IN THE MATTER OF PROPOSED RULEMAKING CONCERNING WATER QUALITY MANAGEMENT IN THE ONION CREEK AND BARTON CREEK WATERSHEDS	§ § § § §	BEFORE THE TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

PETITION FOR RULEMAKING

TO THE HONORABLE TEXAS COMMISSION ON ENVIRONMENTAL QUALITY:

Petitioners, Barton Springs/Edwards Aquifer Conservation District ("District") and the City of Austin ("City"), respectfully request that the Texas Commission on Environmental Quality ("TCEQ" or "Commission") institute rulemaking to adopt new rules under 30 Tex. Admin. Code Chapter 311 concerning water quality management in the Onion Creek and Barton Creek Watersheds.

The District and City seek this rulemaking pursuant to Tex. Gov't Code § 2001.021 and TCEQ Rule 30 Tex. Admin. Code § 20.15.

I. STATEMENT OF AUTHORITY

The new rule is proposed under Texas Water Code §§ 5.013(a)(3), 5.103, 5.105, 26.003, 26.011, and 26.023. In particular, Texas Water Code §§ 26.011 and 26.023 authorizes the Commission to promulgate rules necessary to protect water quality and to set water quality standards for all waters in the state.

The District is a Groundwater Conservation District created by an act of the 70th Legislature and subject to various requirements of Texas law governing groundwater districts, including Texas Water Code Chapter 36. The District's enabling legislation, S.B 988 of the 70th Legislature now codified at Special Laws District Code § 8802, further elaborates the governing authority under Chapter 36.

The District's primary function is to provide for the conservation, preservation, protection, recharging, and prevention of waste of groundwater and of groundwater reservoirs in the Barton Springs segment of the Edwards Aquifer ("Aquifer") and of all other aquifers in the District's jurisdiction. To achieve these goals, the District has continuing programs in aquifer science, regulatory compliance, and education and community outreach, and from time to time grant-funded programs that supplement the other, ongoing program areas. It also works cooperatively with other political jurisdictions to achieve both the District's and their own objectives.

The District is governed by its own Board of Directors, comprised of five publicly elected directors from five single-member precincts, with each director serving a four-year term. The District is an independent, local agency of the state, and it is not an organizational element of some other administrative state agency.

The District comprises about 250 square miles in parts of four counties: Bastrop, Caldwell, Hays, and Travis counties; most of the District is in southern Travis and northern Hays counties. Concern about how to protect the Aquifer in this area was the driving force behind the formation of the District and was used initially to define the District's boundaries. These boundaries corresponded to the Colorado River on the north; the western edge of the Aquifer's recharge area on the west; the approximate position of a geohydrologic divide on the south that separates the Barton Springs segment from the southern, or San Antonio, segment; and the easternmost part of the freshwater part of the Aquifer on the east, i.e., the area west of the so-called "Bad Water Line."

The City is a Texas home rule municipal corporation situated in Travis, Williamson, and Hays Counties. The City's jurisdiction extends through much of the Barton Springs Segment of

the Edwards Aquifer. The City uses water from the Aquifer and relies on it to support flows to Barton Springs. These springs supply drinking water used by the citizens of Austin and provide a unique aesthetic and recreational resource for hundreds of thousands of visitors annually. Furthermore, the springs and their flows of high quality fresh water from the aquifer provide the only known habitat for the endangered Barton Springs salamander (*Eurycea sosorum*) (Salamander). Barton Springs is located inside the City limits and is the only known habitat for this endangered Salamander. The City holds a Federal 10a permit requiring the City to assure protection of the Salamander. Barton Springs also serves as the centerpiece of Austin's extensive and award-winning parks system. In order to sustain Barton Springs and the values it brings to the City and its citizens, the City has invested more than $80 million in voter approved bonds to purchase sensitive properties and conservation easements throughout the recharge zone for the sole purpose of maintaining water quality in Barton Springs. Many of these properties have water wells that may also be impacted by effluent in the discharge route. These impacts, as well as the threat to recreational uses of our Barton Springs Pool and other surface waters, spurred the Austin City Council to adopt a resolution calling for new rules under 30 Tex. Admin. Code Chapter 311 for improved water quality management in the Onion Creek and Barton Creek Watersheds to protect the Contributing Zone of the Barton Springs segment of the Edwards Aquifer.

The Aquifer is an EPA-designated sole-source of drinking water, which serves as a primary source of drinking water for tens of thousands of people and is a vital resource to the general economy and welfare of the City and the State of Texas. The Aquifer forms the only known habitat for the endangered Barton Springs salamander, *Eurycea sosorum*, as well as the

Austin blind salamander, *Eurycea waterlooensis*, a candidate for endangered listing under the federal Endangered Species Act.

The District is entitled to petition for rulemaking under Texas Gov't Code § 2001.021 and Commission Rule 30 Tex. Admin. Code § 20.15. The address of the District is 1124 Regal Row, Austin, Texas 78748. The District's Board of Directors adopted a resolution authorizing this Petition. A copy of the Resolution is attached as Exhibit "A".

The City is entitled to petition for rulemaking under Texas Gov't Code § 2001.021 and Commission Rule 30 Tex. Admin. Code § 20.15. The address of the City is 301 West 2nd Street, Austin, Texas 78767.

II. EXPLANATION OF PROPOSED RULE

Petitioners propose the adoption of a new subchapter in Chapter 311 of the TCEQ's rules entitled "Water Quality Management of the Onion Creek and Barton Creek Watersheds." A copy of the proposed rule is attached as Exhibit "B." The proposed rule defines water quality areas and watersheds of Onion and Barton Creeks and prohibits the discharge of pollutants into these water quality areas. Any new or expanded wastewater treatment facilities in the water quality areas would be allowed disposal without discharge so long as the facility satisfies specific requirements, including achieving effluent treatment that meets or exceeds: 5 mg/l carbonaceous biochemical oxygen demand; 5 mg/l total suspended solids; 2 mg/l ammonia nitrogen; and, 1 mg/l total phosphorus. Currently permitted facilities may continue to operate under existing permits and may apply for renewal of the permits unless the facility is noncompliant. Permit renewals of noncompliant facilities and permit amendments resulting in additional treatment capacity will require disposal without discharge. Storm water and specifically listed non-storm

water discharges may be authorized by permit. Applicants for a wastewater permit must demonstrate that a proposed centralized treatment system is advantageous over a modern de-centralized system.

III. TEXT OF THE PROPOSED RULE

The rule is proposed as new Subchapter I of Chapter 311. The new subchapter I consists of §§ 311.91-311.96. A copy of the proposed rule is attached as Exhibit "B." Because the proposed subchapter currently does not exist, all of the text would be newly-added to the Commission's rules.

IV. INJURY FOR FAILURE TO ADOPT THE PROPOSED RULE

At the time of filing of this petition, all wastewater from development in the contributing and recharge zones of the Barton Springs segment of the Edwards Aquifer is currently managed by methods other than direct discharge. While direct discharges in the recharge zone are prohibited by TCEQ rules, discharges in the contributing zone just upstream of the recharge zone are not prohibited. This is the water quality area where direct discharge is prohibited under the rule proposed by Petitioners. Unless prohibited by the adoption of the proposed rule, direct discharge in such an environmentally sensitive area from time to time and especially over the long-term will have definite detrimental impacts on the surface water quality and ecology of receiving streams in the contributing zone, the drinking water of the tens of thousand of groundwater users of the Edwards aquifers, and the water quality and endangered species of Barton Springs.

The tolerance for increases in nutrients of hill country streams, such as those in the Onion Creek and Barton Creek watersheds, is extremely low. Even under designed operating

conditions, treatment plants can substantially increase both nitrogen and phosphorus species over background concentrations in receiving stream waters. These increases will likely and not infrequently lead to eutrophic and/or anoxic surface and subsurface water conditions during extended periods of time, and therefore to both nuisance and human health concerns in the groundwater-based drinking water supplies. Studies by the District, the City, the USGS, and others indicate there is ample, supportable reason to believe that water quality degradation and current uses will be significantly impaired, on both a continuing and episodic basis, from discharges into the water quality areas defined under the proposed rule. Current TCEQ modeling of such proposed discharges only addresses the direct, near-term effects of the discharges under steady-state and as-designed effluent quality, and it does not take into account cumulative, secondary, long-term effects on water quality of the ponds and streams, even though they are just upstream of the Aquifer's recharge zone. Without adoption of the proposed rule, future development in these watersheds will lead to discharges and degradation of water quality. With the adoption of the proposed rule, domestic wastewater treatment facilities in the water quality area will use an alternative "no discharge" disposal method to dispose of treated effluent that has been proven to be effective in protecting water quality in these hill country watersheds if properly sited, designed, and operated under a Texas Land Application Permit.

Creeks and streams in the Onion Creek and Barton Creek Watersheds (e.g. Onion, Bear/Little Bear, Slaughter, and Barton Creeks) are the primary streams recharging the Aquifer. Once the water moves into the Aquifer in the recharge zone, it is fairly rapidly transmitted through the Aquifer. The rapid movement of effluent, whether treated-as-designed, partially (i.e., more poorly) treated, or in a not-inconceivable worst case of raw (untreated) sewage, from the recharge areas to discharge areas at Barton Springs could result in the introduction of

contaminants and pathogens, jeopardizing swimmer's health and the health and habitat of the flora and fauna of the Barton Springs complex. Even more, dissolved oxygen will decrease in absence of re-aeration in the subsurface resulting in some hydrochemical changes that exacerbate both aesthetic, i.e., taste and odor, and human health problems. During extreme drought, the dissolved oxygen content of the water discharging at Barton Springs, which under such conditions is already marginally low for the survival of the endangered salamanders that live in the Springs complex, will be further reduced, either by residual oxygen demand from the discharge that may exist from time to time, or by secondary oxygen demand created by decaying biological growth that will be induced by discharges.[1] The proposed rule, if adopted, would reduce the opportunity for problematic water recharging the Aquifer and minimize the detrimental effects caused by the recharge of effluent, while still allowing the socioeconomic and other benefits of sustainable development in the watersheds.

V. CONCLUSION

The Petitioners request that the Commission initiate rulemaking proceedings as soon as possible to prohibit discharges into the Onion Creek and Barton Creek water quality areas. The Petitioners request that the Commission adopt the proposed rule attached as Exhibit "B" to this Petition.

Dr. Robert D. Larsen, President
Barton Springs/Edwards Aquifer
Conservation District

[1] The District's Habitat Conservation Plan studies show that even a small change in DO at Barton Springs attributed to the discharge and its consequent effects could have very disproportionate, negative effects on the salamanders during very low spring flow conditions that accompany an extreme drought.

Marc A. Ott, City Manager
City of Austin

EXHIBIT "A"

STATE OF TEXAS	§	
	§	**RESOLUTION #080925-01**
COUNTIES OF HAYS, TRAVIS	§	
BASTROP, AND CALDWELL	§	

A RESOLUTION OF THE BOARD OF DIRECTORS OF THE BARTON SPRINGS / EDWARDS AQUIFER CONSERVATION DISTRICT AUTHORIZING AND REQEUESTING CONSIDERATION OF A PETITION TO THE TEXAS COMMISSION ON ENVIROMENTAL QUALITY FOR A RULE TO PROHIBIT DIRECT DISCHARGE OF TREATED EFFLUENT INTO THE BARTON CREEK AND ONION CREEK WATERSHEDS IN THE CONTRIBUTING ZONE OF THE BARTON SPRINGS SEGMENT OF THE EDWARDS AQUIFER

WHEREAS, the Barton Springs/Edwards Aquifer Conservation District (the District) is a Groundwater Conservation District created by an act of the 70th Legislature and subject to various requirements of State Law governing groundwater districts, including Texas Water Code Chapter 36; and

WHEREAS, the District was established for the purpose of providing for the conservation, preservation, protection, recharging and prevention of waste of groundwater and of groundwater reservoirs in the Barton Springs segment of the Edwards Aquifer (Aquifer); and

WHEREAS, the District depends on multiple local and state political jurisdictions to work cooperatively and effectively to assure that the water recharging the Aquifer is of the highest quality possible; and

WHEREAS, the Texas Commission on Environmental Quality (TCEQ) mission statement provides that TCEQ strives to protect our state's natural resources consistent with sustainable economic development; and

WHEREAS, TCEQ's philosophy states that to accomplish their mission the agency will base decisions on the law, common sense, good science, and fiscal responsibility; and

WHEREAS, TCEQ is a regulatory body having rule-making authority and enforcement of the Edwards Rules for development proposed over the Edwards Aquifer and of the Watershed Rules for watercourses that supply water to the Edwards Aquifer; and

WHEREAS, the Barton Springs Segment of the Edwards Aquifer (Aquifer) is a unique underground system of water-bearing formations in Central Texas, wherein water enters the Aquifer through the ground as surface stream inflow and rainfall infiltration, is rapidly

transported in the subsurface by solution conduits and intrinsic permeability of the rock, and leaves the Aquifer through well withdrawals and spring flow; and

WHEREAS, the Aquifer is either a sole source or primary source of drinking water for tens of thousands of people and is a vital resource to the general economy and welfare of the City of Austin and the State of Texas; and

WHEREAS, the complex of springs known as Barton Springs is the direct natural outlet for water flowing through the Aquifer; and

WHEREAS, Barton Springs provides the only known habitat for the endangered Barton Springs salamander, *Eurycea sosorum*, and the Austin blind salamander, *Eurycea waterlooensis*, a candidate for endangered listing under the federal Endangered Species Act; and

WHEREAS, the Edwards Rules prohibit direct discharge of pollutant-loaded effluent in the Recharge Zone of the Aquifer, but the Edwards Rules do not prohibit the direct discharge in the contributing watersheds of Barton Creek and Onion Creek in the Contributing Zone just upstream of the Recharge Zone of the Aquifer; and

WHEREAS, creek flow from the Barton Creek and Onion Creek watersheds directly and rapidly recharge the Barton Springs segment of the Edwards Aquifer, offering very little opportunity for assimilation and dilution of contaminants in the subsurface before discharging at Barton Springs; and

WHEREAS, direct discharges into the Barton Creek and Onion Creek watersheds in the Contributing Zone of the Aquifer, which are typically dry for most of the year, would create an effluent-dominated stream a relatively short distance up-gradient of the Recharge Zone of the Aquifer; and

WHEREAS, wastewater treatment facilities may experience "upset conditions" that could cause the effluent quality to have substantial excursions from its designed performance on a not-infrequent basis and potentially even further degrade the Aquifer and Barton Springs; and

WHEREAS, there are no other domestic wastewater treatment facilities currently permitted for direct discharge into the Barton Creek and Onion Creek watersheds and all other developments in this region successfully use an alternative "no discharge" disposal method to dispose of treated effluent; and

WHEREAS, scientific analysis and modeling efforts have demonstrated that the proposed discharge of treated sewage from even a properly operating advanced treatment facility will from time to time and especially over the long term cause substantial degradation of the Aquifer and of Barton Springs and its endangered species habitat; and

WHEREAS, the District Board of Directors, at its regularly scheduled Board meeting on August 28, 2008, directed staff to develop a rule-making petition to be submitted to the TCEQ to request rule making to prohibit certain direct discharges in the Barton Creek and Onion Creek watersheds in the Contributing Zone of the Aquifer:

NOW, THEREFORE, BE IT RESOLVED by the Board of Directors of the Barton Springs/Edwards Aquifer Conservation District that the governing body of the District authorizes and formally requests consideration by the Texas Commission on Environmental Quality of a District-submitted rule-making petition that would prohibit direct discharge to the Barton Creek and Onion Creek Watersheds in the Contributing Zone of the Barton Springs segment of the Edwards Aquifer.

In Favor 5 Opposed 0

PASSED AND APPROVED THIS 25th DAY OF SEPTEMBER, 2008.

Dr. Robert Larsen, President

ATTEST:

Craig Smith, Secretary

EXHIBIT "B"
PROPOSED RULE UNDER
BARTON SPRINGS/EDWARDS AQUIFER CONSERVATION DISTRICT AND CITY OF AUSTIN
RULEMAKING PETITION

PROPOSED-ALL NEW TEXT TO BE ADDED AS FOLLOWS:

SUBCHAPTER I: WATER QUALITY MANAGEMENT OF THE ONION CREEK AND BARTON CREEK WATERSHEDS
§§ 311.91 - 311.96

§ 311.91. Definitions.

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

(1) **"Onion Creek Water Quality Area"** - Those portions of the Onion Creek Watershed from the headwaters of Onion Creek and its tributaries to the eastern boundary of the recharge zone of the Edwards Aquifer.

(2) **"Onion Creek Watershed"** - Onion Creek and its tributaries located from the confluence with the impounded Colorado River in Travis County to the most upstream crossing of FM 165 in Blanco County (Stream Segment 1427), plus the area drained by its tributaries above that point.

(3) **"Barton Creek Water Quality Area"** - Those portions of the Barton Creek Watershed from the headwaters of Barton Creek and its tributaries to its confluence with the impounded Colorado River.

(4) **"Barton Creek Watershed"** - Barton Creek and its tributaries located from the confluence with the impounded Colorado River in Travis County to FM 12 in Hays County (Stream Segment 1430), plus the area drained by its tributaries above that point.

§ 311.92. No Discharge of Pollutants.

There shall be no discharge of pollutants into the Onion Creek Water Quality Area or the Barton Creek Water Quality Area, except as provided in these sections.

§ 311.93. Wastewater Treatment and Disposal Systems in the Water Quality Areas.

The provisions of this Subchapter I are specific to the Onion Creek and Barton Creek Water Quality Areas and shall supersede any of the relevant provisions of Subchapter E of this Chapter (relating to the Colorado River Watershed) and §213.6 of this title (relating to Wastewater Treatment and Disposal Systems over the Edwards Aquifer) that would otherwise be applicable to these Water Quality Areas.

(a) Any proposed new or expanded wastewater treatment and disposal system facilities or permittees who apply for increases in their permitted effluent flows in the Onion Creek and Barton Creek Water Quality Areas may be permitted only if it provides for disposal without discharge to waters of the state and in accordance with the following requirements:

(1) Wastewater treatment plants must be operated such that there are no bypasses of the treatment facilities or any discharges of untreated or partially treated wastewater.

(2) Wastewater treatment plants and storage ponds must be designed, constructed, and operated in accordance with the applicable provisions of Chapter 317 (relating to Design Criteria for Sewage Systems), including but not limited to §317.10(c) (relating to Appendix B - Land Disposal of Sewage Effluent); and Chapter 222 (relating to Subsurface Area Drip Dispersal Systems) of this title.

(3) Domestic wastewater disposal systems shall achieve, at a minimum, the following level of effluent treatment prior to discharge to the storage ponds, the surface spray dispersal system, or the subsurface drip dispersal system:

(A) five milligrams per liter of carbonaceous biochemical oxygen demand, based on a 30-day average;

(B) five milligrams per liter of total suspended solids, based on a 30-day average;

(C) two milligrams per liter of ammonia nitrogen, based on a 30-day average; and

(D) one milligram per liter of total phosphorus, based on a 30-day average.

(4) Any application for new industrial land-application permits shall be considered on a case-by-case basis in accordance with the appropriate effluent limitations applicable to that industrial activity.

(b) Except for licensed private sewerage facilities, land application systems that rely on percolation for wastewater disposal are prohibited in the Onion Creek and Barton Creek Water Quality Areas.

§ 311.94. Existing Facilities in Water Quality Areas.

(a) Any currently permitted treatment facility in the Onion Creek or Barton Creek Water Quality Areas may continue operation in accordance with the terms and conditions of the existing permit for the facility and can apply for renewal of the permit unless the facility

becomes substantially noncompliant as defined in Chapter 70 of this title or an expansion of the treatment facility is included in the application for renewal.

(b) Any modification of a facility that requires a permit amendment, including but not limited to permittees who apply for increases in their permitted effluent flows, and which results in additional treatment capacity will also require treatment as described in §311.93 of this title (relating to Wastewater Treatment and Disposal Systems) for the total wastewater flow from the permitted facility.

(c) Any permitted facility not meeting its permit limitations will be subject to amendment as described in §305.62 of this title (relating to Amendment) in order to impose permit limitations consistent with §311.93 of this title (relating to Wastewater Disposal).

§ 311.95. Allowable Storm Water Runoff and Certain Non-Storm Water Discharges.

(a) The following discharges of storm water runoff in the Onion Creek or Barton Creek Water Quality Area may be authorized by a Texas pollutant discharge elimination system (TPDES) permit or a national pollutant discharge elimination system (NPDES) permit:

(1) storm water runoff from industrial facilities;

(2) storm water runoff from municipal separate storm sewer systems; and

(3) storm water runoff from construction activities.

(b) The following non-storm water discharges may be authorized by a TPDES permit or a NPDES permit:

(1) discharges from fire fighting activities;

(2) discharges from fire hydrant flushings;

(3) discharges from potable water sources, including drinking fountain water and water line flushings;

(4) discharges from uncontaminated air conditioning or compressor condensate;

(5) discharges from lawn watering and similar irrigation drainage;

(6) discharges from pavement wash down without the use of detergents or other chemicals and where spills or leaks of toxic or hazardous materials have not occurred (unless all spilled material has been removed);

(7) discharges from a routine external building wash down that do not use detergents or other compounds;

(8) discharges from uncontaminated groundwater or spring water;

(9) discharges from foundation or footing drains where flows are not contaminated with process materials such as solvents;

(10) discharges from the spray down of lumber and wood product storage yards where no chemical additives are used in the spray down waters and no chemicals are applied to the wood during storage; and

(11) discharge of storm water or groundwater seepage from mine dewatering activities at construction, sand and gravel, industrial sand, or crushed stone mining facilities.

(c) Nothing in this subchapter is intended to restrict the powers of the commission or any other governmental entity to prevent, correct, or curtail activities that result or may result in pollution in the water quality area. In addition to the rules of the commission, a TPDES permit applicant may also be required to comply with local pollution control ordinances and regulations.

§ 311.96. Alternative Treatment Systems Considered.

Applicants for a wastewater permit under this section shall demonstrate, using appropriate engineering and economic analysis and to the satisfaction of the Executive Director, why the proposed centralized sewerage system for the project is more advantageous to preserving water quality of the receiving stream and minimizing overall water use in the Water Quality Area than a de-centralized system using individual or clustered, high-performance, on-site systems other than septic tanks.