



David Baker, Executive Director
Malcolm Harris, President
Jack Hollon, Vice President
Pokey Rehmet, Treasurer
Vanessa Puig-Williams
Dorothy Knight
Jason Pinchback
Parc Smith

August 25, 2014

Chief Clerk's Office (MC-105)
Texas Commission on Environmental Quality
P.O. Box 13087
Austin, Texas 78711-3087

RE: Proposed Texas Pollutant Discharge Elimination System Permit No. WQ0013321001
Application for Direct Discharge of Treated Domestic Wastewater to Deer Creek

With this letter, the Wimberley Valley Watershed Association (WVWA) is formally filing comments on the proposed City of Wimberley Discharge Permit referenced above and is requesting that the TCEQ set a public meeting to receive questions and comments concerning this application.

The WVWA is a 501c3 non-profit organization that has worked over the past two decades to bring our community together to focus on conservation and stewardship of our land and water resources. We pursue our mission to engage the community in land and water stewardship through education, scientific research and cultivating personal experiences through the Association's programs designed to sustain the health of our watersheds and aquifers. Additionally, the WVWA develops sustainable water policy initiatives to advocate for clean, clear flowing streams and the equitable allocation of water for the Wimberley Valley and the Texas Hill Country for current and future needs of our communities. The WVWA has established a diverse constituency and unified voice for maintaining clean, sustainable water supply for our aquifers, springs, creeks and rivers across the Texas Hill Country.

WVWA agrees and is in full support of the City of Wimberley's goals to protect the water quality and quantity of Cypress Creek the Blanco River and the Trinity and Edwards Aquifers. The mitigation of failing septic systems within the City's jurisdiction is an important goal and has been a long standing problem. WVWA supports the City's goal of providing wastewater treatment solutions based on an impartial evaluation of both centralized and decentralized options for their cost-effectiveness and appropriateness for local conditions. The WVWA supports the City's efforts to identify failing septic systems to be decommissioned and replaced with more advanced treatment facilities. The WVWA supports the Cities goal of reusing treated effluent to offset the need to pump groundwater for irrigation and flushing toilets.

The WVWA believes the proposed permit amendment, if approved, however, will lead to stream degradation due to nutrient loading. The application as proposed is not protective enough of the water quality of the Cypress Creek, Deer Creek, and Blanco River Watersheds. WVWA strongly encourages the City of Wimberley and the TCEQ, therefore, to adopt the most protective water quality discharge standards possible and to set an example for environmentally responsible reuse of treated effluent.

The WVWA respectfully submits the following comments and concerns related to the application:

- 1) Effluent discharge from the proposed wastewater facility will enter Edwards Aquifer groundwater contributing and recharge features, which are critical source waters for drinking water consumers. Dye studies in the area have demonstrated porous streambeds that naturally allow quick transport of fluids to areas as far as Austin and San Marcos. USGS gauge station data clearly show this portion of the Blanco River is a "losing" stream and contributes water to aquifers. (REVISITING THE HYDROLOGIC DIVIDE BETWEEN THE SAN ANTONIO AND BARTON SPRINGS SEGMENTS OF THE EDWARDS AQUIFER: INSIGHTS FROM RECENT STUDIES, Brian A. Smith¹, Brian B. Hunt¹, and Steve B. Johnson², ¹Barton Springs/Edwards Aquifer Conservation District, 1124 Regal Row, Austin, Texas 78748, U.S.A. ²Edwards Aquifer Authority, 1615 N. St. Marys St., San Antonio, Texas 78215, U.S.A.)
- 2) As proposed, the application anticipates reuse of effluent to irrigate Blue Hole Regional Park in accordance with the requirements of 30 Tex. Admin. Code, Chapter 210. However, the existing soil at Blue Hole Park is thin and will not provide adequate soil cover to prevent runoff of effluent into Blue Hole (Cypress Creek) and the Blanco River or to prevent infiltration of elevated nutrients into shallow groundwater. Under a Texas Land Application Permit, site-specific evaluations would occur to ensure adequate soils; however, under the current proposal to discharge and reuse treated effluent under Chapter 210, no such studies are required. A discharge permit appears to be a way around the

cost associated with having to provide adequate soil cover. See link on use of nitrogen isotopes to identify potential impacts of wastewater land application in the Barton Springs Zone even without discharges:

http://www.austintexas.gov/watershed_protection/publications/document.cfm?id=196471

- 3) The application anticipates irrigation of effluent at the Blue Hole Park but as written would allow full discharge of all the effluent into Deer Creek and ultimately the Blanco River. The receiving streams are among the most pristine in Texas. If discharge is necessary, the permit should require that proven wetland technologies or membrane treatment be utilized to polish the treated effluent to a standard that is similar to its receiving streams.
- 4) The proposed phosphorus limit of 1.0 mg/l will cause enriched algae blooms and fundamentally alter the aquatic ecosystem. Based on water quality data collected for more than ten years, the normal background for Cypress Creek and the Blanco River is .02 mg/l. See link of research by Ryan King at Baylor on nutrients, particularly phosphorus impacts :<http://www.baylor.edu/aquaticlab/index.php?id=45884>
- 5) The application does not contain proposed limits on total nitrogen, and as such there is a potential for nitrate toxicity and algae blooms from enrichment.
- 6) The TCEQ set a precedent with more stringent limits for the Hays County WCID #1 (Belterra) Discharge Permit for discharge to a similar Hill Country water body. In fact this proposed discharge location is upstream of a more sensitive area used for public and private recreation. The proposed discharge location is just above the Rocky River Ranch Girl's Camp, numerous neighborhood river parks, numerous bed and breakfasts, and Texas State Camp, all located on the Blanco River.
- 7) Swimming holes downstream of the proposed discharge will lead to nutrient enriched streams, which will exacerbate dissolved oxygen issues and degrade aesthetics. This includes Blue Hole, which will potentially receive the runoff of wastewater effluent applied in Blue Hole Park. Numerous studies also show that effluent dominant streams offer an enriched breeding ground for E.coli and its associated pathogens. A WWTP effluent study conducted by the Lower Colorado River Authority at Gilleland Creek demonstrated that the standard chlorine disinfectant methods did not eliminate E.coli and fecal coliform. Instead, these indicators were only "stunned" for a short period of time before becoming viable post treatment; thus, leading to 303(d) water quality impairments and a significant and costly long-term effort to develop a watershed protection plan.
- 8) The wastewater effluent chemistry is significantly different than the receiving waters of Cypress Creek and the Blanco River. (See the link regarding typical water quality in Hill County Edwards Plateau: <http://pubs.usgs.gov/sir/2011/5139/>. See link to the historical data from the Clean Rivers Program managed by Guadalupe Blanco River Authority on the Cypress and Blanco. <http://www.gbra.org/crp/sites/hays.aspx> This link will direct you to the list of sites in both watersheds located in Hays County.
- 9) The application does not clearly state the areas where treated wastewater effluent will be applied relative to the floodplain. Water quality studies have documented negative impacts to surface water from land application too close to creeks and rivers. The application also does not require irrigation field moisture monitoring to ensure that appropriate application rates are used. See link to report on impacts of wastewater in Edwards Plateau streams: <http://pubs.usgs.gov/sir/2007/5195/>
- 10) The water quality of the discharge will alter aquatic ecology.
- 11) As proposed, the wastewater plant will not remove pharmaceuticals. Pharmaceuticals in treated effluent have negative effects on aquatic life.
- 12) The application does not require dechlorination or UV disinfection. Chlorine combined with in stream organics will form chloramines, which are potential carcinogens. The expected chlorine residual is toxic to aquatic life and is detrimental to irrigated plants. Hays County WCID #1 (Belterra) set precedent for requiring UV disinfection with respect to environmental protection of Hill County streams.

Thank you for your consideration of this request. Please contact the WVWA office at (512) 722-3390 with any questions.

Sincerely,

David Baker
Executive Director, WVWA
P.O. Box 2534
Wimberley, TX 78676