impacts of multiple effluent outflows on the Cibolo Creek watershed, which is of great concern to the Greater Edwards Aquifer Alliance, as our primary mission is protection of the aquifer and its contributing waterways.

The TCEQ has previously stated that in evaluating wastewater permits, they consider baseline conditions in the receiving stream, the physical and the hydrological characteristics of the stream, waterbody uses, and the associated water quality standards that protect those uses. We trust that the TCEQ will consider the stated factors when examining the South Central Texas Water Company application and will adopt standards that are in line with others in Central Texas.

Thank you for the opportunity to submit these comments.

Sincerely,

A handwritten signature in black ink, appearing to read "Annalisa Peace". The signature is fluid and cursive, with a long horizontal stroke extending to the right.

Annalisa Peace
Executive Director
Greater Edwards Aquifer Alliance