

**CITY OF AUSTIN ENVIRONMENTAL ASSESSMENT  
FOR THE  
HEEP RANCH TRACTS I AND II**

Travis County, Texas

November 2009

Submitted to:

Stratford Company  
5949 Sherry Lane, Suite 1750  
Dallas, Texas 75225

By:

aci consulting  
1001 Mopac Circle  
Austin, Texas 78746

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## Environmental Assessment in Accordance with the City of Austin Land Development Code for Heep Ranch Tracts I and II Located in Travis County, Texas

November 10, 2009

### 1.0 PURPOSE

The purpose of this environmental assessment is to evaluate the Heep Ranch Tracts I and II, hereafter referred to as the subject area, in accordance with the City of Austin Land Development Code ("LDC") §25-8-121. Specifically, this assessment evaluates the subject area for the occurrence of critical environmental features (CEFs) as defined in the LDC and for potential endangered species habitat. A site investigation was performed by **aci consulting** scientists on November 2<sup>nd</sup> and 4<sup>th</sup>, 2009.

### 2.0 PROJECT DESCRIPTION

Tract I of the subject area is approximately 427 acres and is located at the northwest corner of the intersection of the IH 35 southbound frontage road and Puryear Road. Onion Creek forms the northern boundary of this tract. Tract II is approximately 175 acres and is located southwest of Tract I and due west of the intersection of Puryear Road and Old San Antonio Road. Refer to Figure 1 for the location of both tracts. The subject area is located within Travis County, Texas.

### 3.0 EXISTING ENVIRONMENT

#### 3.1 Hydrology

The subject area lies within the Onion Creek watershed and within the City's Suburban Watershed regulation area. According to Edwards aquifer recharge zone maps, the subject area is not within the recharge, transition, or contributing zone of the Edwards aquifer (TCEQ 2001).

The site is located along the eastern portion of the Barton Springs Segment of the Edwards aquifer. However, the site is underlain by the Austin Chalk and the Taylor Marl with some recent alluvial deposits (Figure 2), which are not known for significant karst development. Stormwater from the site is conveyed to a tributary of Onion Creek and conveyed east out of the Barton Springs Segment. In short, the site does not appear to provide direct recharge to the Barton Springs Segment nor does it convey stormwater to the recharge zone.

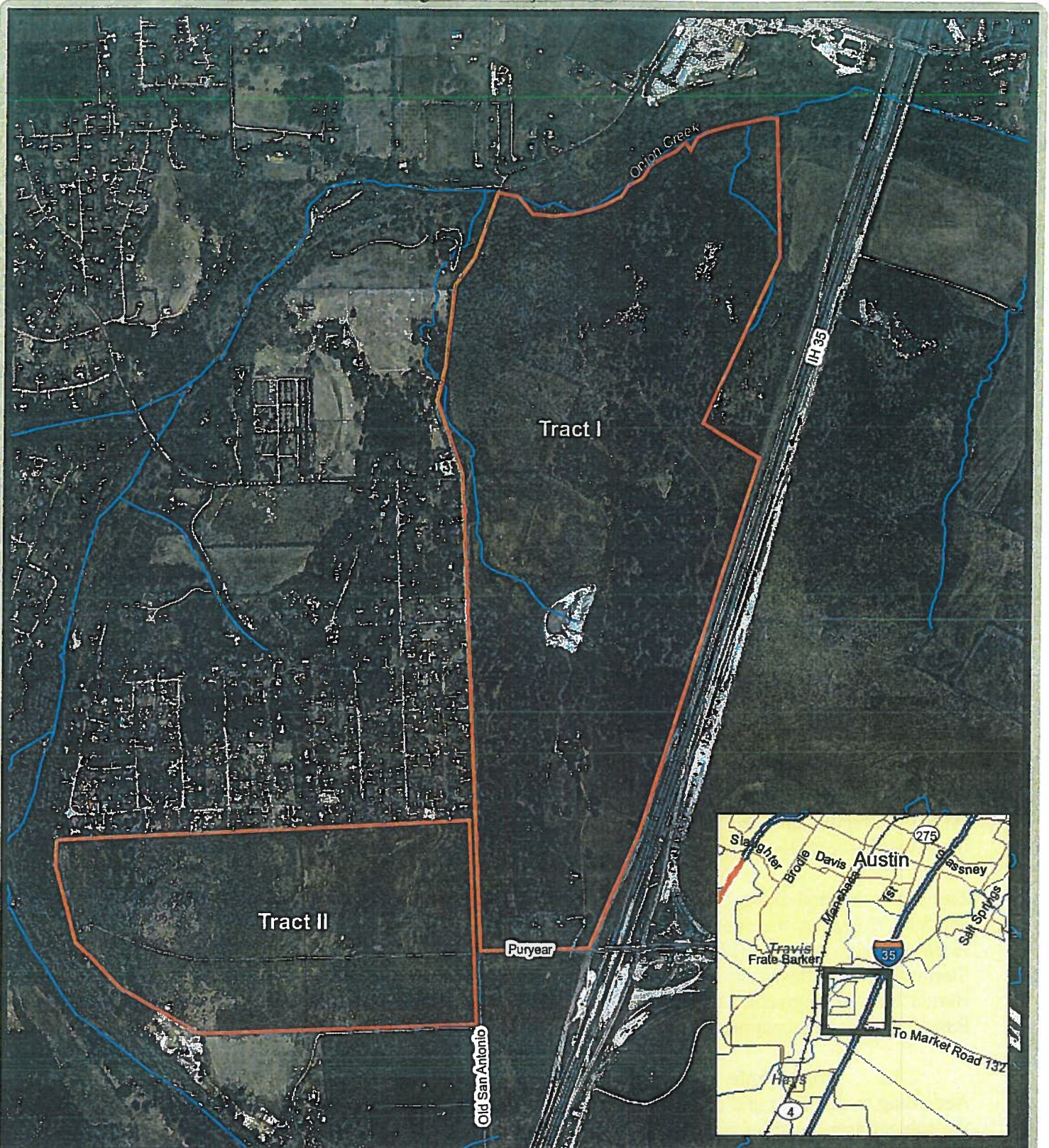
#### 3.2 Topography

According to the *Buda* and *Oak Hill* USGS 7.5-minute topographic quadrangles, the elevation of the subject area ranges from approximately 580 to 750 feet above mean sea level (Figure 3). Refer to Figure 4 for Federal Emergency Management Agency (FEMA) mapped floodplains and City of Austin Critical Water Quality Zone (CWQZ) within the subject area.



# Heep Ranch Tracts I and II City of Austin EA

## Figure 1 - Subject Area



This map is intended for planning purposes only. Base mapping compiled from best available information. All map data should be considered preliminary and all boundaries and designations are subject to confirmation. This map is conceptual in nature and does not represent any regulatory approval. Plan is subject to change.



1,320 660 0 1,320  
 Feet  
 1:15,840 1 inch equals 0.25 miles

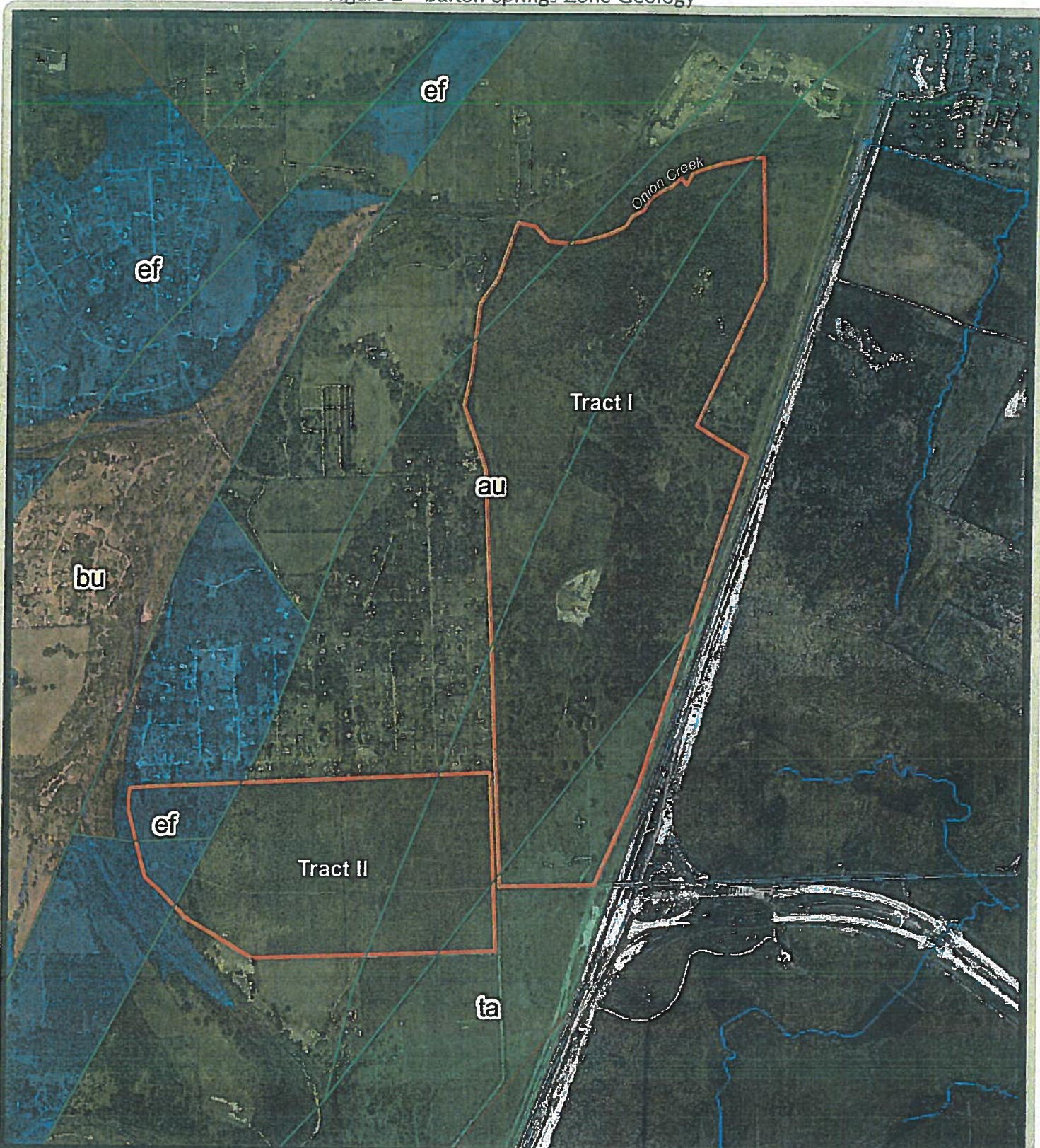
 Subject Area

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# Heep Ranch Tracts I and II City of Austin EA

Figure 2 - Barton Springs Zone Geology



This map is intended for planning purposes only. Base mapping compiled from best available information. All map data should be considered preliminary and all boundaries and designations are subject to confirmation. This map is conceptual in nature and does not represent any regulatory approval. Plan is subject to change.



1,500 750 0 1,500  
Feet  
1:18,000 1 inch equals 1,500 feet

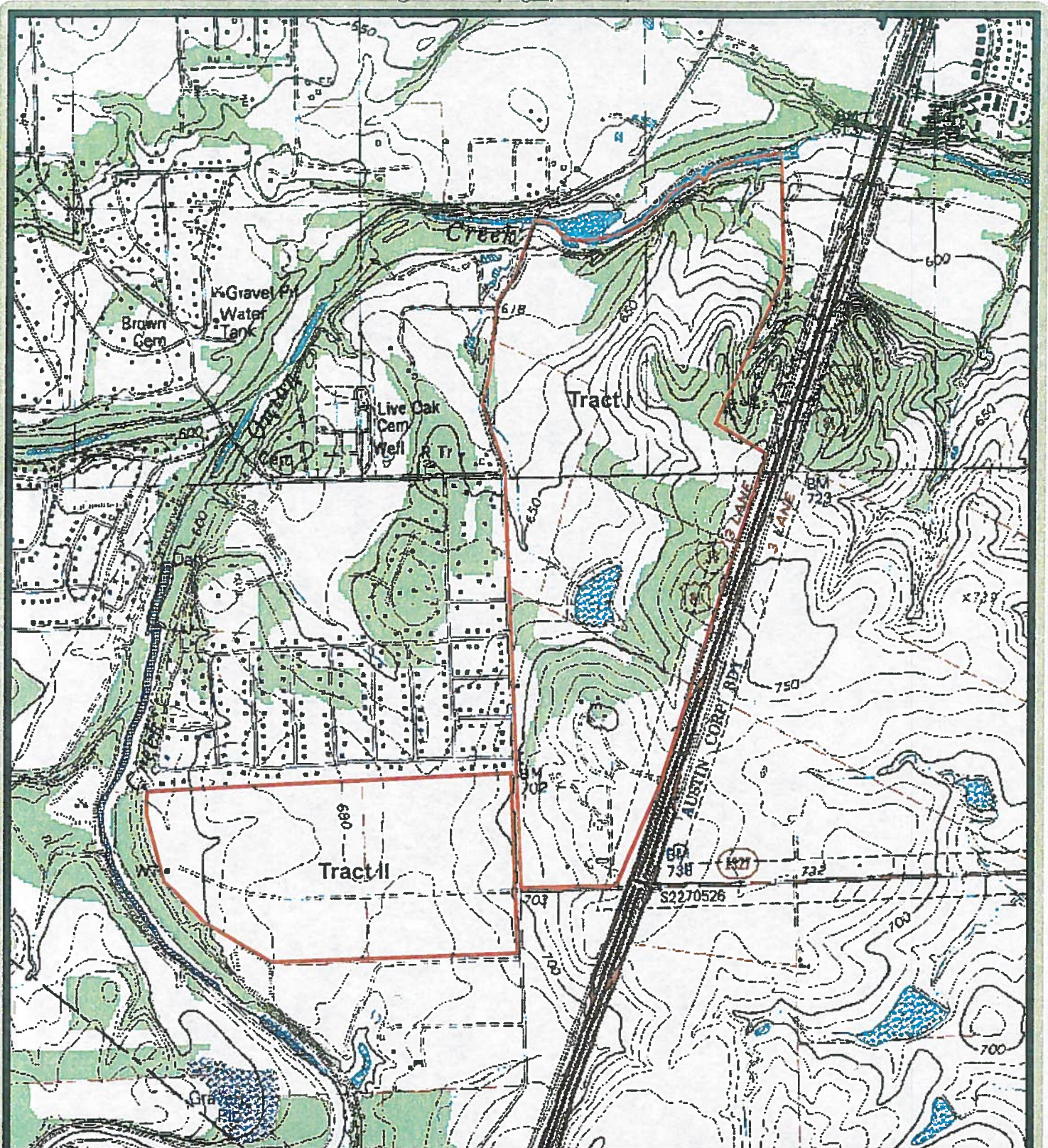
 Subject Area

  
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# Heep Ranch Tracts I and II City of Austin EA

## Figure 3 - Topographic Map



This map is intended for planning purposes only. Base mapping compiled from best available information. All map data should be considered preliminary and all boundaries and designations are subject to confirmation. This map is conceptual in nature and does not represent any regulatory approval. Plan is subject to change.



1,500 750 0 1,500  
Feet  
1:18,000 1 inch equals 1,500 feet

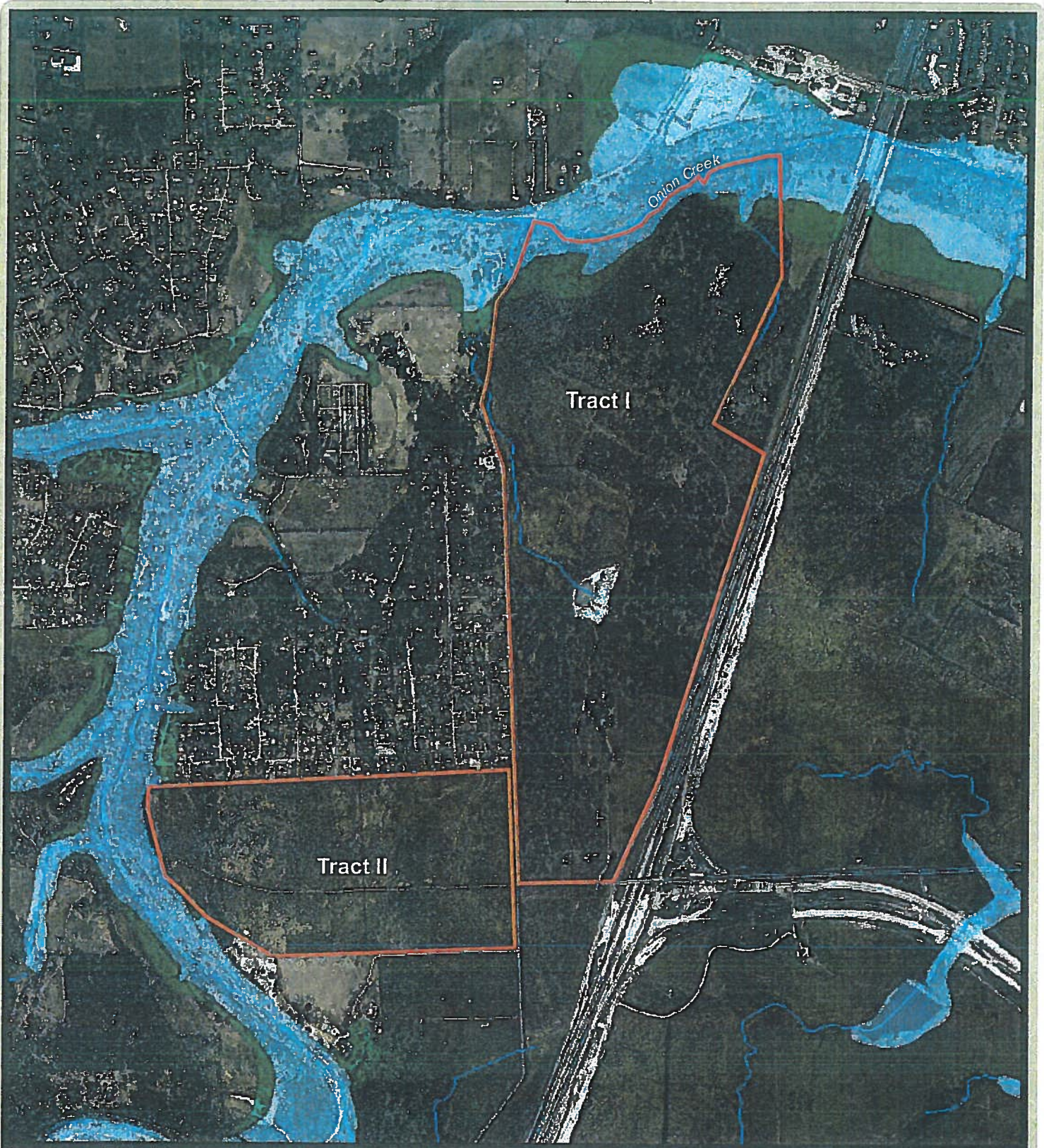
 Subject Area

  
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# Heep Ranch Tracts I and II City of Austin EA

Figure 4 - FEMA Floodplain Map



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1,500 750 0 1,500  
Feet  
1:18,000 1 inch equals 1,500 feet

Subject Area  
FEMA Floodplains  
100-year  
500-year

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### 3.3 Geology

According to Barnes (1974), the subject area is underlain by Austin Chalk (Kau), Eagle Ford (Kef), and Taylor Marl (Kta) with some recent alluvial deposits (Qt).

### 3.4 Soils

Soils in this area are classified as Houston Black-Heiden, which are described as deep, nearly level and gently sloping, calcareous, clayey soils overlaying limestone (SCS 1974). Eleven soil units occur within the subject area:

- Altoga silty clay, 3 to 6 percent slopes, eroded (AgC2) – This soil typically occurs as long, narrow areas paralleling major streams. The surface layer is light brownish-gray silty clay about 5 inches thick. The second layer consists of very pale brown silty clay loam about 24 inches thick. The third layer is pale-yellow silty clay loam approximately 60 inches in thickness. Permeability is moderate, and the available water capacity is high.
- Austin silty clay, 1 to 3 percent slopes (AsB) – Well-drained, silty clay which is underlain by fractured chalk. Soil surface is made up of a dark grayish-brown silty clay layer with varied depth and goes as deep as 20 feet. The next layer is a brown silty clay and extends 34 inches, with weathered chalk and silty clay loam at the bed. Permeability is moderately slow, and the available water capacity is high.
- Brackett clay loam, 2 to 4 percent slopes (BkC) – This soil occupies smooth, irregularly shaped areas on high ridges and adjoining side slopes in individual areas ranging from 10 to 25 acres in size. The surface is about 35% covered with fragments with the layer consisting of light brownish-gray clay loam about 6 inches thick. This is underlain by an interbedded limestone and marl. This is followed by a brown clay loam to a depth of about 16 inches. It is shallow and well drained and the permeability is moderately slow with a low water capacity.
- Brackett soils, rolling (B1D) – Found along undulating to rolling topography over interbedded limestone and marl in individual areas over 1,000 acres in size. The surface layer is made up of 75% broken limestone fragments, with the addition to gravelly clay loam, gravelly loam, loam or clay loam. It is shallow and well drained and the permeability is moderately slow with a low water capacity.
- Eddy gravelly loam, 0 to 3 percent slopes (EdB) – Found on narrow convex ridges high on the landscape in 15 to 30 acre areas. The surface layer is grayish-brown gravelly loam about 6 inches thick containing about 25 percent chalk fragments. The following layer is grayish-brown gravelly loam that extends to a depth of about 15 inches with an underlying weakly cemented chalk. The available water capacity is low and the permeability is moderately slow due to the shallow depth of the limestone. This soil is well drained due to the gravelly loams that developed over chalk.
- Eddy gravelly loam, 3 to 6 percent slopes (EdC) – This soil generally occupies convex ridges and adjoining side slopes in a nearly level to gently undulating landscape. The surface layer consists of 4 inches of grayish-brown gravelly loam that consists of 25% cover of broken chalk fragments. The next layer is a mix of grayish-



brown gravelly loam and broken chalk fragments. The soils underlying material is weakly cemented white, broken, platy chalk rock. Erosion hazards for this soil are high and severe. The available water capacity is low and the permeability is moderately slow due to the shallow depth of the limestone. This soil is well drained due to the gravelly loams that developed over chalk.

- Frio silty clay loam, frequency flooded (Fr) – This soil occupies long, narrow areas along stream channels. In most years it is flooded several times. The soil's surface layer is dark grayish-brown silty clay loam about 50 inches thick. The underlying material is pale-brown clay loam. The soil is moderately slowly permeable, the available water capacity is high, and they are well drained.
- Houston Black clay, 1 to 3 percent slopes (HnB) – This soils typically occupies smooth ridges or foot slopes in long and narrow and irregular shaped areas The surface layer is very dark gray clay about 24 inches thick. The following layer is dark-gray clay that goes as deep as 38 inches followed by a grayish-brown clay that extends 80 inches deep. The underlying material is 104 inches of mottled clay. This soil type is moderately well drained and slowly permeable with a low available water capacity.
- Mixed alluvial land (Md) – Occurs on flood plains and creeks and rivers, consisting of gravelly alluvium, beds of gravel, and exposed limestone beds and boulders randomly interspersed with moderately deep to deep, calcareous alluvial materials.
- Patrick soils, 2 to 5 percent slopes (PaC) – This soil is found along smooth, gentle ridges and adjoining side slopes in 10 to 30 acre areas. The surface layer is made up of dark grayish-brown clay extending 10 inches, followed by brown clay for 22 inches. The underlying material is brown gravelly loamy sand consisting of 65% limestone. This soil is shallow to moderately deep, and well-drained with a moderate water capacity and permeability.
- Stephen silty clay loam, 3 to 5 percent slopes (StC) – This soil occupies side slopes in long and narrow areas 10 to 20 acres in size, The soil's surface layer consists of dark grayish-brown silty clay loam about 8 inches thick followed by a dark-brown silty clay loam that extends downwards 14 inches. The underlying material is strongly weathered chalk. The soil is moderately slowly permeable, with a low available water capacity and is shallow and well drained.

### 3.5 Vegetation

The study area lies within "Urban", "Live Oak – Mesquite – Ashe Juniper Parks", and "Other Native or Introduced Grasses" as noted on the Texas Parks and Wildlife "Vegetation Types of Texas" map (McMahan et al. 1984). Parks generally consist of woody plants mostly equal to or greater than nine feet tall and growing as clusters or as scattered individuals within continuous grass or forbs. Other Native or Introduced Grasses areas generally consists of mixed native or introduced grasses and forbs on grassland sites or mixed herbaceous communities resulting from the clearing of woody vegetation.



Field investigations observed that Tract I consists of dense wooded areas in the northern portion, with uplands fields of native and non-native grasses and forbs, intermittent clumps of woody trees, and unmaintained cropland in the middle and southern portion. Riparian vegetation is located along Onion Creek along the northern boundary. Tract II consists mainly of historic cropland that has been unmaintained. Vegetation on Tract II mainly consists of intermittent clumps of mesquite trees within fields of native and non-native grasses and forbs.

Vegetation species within the subject area includes, but is not limited to: cedar elm (*Ulmus crassifolia*), hackberry (*Celtis reticulata*), live oak (*Quercus virginiana*), Ashe juniper (*Juniperus ashei*), chinaberry (*Melia azedarach*), mesquite (*Prosopis glandular*), Texas persimmon (*Diospyros texana*), retama (*Parkinsonia aculeata*), Texas prickly pear cactus (*Opuntia engelmannii*), agarita (*Mahonia trifoliolata*), common ragweed (*Ambrosia artemisiifolia*), Johnsongrass (*Sorghum halepense*), greenbrier (*Smilax bona-nox*), silverleaf nightshade (*Solanum elaeagnifolium*), sideoats grama (*Bouteloua curtipendula*), silver bluestem (*Bothriochloa saccharoides*), little bluestem (*Schizachyrium scoparium*), cocklebur (*Xanthium strumarium*), and various other native grasses and forbs. Photographs of typical vegetation of the subject area are included as Appendix A.

The subject area is located in Sector 19 of the City of Austin Biological Resource Sector Map. The riparian areas along Onion Creek are designated as priority woodlands, and other areas within the tract are designated as other significant woodlands.

#### 4.0 CRITICAL ENVIRONMENTAL FEATURES

Section 25-8-1 of the City of Austin LDC defines CEFs as “features that are of critical importance to the protection of environmental resources, and include bluffs, springs, canyon rim rocks, caves, sinkholes, and wetlands.”

On November 2<sup>nd</sup> and 4<sup>th</sup>, 2009 aci consulting scientists conducted field investigations within the subject area in accordance with the City of Austin LDC. The field investigations were performed by surveying the entire subject area, with emphasis on areas around tributaries and other bodies of water.

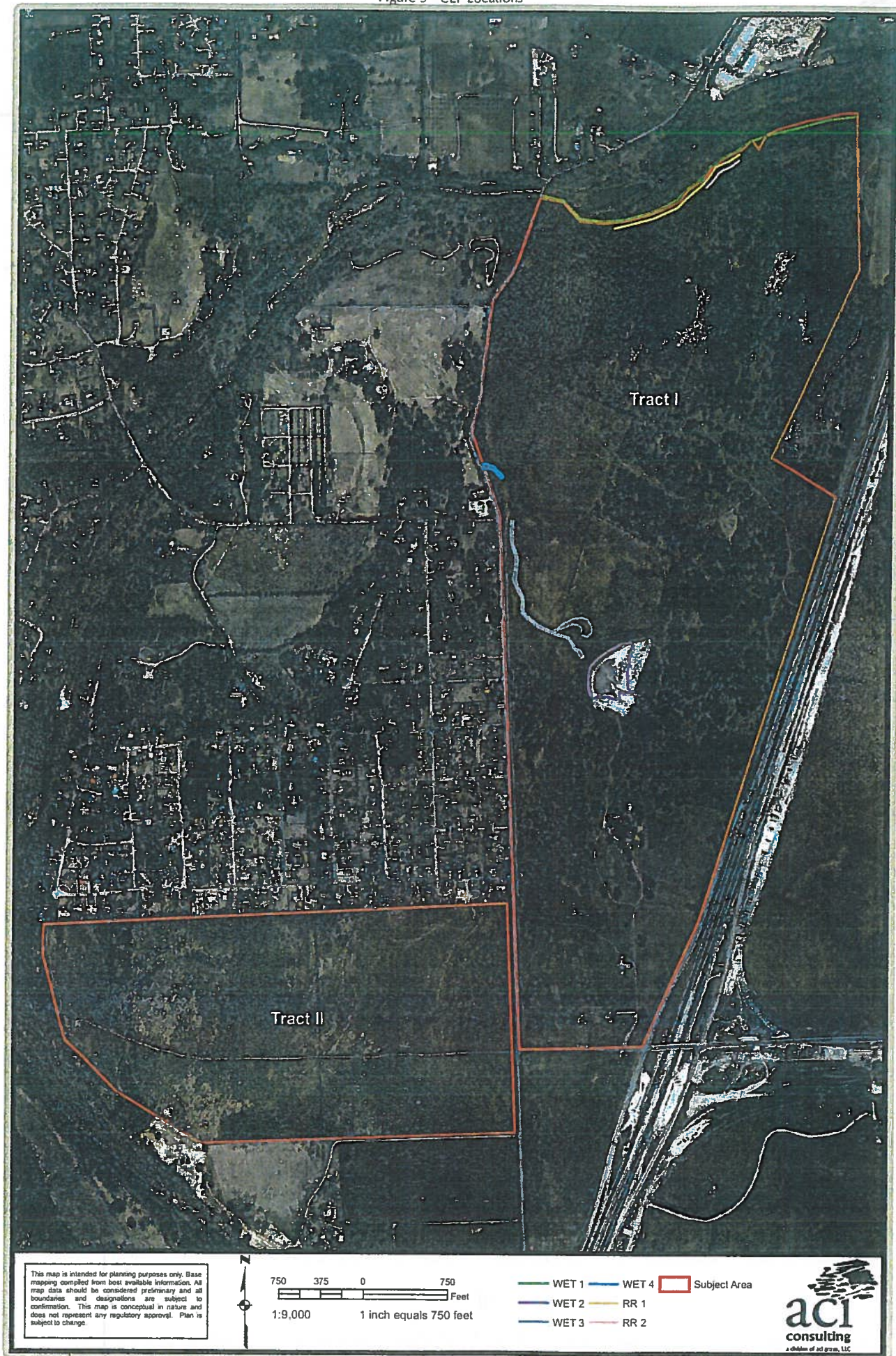
Aerial photographs and topographic maps were utilized to orient surveyors in the field. All identified potential CEFs were carefully examined and recorded. Each potential feature was described, photographed, and its location recorded using a handheld Garmin 520HCx GPS unit with sub-meter accuracy.

Six critical environmental features were identified within the subject area during site reconnaissance. Descriptions and photographs of each feature are located in Appendix B. The locations of the features are attached as Figure 5.



# Heep Ranch Tracts I and II City of Austin EA

Figure 5 - CEF Locations





## 5.0 SPECIES INCLUDED UNDER THE CITY OF AUSTIN ENDANGERED SPECIES ORDINANCE

The City of Austin Endangered Species Ordinance ("COA ESO") requires that an endangered species habitat survey be conducted prior to application for site development of a parcel of land (LDC §25-8-695). Plant and animal species for which habitat surveys must be conducted include: bracted twistflower (*Streptanthus bracteatus*), canyon mock-orange (*Philadelphus ernestii*), black-capped vireo (*Vireo atricapillus*) ("BCVI"), golden-cheeked warbler (*Dendroica chrysoparia*) ("GCWA"), whooping crane (*Grus americana*), red wolf (*Canis rufus*), Barton Springs salamander (*Eurycea sosorum*), and six species of karst invertebrates including: the Tooth Cave ground beetle (*Rhadine persephone*), Kretschmarr Cave mold beetle (*Texamaurops reddelli*), Tooth Cave spider (*Neoleptoneta myopica*), Tooth Cave pseudoscorpion (*Tartarocreagris texana*), Bee Creek Cave harvestman (*Texella reddelli*), and Bone Cave harvestman (*Texella reyesi*).

A habitat survey in accordance with LDC §25-8-695 and the City of Austin Environmental Criteria Manual was also conducted by aci consulting scientists. Descriptions of the habitat within the subject area and potential habitat for each endangered species are included below.

### 5.1 Bracted Twistflower

This annual plant has delicate pink flowers and usually grows no taller than three feet. Bracted twistflower occurs on thin clay soils blanketing limestone. All Travis County populations occur in oak-juniper woodland with a canopy cover of 25 to 100 percent, and most known sites are in areas that contain thick brush which appears to provide protection from deer. Plants that occur in association with bracted twistflower include evergreen sumac (*Rhus virens*), Mexican silktassel (*Garrya ovata* var. *lindheimeri*), shin oak (*Quercus sinuata* var. *breviloba*), elbowbush (*Forestiera angustifolia*), and myrtlecroton (*Bernardia myricifolia*) (BAT 1990).

Field investigations indicate that the subject area lacks the requisite components to be considered bracted twistflower habitat. Thick brush was not abundant within the subject area nor was the majority of plant species associated with the bracted twistflower. No observations of this plant species were made during the site visit.

### 5.2 Canyon Mock-orange

This plant can be found growing on Cow Creek, Edwards Limestone, and a few strata of Glen Rose Limestone. These two formations both contain holes and solution cavities, which often give the rock a "honeycombed" appearance. Canyon mock-orange can be found in both xeric and mesic juniper woodland and typically grows in full shade to full sun along cliffs in humid canyons. It is found in association with the following plants: elbowbush, shrubby boneset (*Eupatorium havanense*), shin oak, fragrant sumac (*Rhus aromatica*), Mexican silktassel, Texas mulberry (*Morus microphylla*), Ashe juniper, and yaupon holly (*Ilex vomitoria*) (BAT 1990).

Limestone cliffs with holes or solution cavities are not present within the subject area nor are the majority of plants associated with the canyon mock-orange. No observations of this plant species were made during the site visit.

### 5.3 Black-capped Vireo

The BCVI is a migratory bird present in Texas only during its breeding season from March through September. BCVI habitat generally consists of shrub vegetation that extends from the ground to approximately 8 feet high, covering 30 to 60 percent or greater of the total area. Typical BCVI habitat in the Edwards Plateau Region includes vegetation species such as shin oak, evergreen sumac, Texas persimmon, and agarita. Although Ashe juniper is often part of the vegetative composition in BCVI habitat, preferred areas have a low density and low cover of juniper (Campbell 2003).

The subject area does not lie within BCVI habitat according to the *Buda and Oak Hill* USGS 7.5-minute Quadrangle Balcones Canyonland Endangered Species Habitat and Potential Preserve System Map (Travis County 2007). The subject area does not possess the structural and compositional vegetative elements consistent with known BCVI habitat. The vegetation type on the tract is also inconsistent with the requisite tree density and tree species for BCVI. Therefore, the potential for the subject area to be regularly utilized by BCVI is highly unlikely.

### 5.4 Golden-cheeked Warbler

The GCWA is a migratory songbird endemic to Texas and only present during its breeding season of early March through early August. GCWA habitat typically consists of mature Ashe juniper woodlands interspersed with deciduous species. The areas most likely to be utilized by GCWA consist of nearly continuous cover of trees with 50 to 100 percent closed canopy (Campbell 2003). Deciduous species common in GCWA habitat include escarpment black cherry (*Prunus serotina*), Texas black walnut (*Juglans microcarpa*), ash (*Fraxinus* sp.), Texas oak (*Quercus buckleyi*), and cedar elm.

The subject area does not lie within GCWA habitat according to the *Buda and Oak Hill* USGS 7.5-minute Quadrangle Balcones Canyonland Endangered Species Habitat and Potential Preserve System Map (Travis County 2007). Prior to field investigations, desktop analysis indicated that vegetation along Onion Creek may contain some characteristics of potential GCWA habitat. However, field investigations indicated that these areas do not possess the structural and compositional vegetative elements consistent with known GCWA habitat, and the vegetation type is also inconsistent with the requisite tree density and tree species for GCWA. No areas of vegetation that are consistent with regularly utilized, occupied GCWA habitat were identified during the vegetation survey on the remaining portions of the subject area. Additionally, the subject area is adjacent to large tracts of development, and is not located within range of any large patches of known GCWA habitat. Therefore, the potential for the subject area to be regularly utilized by GCWA is highly unlikely.



### **5.5 Whooping Crane**

The whooping crane is a migrant species whose flyway crosses the northeastern portion of Travis County, an area characterized as the Blackland Prairie ecoregion. The whooping crane utilizes a variety of habitat during migration; croplands are preferred for feeding, and vast wetland areas are selected for feeding and roosting, preferring secluded areas removed from human disturbance (Campbell 2003).

The proximity of the subject area to human disturbance is not ideal for whooping cranes. The subject area is also not located within the flyway of the whooping crane. The probability of whooping cranes feeding or roosting in the subject area is considered very low.

### **5.6 Red Wolf**

The red wolf is considered extirpated in Travis County. It was formerly known throughout the eastern half of Texas in brushy, forested, and coastal areas.

### **5.7 Barton Springs Salamander**

The Barton Springs salamander is an entirely aquatic and neotenic amphibian known only to occur around four spring outlets within Zilker Park, Austin, Texas. The springs are collectively known as Barton Springs and consist of Parthenia, Eliza, Old Mill, and Upper Barton Springs [62 FR 23377] (USFWS 1997). The salamander inhabits areas near the spring openings where food sources are abundant, water chemistry and temperature are relatively constant, and where the salamander has access to both surface and subsurface habitat. The primary threat to the Barton Springs salamander is degradation to the quality and quantity of water that feeds Barton Springs from the Barton Springs watershed.

As previously stated in Section 3.1, the site is located along the eastern portion of the Barton Springs Segment of the Edwards aquifer. However, the site is underlain by Austin Chalk and Taylor Marl with some recent alluvial deposits, which are not known for significant karst development. Stormwater from the site is conveyed to a tributary of Onion Creek and conveyed east out of the Barton Springs Segment. In short, the site does not appear to provide direct recharge to the Barton Springs Segment nor does it convey stormwater to the recharge zone.

No springs or seeps were identified within the subject area. As the Barton Springs salamander is known to exist only in four spring outlets within the Barton Springs segment of the Edwards aquifer, which are located approximately 12.5 miles north of the subject area, the probability of occurrence of the species within the subject area is considered very low.

### **5.8 Karst Invertebrates**

Karst invertebrates are subterranean species that have adapted to areas with consistent humidity and temperature levels with a continual influx of nutrients from the surface. The caves in which the invertebrates occur were formed as a result of dissolution of the limestone formations making up the Edwards aquifer.

Veni and Associates (1992) delineated four karst zones throughout central Texas. The subject area is within Zone 4, which is an area not known to contain habitat for endangered cave species. No karst features were identified within the subject area during site reconnaissance. As such, no impacts to endangered karst invertebrate species are anticipated within the subject area.

## **6.0 STATEMENT OF FINDINGS**

Six critical environmental features were identified during site reconnaissance. Habitat within the subject area is unlikely to be regularly utilized by the bracted twistflower, canyon mock-orange, BCVI, GCWA, whooping crane, red wolf, Barton Springs salamander, or endangered karst invertebrates.



## 7.0 REFERENCES

- Barnes, V.E. 1974. Geologic Atlas of Texas, Austin Sheet. Bureau of Economic Geology, The University of Texas at Austin.
- (BAT) Biological Advisory Team. 1990. Comprehensive Report of the Biological Advisory Team. Balcones Canyonlands Conservation Plan. Austin, Texas.
- Campbell, L. 2003. Endangered and Threatened Animals of Texas: Their Life History and Management. Texas Parks and Wildlife Resource Protection Division, Austin, Texas.
- McMahan, C.A., R.G. Frye, and K.L. Brown. 1984. The Vegetation Types of Texas. Texas Parks and Wildlife. Austin, Texas.
- (NRCS) Natural Resources Conservation Service. 2009. National Hydric Soils List by State (Texas). January 2009. [ftp://ftp-fc.sc.egov.usda.gov/NSSC/Hydric\\_Soils/Lists/tx.xls](ftp://ftp-fc.sc.egov.usda.gov/NSSC/Hydric_Soils/Lists/tx.xls). Accessed November 9, 2009.
- (SCS) Soil Conservation Survey. 1974. Soil Survey of Travis County, Texas. United States Department of Agriculture. Texas Agriculture Experiment Station.
- (TCEQ) Texas Commission on Environmental Quality. 2001. "Edwards Aquifer Protection Program, Chapter 213 Rules - Recharge Zone, Transition Zone, Contributing Zone, and Contributing Zone within the Transition Zone." Map. Digital data. November 28, 2001. Austin, Texas.
- Travis County. 2007. Travis County Maps. <http://www.co.travis.tx.us/maps>. Accessed June 12, 2007.
- (USFWS) U.S. Fish and Wildlife Service. 1997. Final Rule to List the Barton Springs Salamander as Endangered. Federal Register, vol. 62, p. 23377.
- Veni & Associates. 1992. Geologic Controls on Cave Development and the Distribution of Cave Fauna in the Austin, Texas, Region. Prepared for U.S. Fish and Wildlife Service.



## APPENDIX A

### Typical Vegetation Photographs





Onion Creek, view north from the south bank.



Typical vegetation in the uplands adjacent to Onion Creek.





Vegetation in central portion of the tract.



Vegetation in central portion of the tract adjacent to WET 4.





Vegetation in central portion of the tract.



Typical vegetation on Tract II. View west from gate at Puryear Road and Old San Antonio Road.

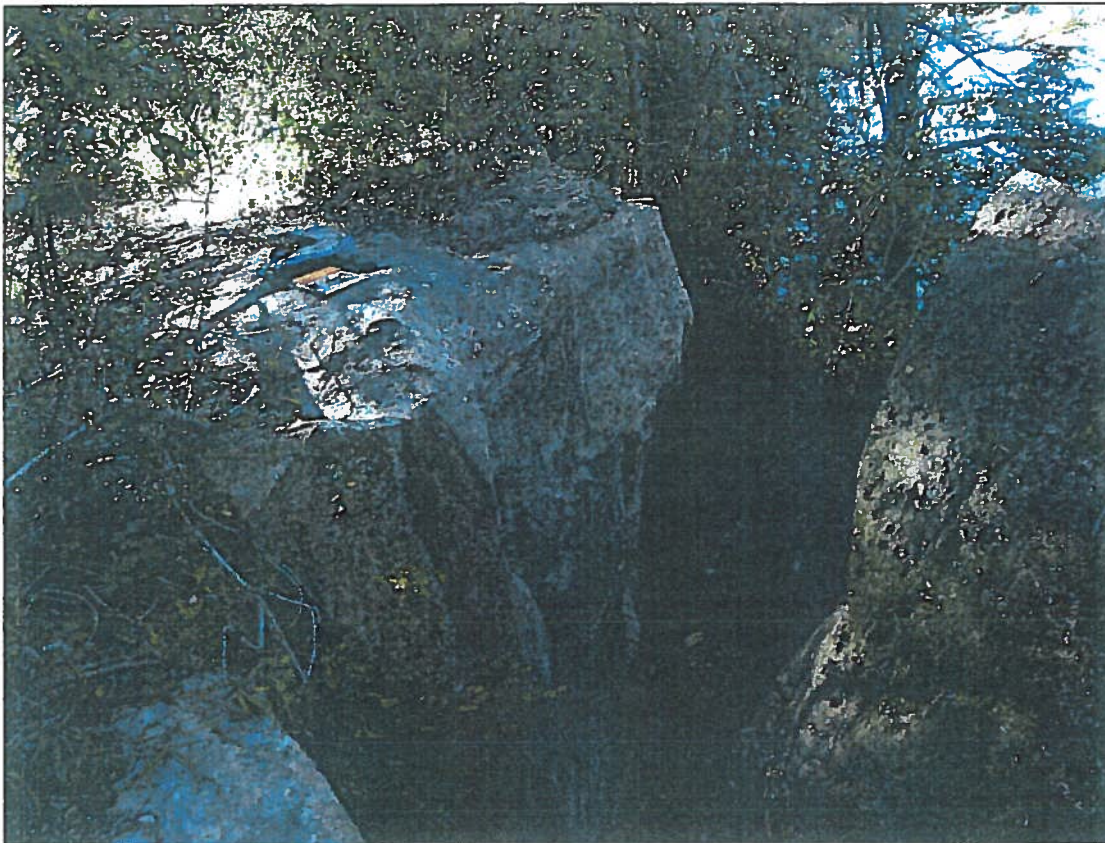
## **APPENDIX B**

### **Critical Environmental Feature Descriptions and Maps**



## RR 1

RR 1 is a rimrock located along the southern bank of Onion Creek at the northern boundary of Tract I. This potential feature is approximately 1,300 feet in length, with an average height of 11 feet.



Portion of RR 1, near the western extent of the feature, looking west. Onion Creek is visible to the north.

## RR 2

RR 2 is a rimrock located along the bank of Onion Creek approximately 20 feet south of RR1. RR 2 is approximately 390 feet in length with an average height of 40 feet sloping away from Onion Creek.

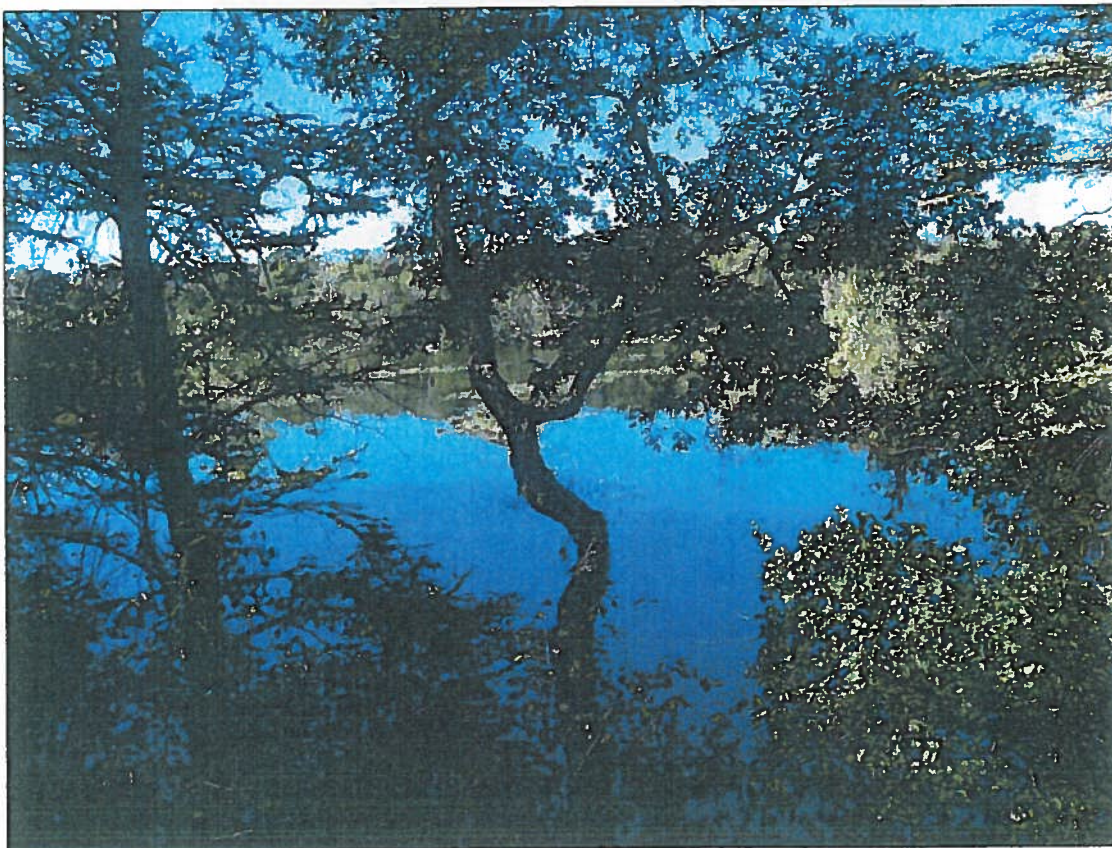


RR 2



### WET 1: Onion Creek

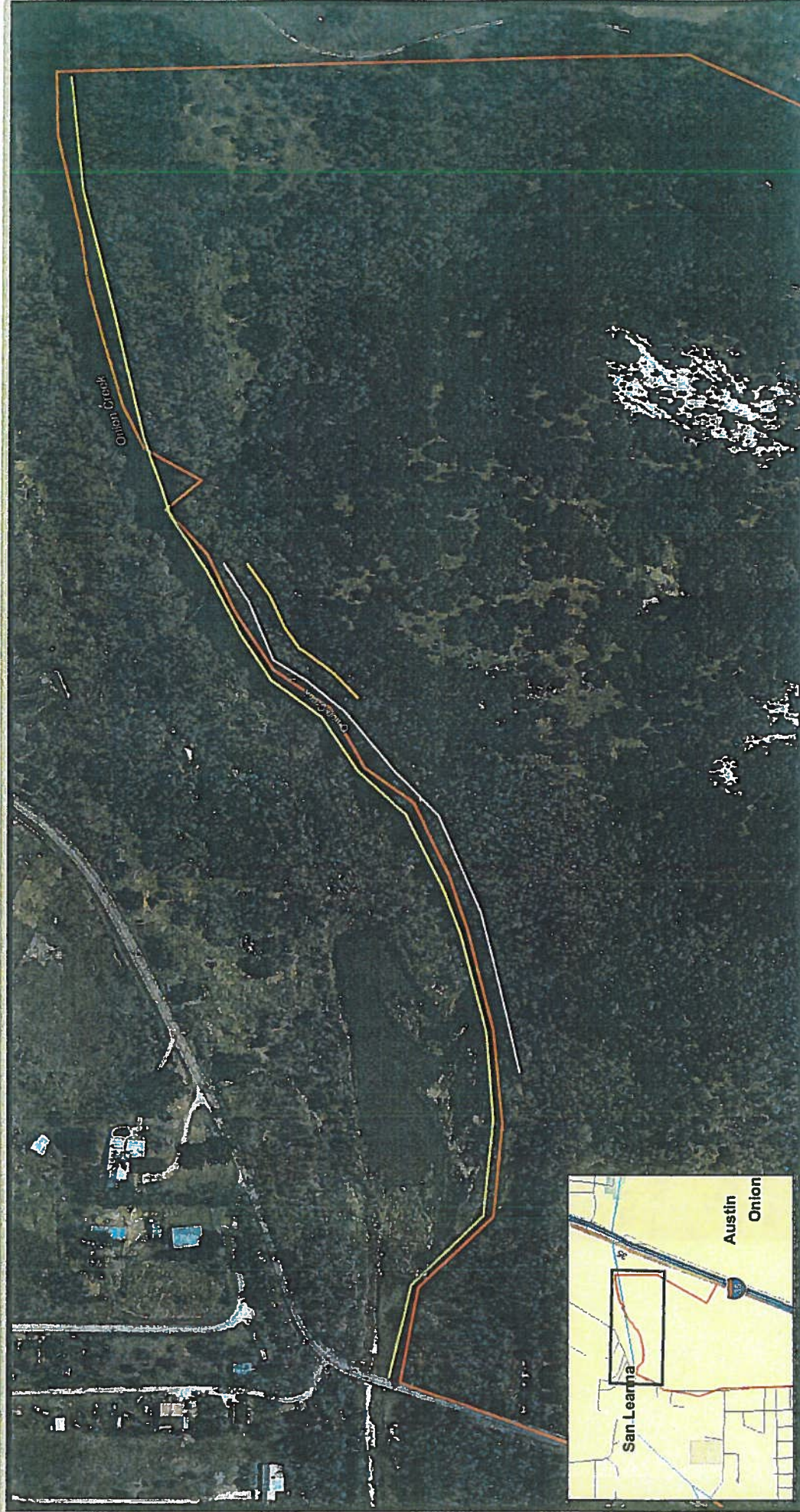
WET 1 (Onion Creek) traverses the northern boundary of Tract I of the subject area. Abundant riparian vegetation is located along the banks of the tributary, including bald cypress (*Taxodium distichum*), pecan (*Carya illinoensis*), and box elder (*Acer negundo*). Minimal herbaceous vegetation was observed, as RR 1 is immediately adjacent to the bank. These fringe wetlands directly adjacent to Onion Creek are considered potential CEFs.




View of large ponded area near western extent of Onion Creek within the subject area.



# Heep Tracts I and II City of Austin EA Potential CEFs: WET 1, RR 1, and RR 2





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 a division of acf prc, llc

WET 1  
 RR 1  
 RR 2  
 Subject Area

200 100 0 200 400  
 Feet  
 1 inch equals 200 Feet

The map is intended for planning purposes only. Base mapping compiled from best available information. All map data should be considered preliminary and all boundaries and configurations conceptual in nature and does not represent any regulatory approval. Plan is subject to change.



## WET 2

WET 2 is a manmade stock pond and potential CEF. At the time of field investigation, water was present within the feature. Plant species associated with this pond included willow baccharis (*Baccharis salicina*), ragweed, little bluestem, knotroot bristlegrass (*Setaria parviflora*), lanceleaf fogfruit (*Phyla lanceolata*) and cocklebur. The vegetation associated with this potential wetland was not dominated by wetland species; however, previous documentation from the City of Austin noted hydrophytic vegetation along the fringes of this pond. Altoga silty clay, 3 to 6 percent slopes (AsC2) occurs at WET 2 and is not classified as hydric by the Natural Resources Conservation Service (NRCS) (NRCS 2009); however, the soils within this potential wetland area may be functionally considered hydric by the USACE due to their low chroma.



WET 2



### WET 3

WET 3 is a potential CEF wetland located along the edges of a tributary of Onion Creek. The tributary traverses parallel to the western boundary of Tract I, then traverses southeast across the tract. WET 3 is located along approximately 1,500 feet of the tributary beginning at the upstream extent just downstream from WET 2. WET 3 also extends north of the tributary in a small finger. Hydrophytic vegetation present within the feature includes: spikerush (*Eleocharis* spp.) and bushy bluestem (*Andropogon glomeratus*). Water was present at the time of field investigations. Altoga silty clay, 3 to 6 percent slopes (AsC2) and Austin silty clay, 1 to 3 percent slopes occur at WET 3 and are not classified as hydric by the NRCS (NRCS 2009); however, the soils within this potential wetland area may be functionally considered hydric by the USACE due to their low chroma.

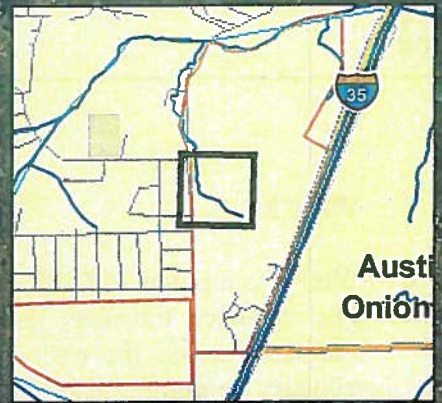
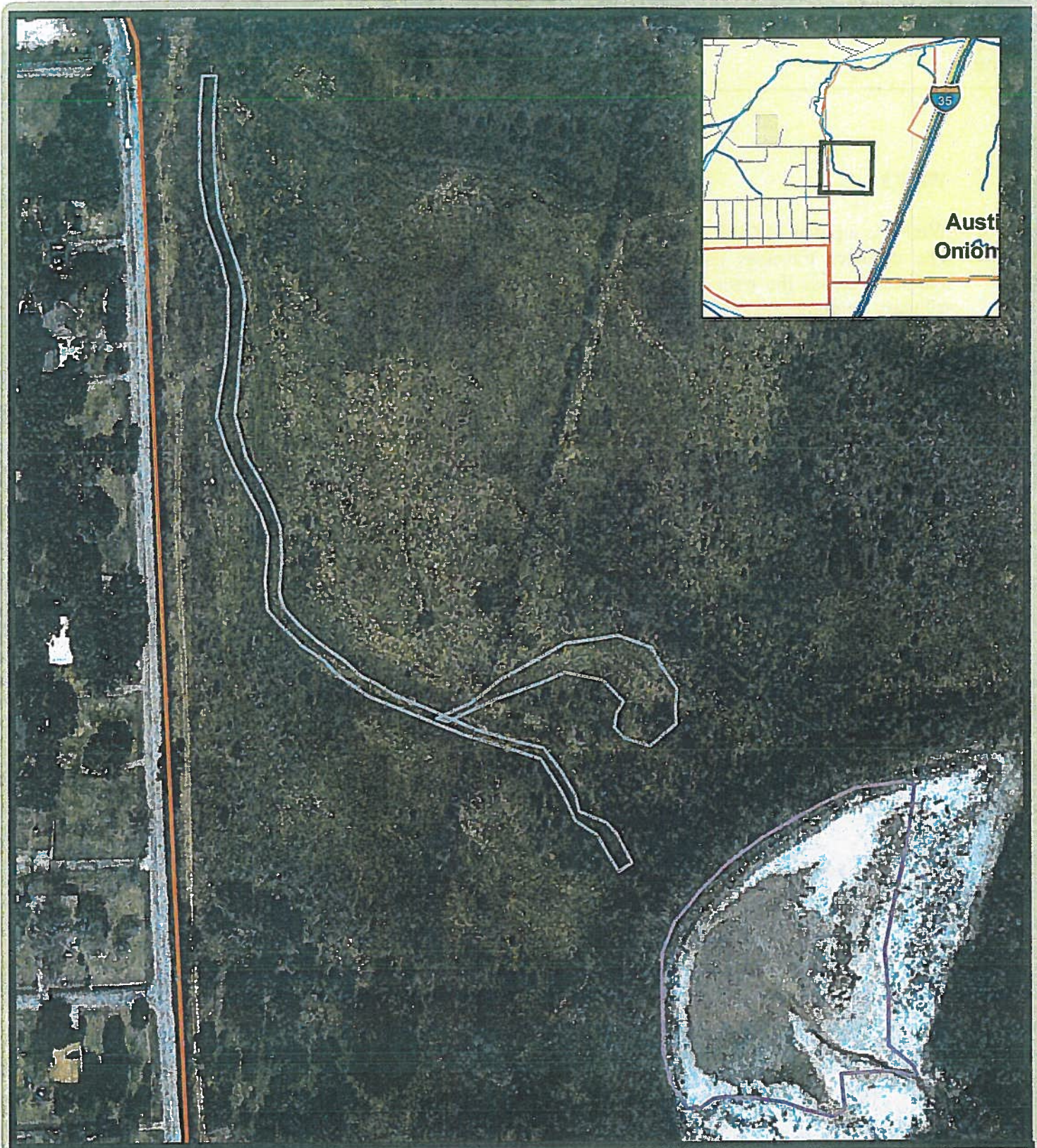


WET 3 along tributary.



# Heep Ranch Tracts I and II City of Austin EA

Potential CEFs: WET 2 and WET 3



This map is intended for planning purposes only. Base mapping compiled from best available information. All map data should be considered preliminary and all boundaries and designations are subject to confirmation. This map is conceptual in nature and does not represent any regulatory approval. Plan is subject to change.



200 100 0 200  
1:2,400 1 inch equals 200 feet

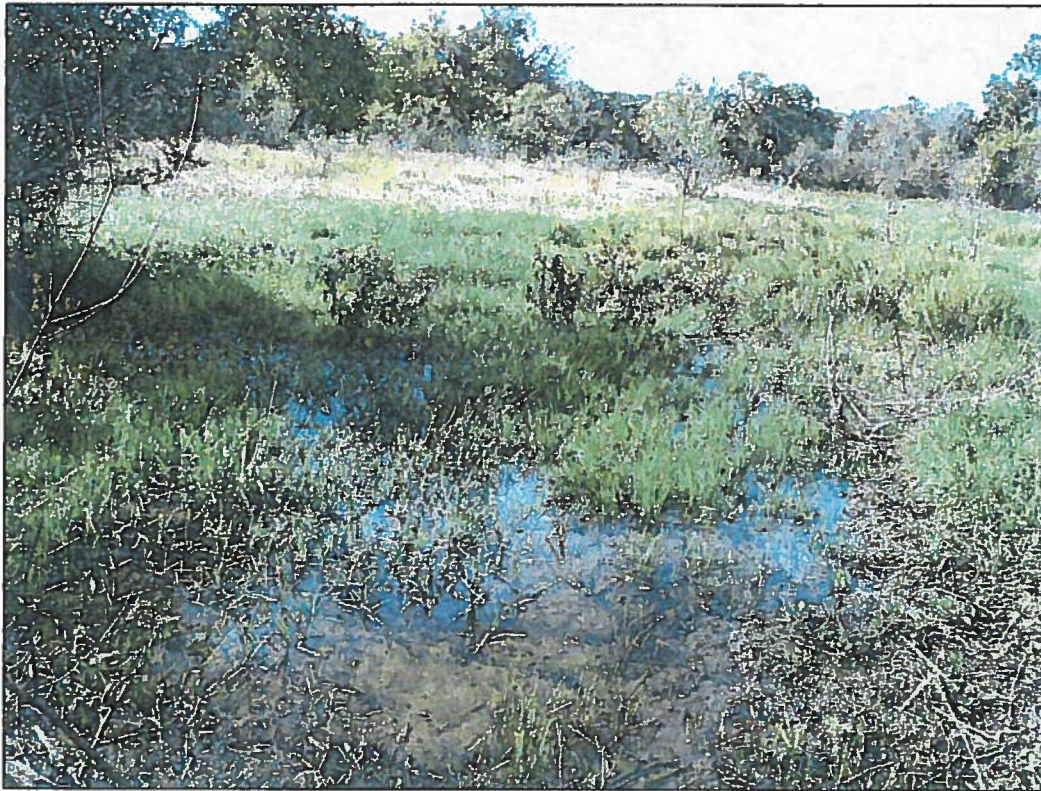
WET 2  
WET 3  
Subject Area

**aci**  
consulting  
a division of aci group, LLC



#### WET 4

WET 4 is a potential CEF wetland located along the edges of a tributary of Onion Creek approximately 230 feet downstream from WET 3. Between WET 3 and WET 4, the tributary is a bedrock channel and does not exhibit the characteristics of a wetland, and was therefore excluded as a potential CEF. WET 4 is located along approximately 210 feet of the tributary. Hydrophytic vegetation present within the feature includes, but is not limited to: spikerush and bushy bluestem. Water was present at the time of field investigations. Austin silty clay, 1 to 3 percent slopes occurs at WET 4 and is not classified as hydric by the NRCS (NRCS 2009); however, the soils within this potential wetland area may be functionally considered hydric by the USACE due to their low chroma.

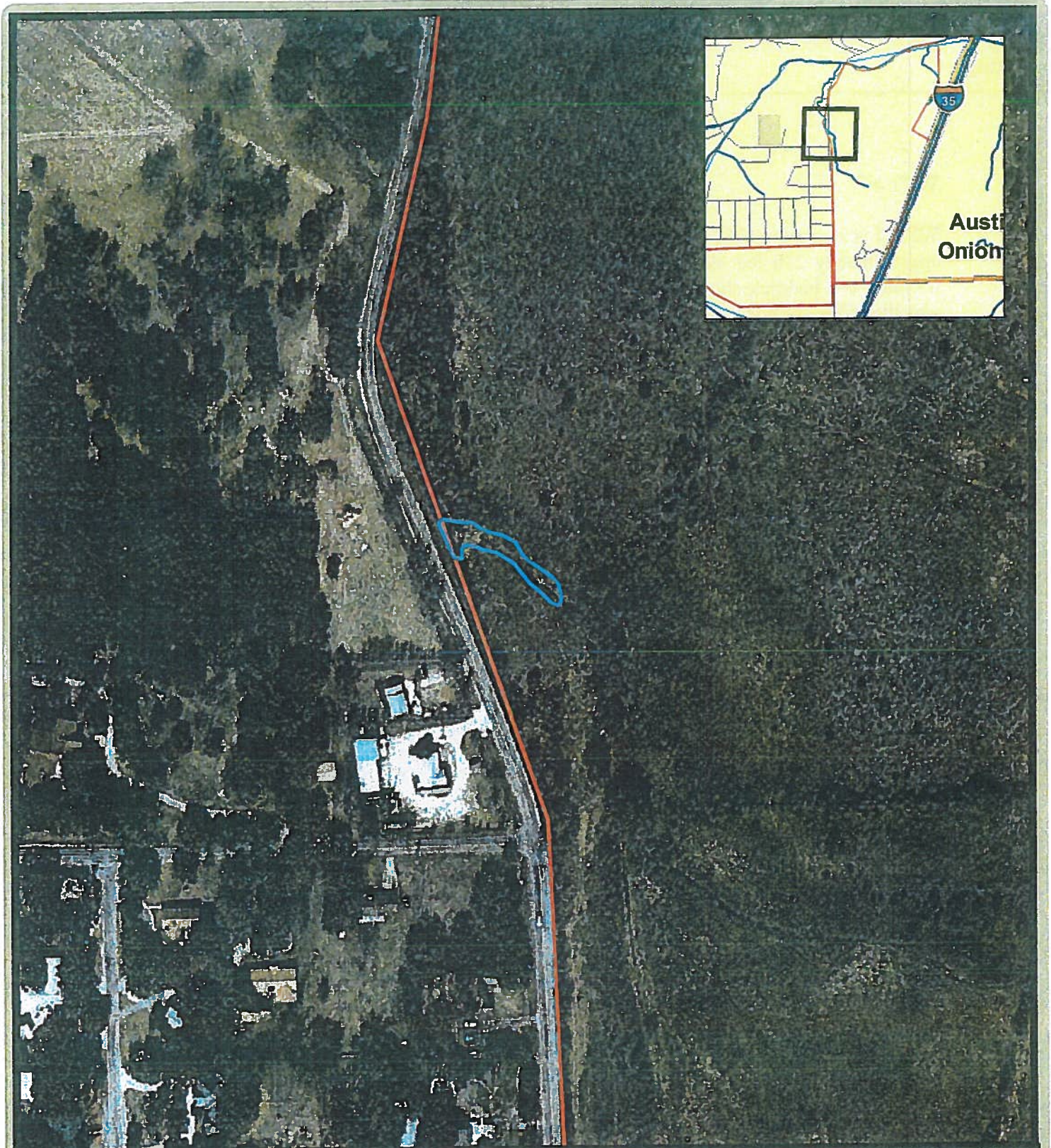


WET 4 along tributary.

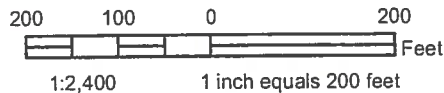


# Heep Ranch Tracts I and II City of Austin EA

Potential CEFs: WET 4



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— WET 4  
— Subject Area





1	Project Name:	Heep Ranch Tracts I and II	5	Primary Contact Name:	Lauren Dill
2	Project Address:	II-35 and FM 1327, Austin, Travis County, TX	6	Phone Number:	(512) 347-9000
3	Date:	11/10/2009	7	Prepared By:	Lauren Dill
4	Environmental Assessment Date:	11/10/2009	8	CEFS Located? (yes/no) :	YES

[illegible]

City of Austin Use Only  
WPDRD CASE NUMBER

**For a spring or seep, locate the source of groundwater that feeds a pool or stream.**





