



Agenda item 3b

ITEM FOR ENVIRONMENTAL BOARD AGENDA

BOARD MEETING

DATE REQUESTED: October 5, 2011

NAME & NUMBER OF PROJECT: HARRIS BRANCH INTERCEPTOR LOWER A (SP-2010-0338D)

NAME OF APPLICANT Raymond Chan & Associates on behalf of the City of Austin

OR ORGANIZATION: (Tom Curran, 480-8155)

LOCATION: 11949 Arlington Mill Road

PROJECT FILING DATE: November 22, 2010

WPDR/ENVIRONMENTAL STAFF: Brad Jackson, 974-3410
brad.jackson@austintexas.gov

**WPDR/
CASE MANAGER:** Sarah Graham, 974-2826
Sarah.graham@austintexas.gov

WATERSHED: Harris Branch Creek (Suburban)
Desired Development Zone

ORDINANCE: Comprehensive Watershed Ordinance (Current Code)

REQUEST: Variance request is as follows:
1. To allow construction in a Critical Water Quality Zone (LDC Section 25-8-361) for the extension of a wastewater line.

STAFF RECOMMENDATION: Recommended for consent.

**REASONS FOR
RECOMMENDATION:** Findings-of-fact have been met.



MEMORANDUM

TO: Betty Baker, Chairperson
Members of the Zoning and Platting Commission

FROM: Brad Jackson, Senior Environmental Reviewer
Planning and Development Review Department

DATE: October 5, 2011

SUBJECT: Harris Branch Interceptor Lower A (SP-2010-0338D)
11949 Arlington Mill Road

Variance Requests: Variance from LDC 25-8-361(A) to allow a wastewater line to be constructed within a Critical Water Quality Zone.

The applicant (Austin Water Utility) is proposing a 9,514 linear foot, 30-inch wastewater line to add additional capacity for existing and future residential and commercial development within the vicinity of the Harris Branch Wastewater Treatment Plant.

Description of Project Area

This 22-acre limits of construction Public Works project is situated predominantly in the COA 2-mile ETJ, with a small portion in the Full-Purpose Jurisdiction. The site is located within the Harris Branch Creek and Gilleland Creek Watersheds, which are classified as Suburban. Topographically, the site is relatively flat, with elevations ranging from 530 feet to 600 feet above sea level. The project is an underground utility and therefore has no impervious cover proposed. Due to the flat topography, the project area has an extremely large floodplain, placing the CWQZ at up to 400 feet from the centerline of Harris Branch Creek in some places. Because of this extremely large floodplain and CWQZ, various alternative alignments to stay completely out of the CWQZ were not feasible and the variance requested is required.

The wastewater line will cross Harris Branch Creek twice in its nearly 2 mile length. Both crossings will be bored under the banks and center channel of the creek to preserve the riparian corridor. The wastewater line will begin at a location about 800 feet southeast of the crossing of Harris Branch Parkway over Harris Branch Creek. The line then will proceed east and go under Boyce Lane and turn 90 degrees north to cross Harris Branch Creek. The alignment then turns northeast and crosses Parmer Lane and continues east another 4,000 feet, where it turns 90 degrees south and crosses Harris Branch Creek again. The alignment finally turns east again and ends approximately 125 feet west of SH 130.

The wastewater line will be installed in a permanent easement ranging from 30-60 feet in width. The alignment and depth proposed for the wastewater line has been determined to be outside of the Erosion Hazard Zone after a review by Morgan Byars with the City of Austin.

Vegetation and Geology

Common tree species occurring within this creek drainage area are pecan, cedar elm, American elm, hackberry, cottonwood, sycamore, and black willow. Invasives like mesquite, false willow and ligustrum were also found. Common understory vegetation included greenbriar, yaupon, bumelia, grape, and poison ivy.

According to the Soil Survey of Travis County, the site contains Ferris-Heiden complex soils (FhF3) that exhibit eroded 8-20 percent slopes; Heiden clay (HeC2 and HeD2) which exhibit 3-8 percent slopes; and Houston Black Clay (HnB) occurring in 1-3 percent slopes. All of these soils extend to depths exceeding 50 inches. The geology at this site is characterized by surficial outcrop of Cretaceous-aged Taylor Group. There were no faults found within the project area.

Critical Environmental Features

There are 5 wetland Critical Environmental Features (CEFs) associated with this project. They are labeled Wetland CEF W-1 through W-5. CEF W-1 (0.218 acres) will not be impacted because it will be bored under. CEF W-2 (0.036 acres) will not be directly impacted but the wastewater line will be within this features 50-foot reduced setback. CEF W-3 (0.011 acres) will also have construction within its 150-ft setback but no direct impact. CEF W-4 (0.696 acres) is considered a high quality wetland that is just south of the wastewater alignment. The wetland will not be directly impacted but there will be a receiving pit for the boring of the wastewater line within its 150-foot setback. CEF W-5 (0.124 acres) is a forested wetland that will be bored under to preserve the wetland, but may have impacts within its 50-foot reduced setback. All disturbance within the CEF setbacks will require City of Austin 609S native plantings and seeding as mitigation.

Water/Wastewater

This is a City of Austin Water Utility project.

Variance Requests

The variances being requested by this project are as follows:

1. **Variance from City Code Section LDC 25-8-361(A) to allow a wastewater line to be constructed within a Critical Water Quality Zone.**

On August 2, 2011, the applicant requested the above variance.

Recommendations

Staff recommends granting the variance request because the findings of fact have been met.

If you have any questions or need additional information, please feel free to contact me at 974-3410.

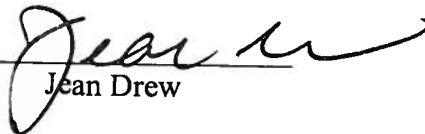


Brad Jackson, Senior Environmental Reviewer
Planning and Development Review

Environmental Program Coordinator


Ingrid McDonald

Watershed Protection:


Jean Drew

Similar Cases

Onion Creek, 24-Inch South Zone Water Transmission Main And 36-Inch Control Zone Water Transmission Main Relocation (SP-2008-0304D) requested a variance from LDC 25-8-392 to allow construction in the Critical Water Quality Zone to relocate a 24-inch and 36-inch water transmission line. Staff recommended the following condition:

Conditions

1. Revegetate all disturbed areas within the CWQZ with COA specification 609S for seeding and planting or other alternative as approved by the Environmental Resource Management Division.

The EV Board recommended approval with a vote of 7-0-0-0 on January 21, 2009.

The Zoning and Platting Commission approved this variance on February 3, 2009.



Planning & Development Review Department
Staff Recommendations Concerning Required Findings
Of Fact

Application Name: Harris Branch Interceptor Lower A
Application Case No: (SP-2010-0338D)

Code Reference: Land Development Code Section 25-8-361(A)

Variance Request: To allow a wastewater line within a Critical Water Quality Zone.

A. Land Use Commission variance determinations from Chapter 25-8, Subchapter A – Water Quality of the City Code:

1. The requirement will deprive the applicant of a privilege or the safety of property given to owners of other similarly situated property with approximately contemporaneous development.
***YES.** Other properties similarly situated with a classified waterway along the route of the utility line have been granted variances for minimum departures from the CWQZ restrictions. This wastewater line will be at least 200 feet from the creek in the areas where it is proposed to run parallel to the creek.*
2. The variance:
 - a) Is not based on a condition caused by the method chosen by the applicant to develop the property, unless the development method provides greater overall environmental protection than is achievable without the variance;
***YES.** The development is not based on a condition caused by the method chosen by the applicant to develop the property. Several alignments for the wastewater line were studied, and this alignment proposed best meets the requirements for cost and environmental protection.*
 - b) Is the minimum change necessary to avoid the deprivation of a privilege given to other property owners and to allow a reasonable use of the property;
***YES.** The alignment of the wastewater line travels within the CWQZ for the minimum distance after taking topographical constraints and environmental features into account.*
 - c) Does not create a significant probability of harmful environmental consequences; and

YES. *This variance does not directly create a significant probability of harmful environmental consequences. The wastewater line will be a minimum of 200 feet from the creek centerline except in the 2 areas of direct crossings of Harris Branch Creek. The trenching for the waterline will be protected with erosion controls.*

3. Development with the variance will result in water quality that is at least equal to the water quality achievable without the variance.

Yes. *The proposed project will result in water quality that is at least equal to the water quality achievable without the variance because the site will be providing excellent erosion controls during construction. The trench and bore pit spoils will be placed upslope of the trench and bore pits so any erosion will be caught within the pits.*

B. Additional Land Use Commission variance determinations for a requirement of Section 25-8-393 (Water Quality Transition Zone), Section 25-8-423 (Water Quality Transition Zone), Section 25-8-453 (Water Quality Transition Zone), or Article 7, Division 1 (Critical Water Quality Zone Restrictions):

1. The above criteria for granting a variance are met;

N/A

2. The requirement for which a variance is requested prevents a reasonable, economic use of the entire property; and

N/A

3. The variance is the minimum change necessary to allow a reasonable, economic use of the entire property.

N/A

Reviewer Name: Brad Jackson

Reviewer Signature:



Date: September 23, 2011

Staff may recommend approval of a variance after answering all applicable determinations in the affirmative (YES).

City of Austin Harris Branch Lower A Interceptor
Variance Request Findings of Fact

Variance Request from Section 25-8-361(A)

The Harris Branch Lower A Wastewater Interceptor project (SP-2010-0338D) is requesting a variance from Section 25-8-361(A) of the land development code. This section of the code reads as follows:

(A) A wastewater line is prohibited in a critical water quality zone, except for a necessary crossing.

(1) The Land Use Commission may grant a variance to the prohibition of this subsection. An applicant for a variance must provide an environmental assessment evaluating the effects of alternative sewer alignments.

(2) Except for a necessary crossing, a wastewater line in a critical water quality zone must be located outside the two-year flood plain unless approved by council.

As noted in our variance request letter, the Critical Water Quality Zone (CWQZ) along this section of Harris Branch has been cultivated or ranched for many years. While respecting the minimum 200-foot distance for a CWQZ along a major tributary, portions of the proposed wastewater line are inside the 100-year floodplain, and hence the CWQZ. The following responds to the Findings of Fact required to assist the Land Use Commission in granting a variance from the CWQZ restrictions.

1. The requirement will deprive the applicant of a privilege or the safety of property given to owners of other similarly situated property with approximately contemporaneous development.

Response: *This is a public utility project in an area predominately used for agriculture. It is difficult to compare it with other similarly situated property with contemporaneous development. The City of Austin has an existing 20-foot wastewater easement that is adjacent to Harris Branch along this proposed route, but the current easement location does not meet the intent of protecting the riparian corridor if a wastewater line were constructed within it, and portions would be within the 2-year floodplain. The proposed interceptor alignment is a minimum of 200-feet from the centerline of the creek, which meets the minimum setback requirements for a CWQZ of a major tributary. It is also outside of the two-year floodplain, other than when crossing the main channel, or crossing minor draws connecting to the mainstem. The interceptor alignment cannot follow the maximum width of the CWQZ (400-feet from the creek centerline, or follow the non-linear boundary of the floodplain, and maintain adequate depth at the creek crossings (below the erosion hazard zone).*

2. the variance:

- a. is not based on a condition caused by the method chosen by the applicant to develop the property, unless the development method provides greater overall environmental protection than is achievable without the variance.

Response: *This variance is not based on any condition caused by the method chosen by the applicant. Overall we believe that the route chosen, along with the construction method (trenchless installation in areas in and around environmental features) does provide greater environmental protection. There are areas along the route in which moving further away from the Harris Branch would disturb more native and environmentally sensitive land, instead of cultivated or ranched land.*

- b. Is the minimum change necessary to avoid the deprivation of a privilege given to other property owners and to allow a reasonable use of the property; and

Response: *The proposed alignment allows the reasonable use of the properties the utility traverses as it doesn't occupy developable land. The alignment also provides easy wastewater connection access on both the north and south sides of Harris Branch.*

- c. Does not create a significant probability of harmful environmental consequences, and

Response: *As stated previously, the proposed wastewater interceptor alignment maintains a distance of 200-feet or greater from the centerline of Harris Branch creek. The proposed alignment does not disturb an established riparian area, but land disturbed by years of ranching and farming. The variance does not create a probability of harmful environmental consequence.*

3. development with the variance will result in water quality that is at least equal to the water quality achievable without the variance.

Response: *Given the land use history, the construction of the wastewater utility will not reduce the water quality provided erosion and sedimentation controls during construction and post construction are maintained until revegetation is established. The variance will result in water quality that is at least equal to the water quality achievable without the variance.*

- (B) The Land Use Commission may grant a variance from a requirement of Section 25-8-393 (Water Quality Transition Zone), Section 25-8-423 (Water Quality Transition Zone), Section 25-8-453 (Water Quality Transition Zone), or Article 7, Division 1 (Critical Water Quality Zone Restrictions) after determining that:

1. the criteria from granting a variance in Subsection (A) are met;

Response: *see above*

2. the requirement for which a variance is requested prevents a reasonable, economic use of the entire property, and

Response: *The proposed location of the interceptor does not affect the location of the CWQZ when the land is developed in the future. Therefore this area will remain undeveloped as the land use changes from agriculture to a sub-urban use.*

3. the variance is the minimum change necessary to allow a reasonable, economic use of the entire property

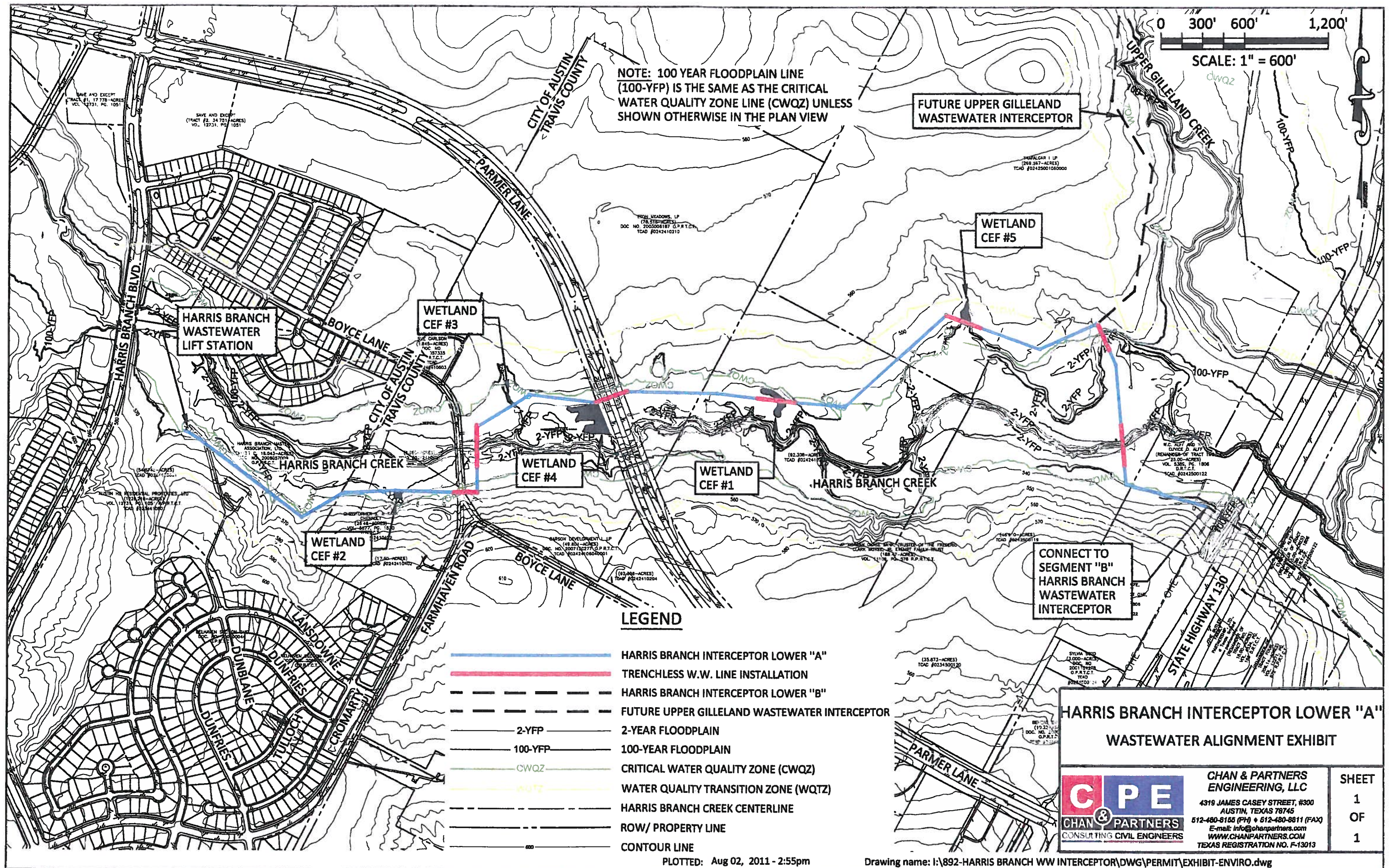
Response: *The proposed location of the interceptor does not change the CWQZ for future development. Therefore the economic use of the properties is not changed by this variance.*

- (C) The Land Use Commission may not grant a variance from a requirement of Article 12 (Save Our Springs Initiative)

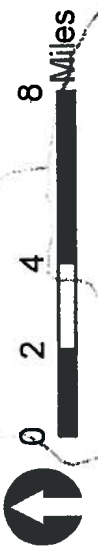
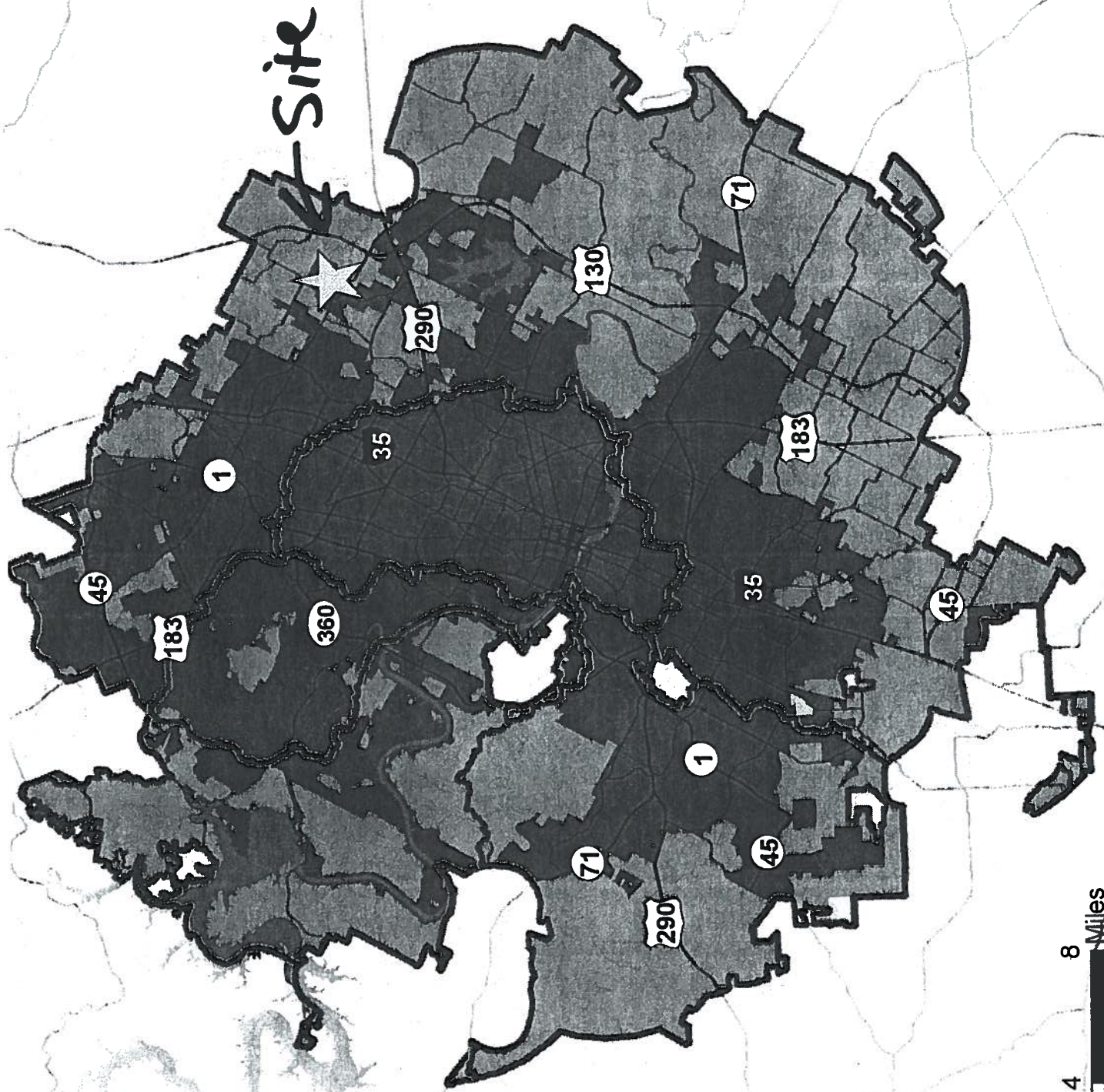
Response: *This project is not within the Edwards' Aquifer area subject to Article 12.*

- (D) The Land Use Commission shall prepare written findings of fact to support the grant or denial of a variance request under this section.

Response: *This document is to assist the Land Use Commission in preparing the findings of fact.*





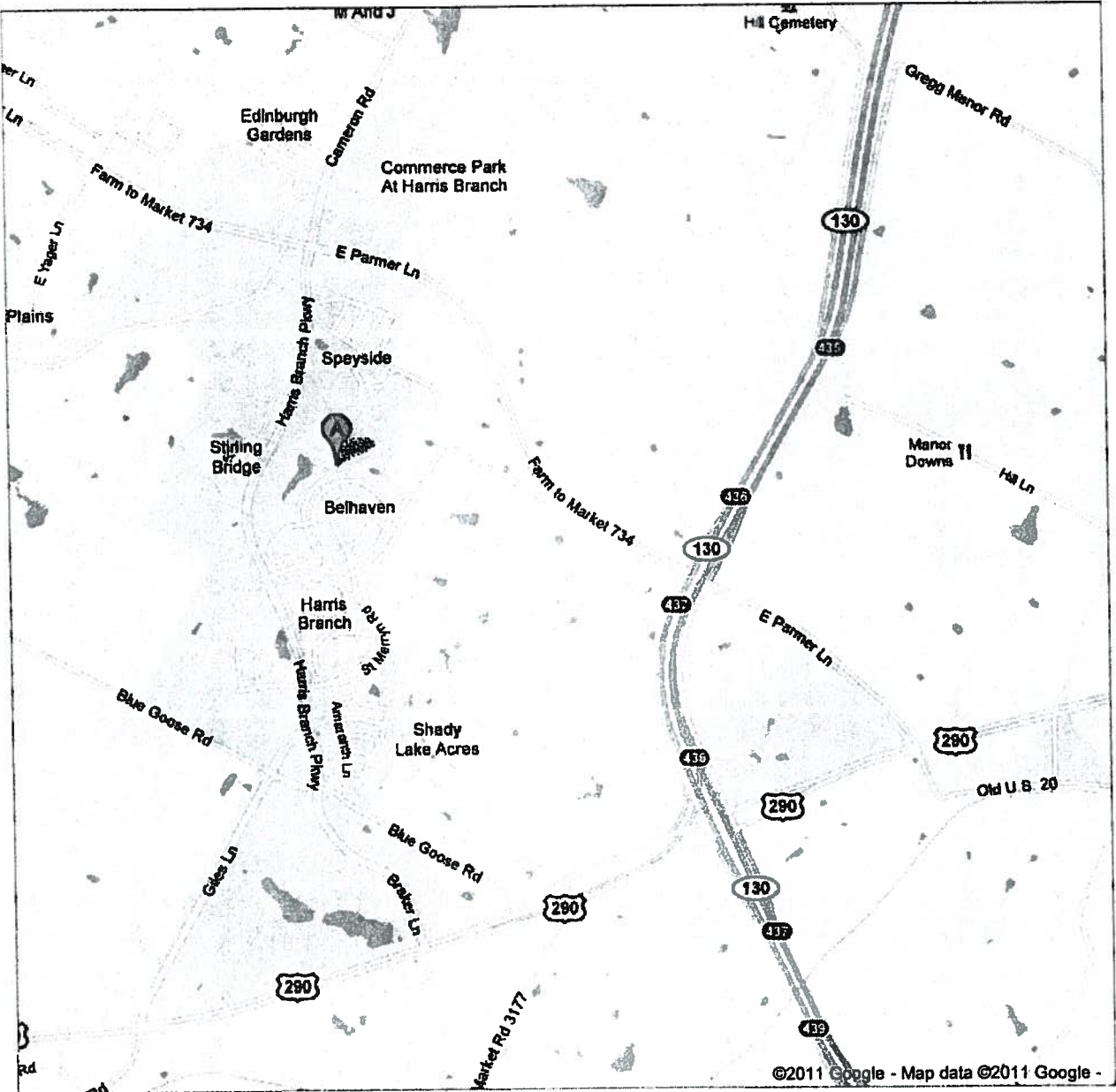



Driving Directions to Harris Branch Interceptor Lower A

From One Texas Center, take Barton Springs Road east towards Riverside Drive. Turn right onto Riverside Drive and head east. At IH 35, turn left and head north on IH 35. Exit 290 and head east until Harris Branch Parkway. Take a left onto Harris Branch Parkway and head north about one mile and turn right onto Farmhaven Road. Take a left onto Lansdowne Road and then a left onto Arlington Mill Road. The wastewater line will start at the dead end of Arlington Mill Road.

Google maps Address Arlington Mill Rd
Austin, TX 78754

Get Google Maps on your phone
Text the word "GMAPS" to 466453



14



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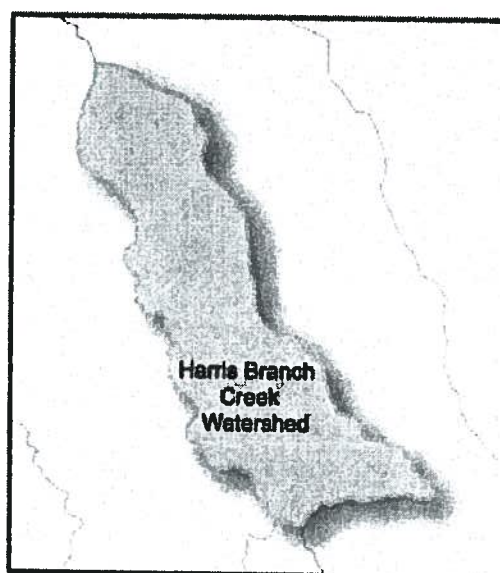
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Austin's Watersheds

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Fast Facts

Population	2000: 10,173
	2030: 23,867
Creek Length	11 miles
Drainage Area	11 square miles
Drains To	Gilleland Creek
Well Known Sites	Dessau Elementary and Middle School
Land Use	Residential 28%
	Business 4%
	Civic 1%
	Parks 0%
	Roadways 4%
	Undeveloped 63%

15

Watershed Facts

- In response to citizen complaints, investigators find an average of six pollution spills each year in Harris Branch Creek; the most common spill type is petroleum, followed by wastewater.
- Though several sections of this creek are filled with trash, some areas are still in their natural condition.
- Before development began over the past few years, Harris Branch Creek ran through farmlands and pastures.
- Although Harris Branch watershed has a small drainage area, the creek continues to flow throughout the year because of treated discharge from a wastewater treatment plant.

Return to Top

Creek Assessments

Environmental

Index	Score	Category	Notes
Overall Score	61	Fair	Harris Branch ranks 26 out of 46 watersheds in overall quality
Water Chemistry	34	Poor	Water quality is poor, ammonia is high, nitrate is very high, conductivity is high, orthophosphorus is very high, suspended solids are high
Sediment Quality	84	Very Good	PAHs are very low, herbicides/pesticides are very low, metals are very low
Recreation	82	Very Good	During dry weather conditions, bacteria is not a threat
Aesthetics	55	Fair	Litter is very bad, noticeable offensive odor, algae covers 10-20% of creek, water is slightly cloudy
Habitat	61	Fair	Increased sediment deposition, some channel alteration, bank stability is marginal, buffer zone is small
Aquatic Life	51	Fair	Benthic macroinvertebrate community is good, diatom community is fair

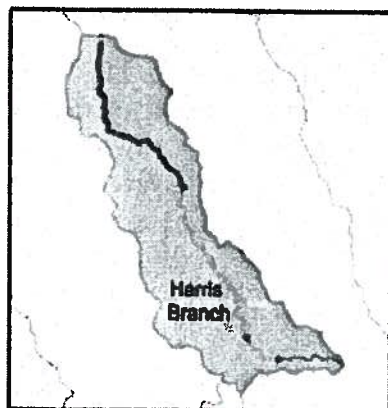
- Habitat scores improved in Harris Branch more than other watersheds in the City.
- Wastewater treatment plant discharges artificially enhance biological communities and contribute to poorer water quality conditions.

16

- Silt and sedimentation may be impacting diatom community.

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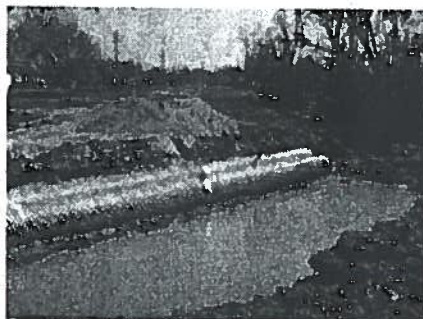


Environmental scores are based on a full range of chemical, biological, and physical assessments.



[Return to Top](#)

Photo Gallery



Harris Branch Creek
at Crystal Bend Drive



Harris Branch Creek
at Crystal Bend Drive



Harris Branch Creek
at Cameron Road



Harris Branch Creek at Boyce Lane



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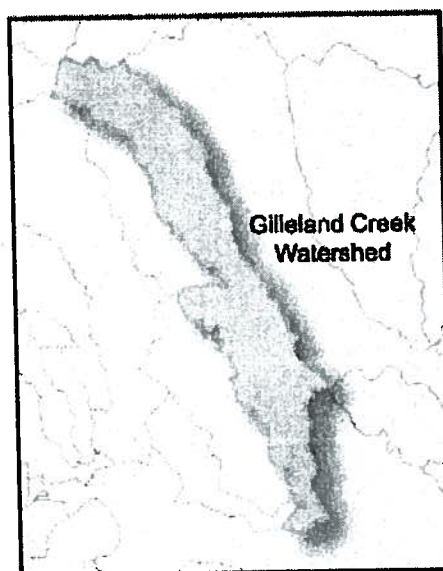
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Austin's Watersheds



Gilleland Creek
Watershed

[Fast Facts](#)[Environmental Creek Assessments](#)[Photo Gallery](#)

Fast Facts

Population	2000: 26,586	
	2030: 61,664	
Creek Length	62 miles	
Drainage Area	39 square miles	
Drains To	Colorado River east of Austin	
Well Known Sites	Pfluger Park , Gilleland Creek Park	
Land Use	Residential	13%
	Business	3%
	Civic	1%
	Parks	1%
	Roadways	4%
	Undeveloped	78%

18

Watershed Facts

- The Creek was named for James Gilleland, who died in 1839 after being gravely wounded by a musket ball between the shoulder and neck in the battle of Brushy Creek. He was buried close to Gilleland Creek.
- Elm and Decker Creeks flow into Gilleland Creek near the Colorado River
- In response to citizen complaints, investigators find an average of eight pollution spills each year in Gilleland Creek; the most common spill type is sewage, followed by petroleum.
- Gilleland Creek begins near Pflugerville and receives a large amount of its flow from wastewater discharges from the City of Pflugerville. This high nutrient treated effluent provides perennial flow for the creek but also severely limits its biological health.

Return to Top

Creek Assessments**Environmental**

Index	Score	Category	Notes
Overall Score	70	Good	Gilleland ranks 11 out of 46 watersheds in overall quality
Water Chemistry	36	Poor	Water quality is poor, ammonia is high, nitrate is high, conductivity is high, orthophosphorus is high, suspended solids are high
Sediment Quality	87	Very Good	PAHs are very low, herbicides/pesticides are very low, metals are very low
Recreation	88	Excellent	During dry weather conditions, bacteria is not a threat
Aesthetics	76	Very Good	Some litter present, no odor, algae covers 10-20% of creek
Habitat	65	Good	Some sediment deposition, some channel alteration, bank stability is marginal
Aquatic Life	65	Good	Benthic macroinvertebrate community is good, diatom community is good

- Gilleland has historically been impacted by agricultural activities, but is now experiencing more urban development.
- Portions of Gilleland Creek are listed on the State 303(d) List of Impaired Waterbodies for elevated bacteria.
- Portions of Gilleland Creek are listed on the State Water Quality Inventory as

19

being of concern for ammonia and nitrate/nitrite enrichment.

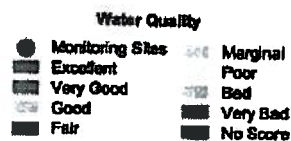
- Silt and sedimentation may be impacting aquatic life.
- Wastewater effluent discharge and increasing residential development contributing to elevated nutrient and solids concentrations.
- Wastewater treatment plant discharges artificially enhance biological communities and contribute to poorer water quality conditions.

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Environmental scores are based on a full range of chemical, biological, and physical assessments.



[Return to Top](#)

Photo Gallery



Gilleland Creek at the
South Railroad Ave.



Gilleland Creek at Hill Cemetery

