



ITEM FOR ENVIRONMENTAL COMMISSION AGENDA

MEETING DATE REQUESTED: September 21, 2016

NAME & NUMBER OF PROJECT: Austin Oaks Planned Unit Development
C814-2014-0120

OWNER: Twelve Lakes, LLC (Jon Ruff)

AGENT: Graves Dougherty Hearon & Moody (Michael Whellan)

LOCATION: Southwest corner of Mopac Expressway and Spicewood Springs Road (3409, 3420, 3429, 3445, 3520, 3636, 3701, 3721, 3724, and 3737 Executive Center Drive and 7601, 7718, and 7719 Wood Hollow Drive)

COUNCIL DISTRICT: 10

PROJECT FILING DATE: July 16, 2014

WATERSHED PROTECTION DEPARTMENT STAFF: Andrea Bates, 974-2291
andrea.bates@austintexas.gov

PLANNING AND ZONING CASE MANAGER: Andrew Moore, 974-7604
andrew.moore@austintexas.gov

WATERSHED: Shoal Creek Watershed (Urban)
Desired Development Zone

ORDINANCE: Watershed Protection Ordinance (current Code)

REQUEST: Review and consider for recommendation the environmental aspects of the proposed Planned Unit Development (PUD), including code modifications and environmental superiority.

STAFF RECOMMENDATION: Recommended with conditions.



MEMORANDUM

TO: Marisa Perales, Chair, and Members of the Environmental Commission

FROM: Chuck Lesniak, Environmental Officer
Watershed Protection Department

DATE: September 2, 2016

SUBJECT: Austin Oaks Planned Unit Development – C814-2014-0120

This summary is being provided to the Environmental Commission as a supplement to the Planning and Zoning Department analysis for Austin Oaks Planned Unit Development (PUD). This memo provides an overview of the property's environmental features, the requested modifications to environmental code requirements, and the elements of the project that provide environmental superiority. Staff finds that the proposed development is environmentally superior to what could be built without the PUD.

Description of Property

Austin Oaks PUD consists of approximately 31.4 acres of land located in northwest Austin, at the intersection of Spicewood Springs Road and Mopac Expressway (see Attachment A – Location Map). The property is comprised of 13 parcels, which are currently zoned limited office (LO), neighborhood commercial (LR), and community commercial (GR). The site is developed with 12 office buildings and associated surface parking lots.

Austin Oaks PUD is located in the Shoal Creek Watershed, which is classified as Urban and is within the Desired Development Zone. The PUD is within the north Edwards Aquifer recharge zone. The property contains two creeks: Foster Branch, which flows west to east across the northeast corner of the PUD, and an unnamed tributary to Foster Branch, which flows south to north just east of Wood Hollow Drive (see Attachment B – Critical Water Quality Zone and Floodplain).¹

¹ Per Land Development Code Section 25-8-91, waterways within an Urban Watershed are not classified. However, per Section 25-8-92, a critical water quality zone (CWQZ) is established along all waterways with a drainage area of at least 64 acres. The boundaries of the CWQZ coincide with the boundaries of the 100-year floodplain calculated under fully developed conditions, provided that the boundary is not less than 50 feet and not more than 400 feet from the centerline of the waterway.

Existing Topography/Soil Characteristics/Vegetation

The site's topography generally slopes from the southern property boundary toward Spicewood Springs Road and Foster Branch. Elevations range from approximately 712 to 818 feet above mean sea level. Slopes range between 0 and 15 percent on the majority of the property but increase to over 35 percent in some locations along the creeks and the Spicewood Springs Road frontage. The property has stony, clayey soils.

The property contains a large number of heritage and protected trees, including 63 heritage live oaks, three heritage cedar elms, two heritage Spanish oaks, and two heritage pecans. Most of the heritage and protected trees are located within the surface parking lots, but there are also groves of trees along the creek corridor. Predominant tree species on the site include live oak, cedar elm, and hackberry.

Critical Environmental Features

An Environmental Resource Inventory (ERI) was prepared for the project site by Horizon Environmental Services in August 2015. The ERI identified six critical environmental features (CEFs) within the PUD site: four wetlands, a seep, and a canyon rimrock (see Attachment D – Applicant's Environmental Resource Inventory). The PUD will comply with the current code requirement to provide a 150-foot buffer zone for CEFs; however, some development will be allowed to remain within the CEF buffers pursuant to Land Development Code Section 25-8-25, *Redevelopment Exception in Urban and Suburban Watersheds* ("the redevelopment exception"). See below for a discussion of the redevelopment exception.

Description of Project

The proposed project contains approximately 20.4 acres of mixed use development, including office, retail, restaurant, hotel, and multifamily residential uses, and 11 acres of parks and open space.

Requested Environmental Code Modifications

Austin Oaks PUD is subject to the Watershed Protection Ordinance, the City's current environmental regulations. Since the site is currently developed, the applicant has chosen to comply with Section 25-8-25, *Redevelopment Exception in Urban and Suburban Watersheds*. The purpose of the redevelopment exception is to provide an option for redevelopment of older sites that may not meet all of the requirements of Chapter 25-8(A). To comply with the redevelopment exception, a project must meet nine conditions, including providing water quality treatment, not increasing the amount of impervious cover on the site, and not increasing non-compliance with critical water quality zone (CWQZ) or CEF requirements. If the conditions for the redevelopment exception are met, the other requirements of Chapter 25-8(A) do not apply to the project.

The applicant has chosen to use the redevelopment exception for all development within the Austin Oaks PUD. The baseline for evaluating the PUD's environmental superiority is therefore the requirements of Section 25-8-25, rather than all of Chapter 25-8(A).

The proposed PUD includes multiple modifications to code requirements. Most of the proposed modifications change current code standards, which is typical for a PUD. However, the applicant

is also proposing to memorialize certain code requirements. That means the PUD is not proposing to change current requirements, but it is specifying that current requirements will continue to apply to the property even if the code changes in the future.

The following summarizes the proposed modifications to environmental requirements:

- **25-2-1008(A), *Irrigation Requirements*** – Section 25-2-1008(A) is modified to apply to the PUD overall rather than on a parcel-by-parcel basis.
- **Environmental Criteria Manual (ECM) Section 2.4.3, *Buffering*** – The buffering requirements are modified to allow plants (excluding trees) used as buffering elements on Parcels 1 and 4 to be planted in a permeable landscape area at least three feet wide, rather than eight feet wide as currently required.
- **25-7-32, *Director Authorized to Require Erosion Hazard Zone Analysis*** – An analysis was performed and the erosion hazard zone was identified with the PUD application. Additional analysis shall not be required for any future development applications.
- **25-7-61(A)(5), *Criteria for Approval of Development Applications, and Drainage Criteria Manual 1.2.2.A and D, General*** – The analysis of additional adverse flooding impact shall be based on the PUD boundaries rather than parcel boundaries.
- **25-8-25(B)(1) and (3), *Redevelopment Exception in Urban and Suburban Watersheds*** – Sections 25-8-25(B)(1) and (3) (impervious cover and trip limits) shall apply to the PUD overall rather than on a parcel-by-parcel basis.
- **25-8-641(B), *Heritage Tree Removal Prohibited*** – Thirteen heritage trees identified on the applicant’s Exhibit F – Tree Plan may be removed without an administrative or land use commission variance as required by current code.
- **ECM Section 3.3.2.A, *General Tree Survey Standards*** – The tree survey submitted with the PUD, dated November 22, 2013, may be used for 25 years instead of five years as currently required. Applications filed after November 22, 2038 will require a new tree survey.
- **ECM Section 3.5.4, *Mitigation Measures*** – Tree mitigation credit shall be granted for removing existing impervious cover from the critical root zone of preserved trees.
- The PUD will memorialize the following code requirements:
 - **25-8-25, *Redevelopment Exception in Urban and Suburban Watersheds***, except as modified above;
 - Impervious cover calculations exclude multi-use trails open to the public and located on public land or in a public easement, pursuant to **25-8-63(C)(2), *Impervious Cover Calculations***;
 - Hard surface trails, pedestrian bridges, and utility lines are allowed in the CWQZ pursuant to **25-8-261, *Critical Water Quality Zone Development and 25-8-262, *Critical Water Quality Zone Street Crossings****;
 - Water quality facilities may be covered, decked, or buried (and landscaped) pursuant to **ECM Section 1.6.2.E, *Subsurface Ponds***;

- Green water quality controls are allowed pursuant to **ECM Section 1.6.7, *Green Storm Water Quality Infrastructure***.

Proposed Environmental Superiority Elements

The project is proposing to provide the following environmental superiority elements (please see the applicant's Exhibit D – Tier 1 and Tier 2 Compliance Summary for additional details):

1. The PUD will provide at least 11.01 acres of open space, which is 41% higher than the 7.81 acres required based on the proposed land uses.
2. The PUD will exceed the minimum code requirements for landscaping. The PUD will exceed the requirements related to street yard trees as follows:
 - a. 75% of planted street yard trees shall be from the Preferred Plant List, rather than 60%;
 - b. Planted trees shall be no less than eight feet in initial height and no less than three inch caliper, rather than six feet in height and 1.5 inch caliper.
 - c. No more than 30 percent of planted trees will be from the same genus or species, rather than 50 percent.

In addition, the PUD will require that a minimum of 75 percent of plant materials, excluding turf and plantings within dedicated parkland, be native to Central Texas or included in the Grow Green Native and Adapted Landscape Plants guide. The PUD will also prepare and implement an Integrated Pest Management plan for the property.

3. The PUD will preserve a minimum of 75 percent of all caliper inches of heritage and protected trees (calculated together) and a minimum of 75 percent of all native caliper inches (including trees one inch in diameter at breast height or larger).
4. The PUD will limit impervious cover to 58 percent across the entire property, which is eight percent below the maximum that would otherwise be allowed by code. Under the redevelopment exception, the project could maintain but not increase the amount of impervious cover on the site, which is currently 66 percent. The project is proposing to decreasing impervious cover from 66 percent to 58 percent. In addition, the project is limiting impervious cover to 50 percent within 300 feet of Spicewood Springs.
5. The PUD will provide superior flood mitigation by providing a minimum of 20,000 cubic feet of additional on-site flood detention. The detention will be provided by either laying back the west creek bank, as shown on the applicant's Exhibit J – Creek Plan, or creating a non-structural, vegetated detention area along the east bank.
6. The PUD will restore riparian vegetation in degraded CWQZ and CEF buffer areas. The project shall remove approximately 1.65 acres of existing, non-compliant impervious cover from the CWQZ and CEF buffers. The areas shall be restored to “good” condition based on the functional assessment methodology in Appendix X of the ECM.
7. The PUD will improve the degraded riparian area by laying back the west creek bank on Parcels 4 and 5, as shown on the applicant's Exhibit J – Creek Plan. The project will create an inundation area that will also be restored to “good” condition based on the functional assessment methodology in Appendix X of the ECM.

8. The PUD will provide a 40 percent increase in undeveloped CWQZ and a 33 percent increase in undeveloped CEF buffers. The project will remove approximately 1.65 acres of existing impervious cover from the CWQZ and CEF buffers, which would be allowed to remain under the redevelopment exception. This results in a 95 percent reduction in impervious cover within the CWQZ, a 58 percent reduction in impervious cover within the canyon rimrock/seep buffer, and a 74 percent reduction in impervious cover within the wetland buffers.²

Determination

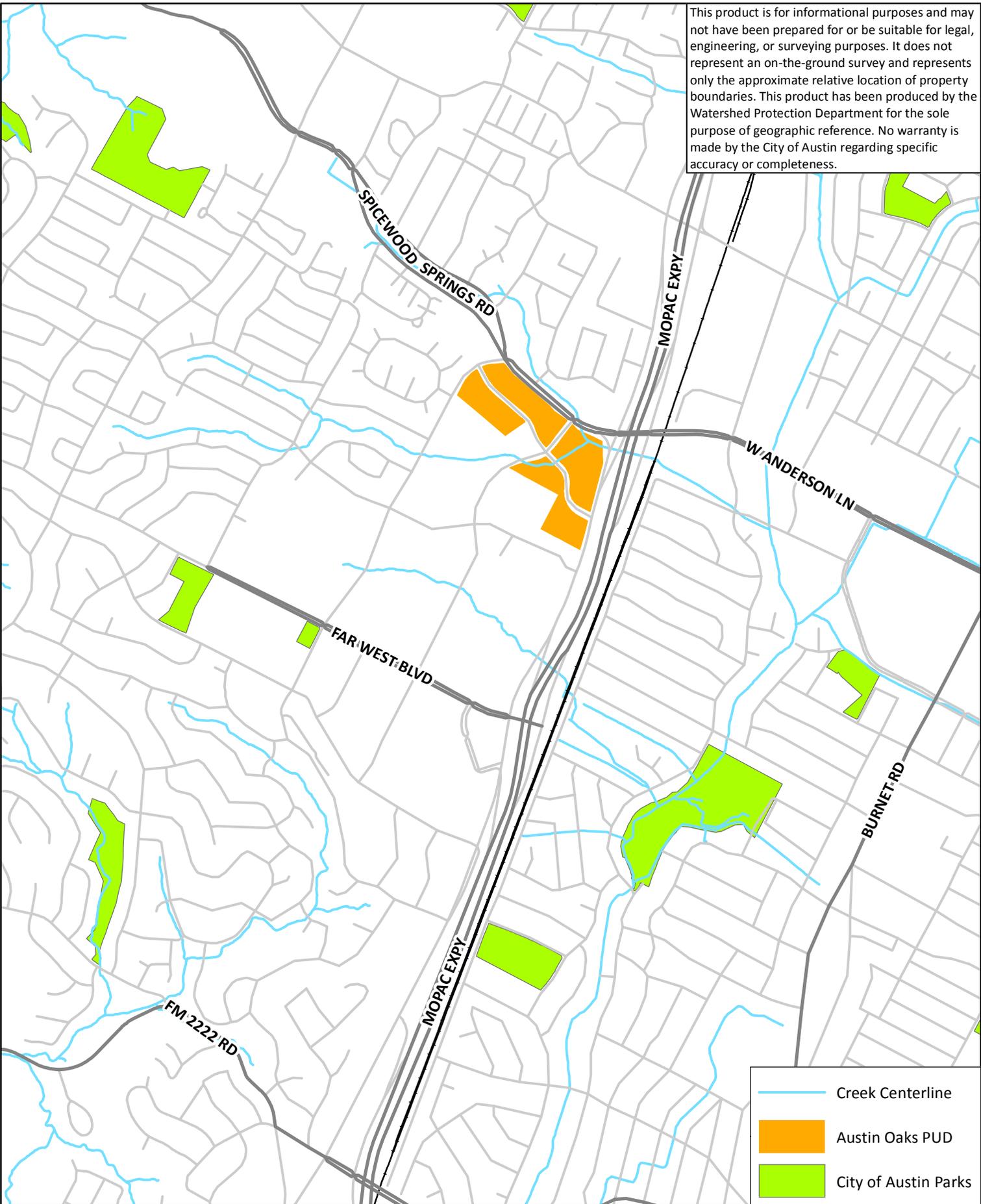
Based on the superiority elements described above, staff finds that the proposed development is environmentally superior to what could be built without the PUD.

Attachments

- A Location Map
- B Critical Water Quality Zone and Floodplain
- C Site Photos
- D Applicant's Environmental Resource Inventory

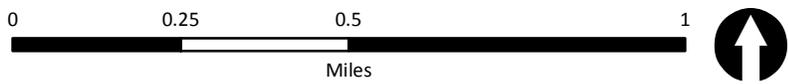
² In Exhibit D – Tier 1 and Tier 2 Compliance Summary, the applicant states that five additional superiority elements – items a, i, j, p, and u – are also being met. Staff does not agree with the applicant's analysis, and these five items were not considered in staff's review for environmental superiority.

This product is for informational purposes and may not have been prepared for or be suitable for legal, engineering, or surveying purposes. It does not represent an on-the-ground survey and represents only the approximate relative location of property boundaries. This product has been produced by the Watershed Protection Department for the sole purpose of geographic reference. No warranty is made by the City of Austin regarding specific accuracy or completeness.

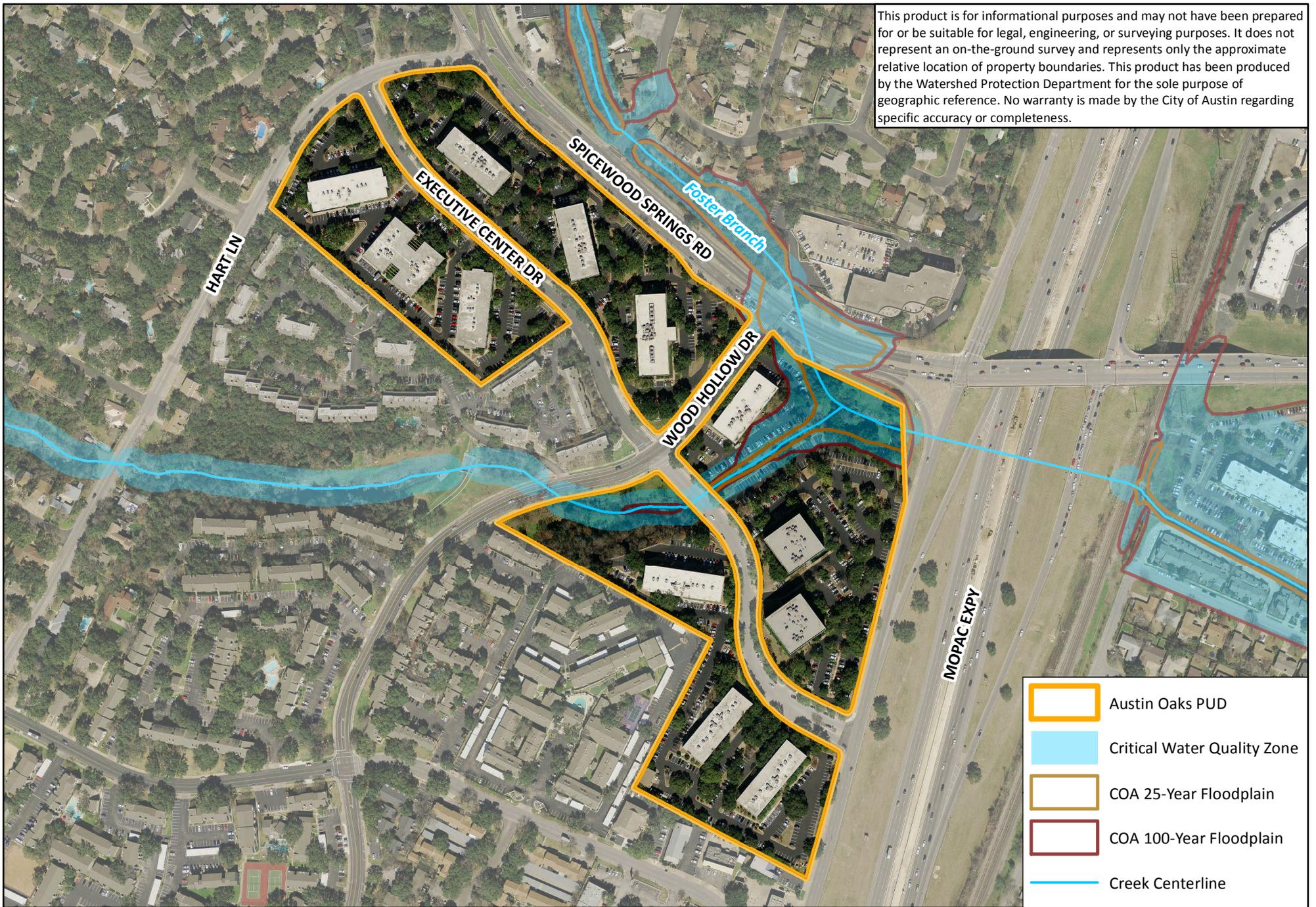


-  Creek Centerline
-  Austin Oaks PUD
-  City of Austin Parks

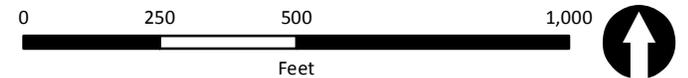
Attachment A
Austin Oaks PUD Location Map



This product is for informational purposes and may not have been prepared for or be suitable for legal, engineering, or surveying purposes. It does not represent an on-the-ground survey and represents only the approximate relative location of property boundaries. This product has been produced by the Watershed Protection Department for the sole purpose of geographic reference. No warranty is made by the City of Austin regarding specific accuracy or completeness.



Attachment B
Austin Oaks PUD - Critical Water Quality Zone and Floodplain



Attachment C
Austin Oaks PUD Site Photos



View of creek and parking lots within the CWQZ and CEF buffer



Portion of west creek bank area to be restored



Canyon rimrock CEF



Canyon rimrock CEF



Wetland CEF



Wetland CEF

Environmental Resource Inventory

For the City of Austin

Relating to the Land Development Code (LDC) Section 25-8, Title 30-5, ECM 1.3.0 & 1.10.0
Effective October 28, 2013

- 1. SITE/PROJECT NAME: Austin Oaks Property
- 2. COUNTY APPRAISAL DISTRICT PROPERTY ID (#'s): _____
- 3. ADDRESS/LOCATION OF PROJECT: Spicewood Springs Road and MOPAC
- 4. WATERSHED: Shoal Creek Watershed

5. THIS SITE IS WITHIN THE (Check all that apply):
- Edwards Aquifer Recharge Zone* (See note below)..... YES NO
 - Edwards Aquifer Contributing Zone* YES NO
 - Edwards Aquifer 1500-ft Verification Zone* YES NO
 - Barton Springs Zone* YES NO
- *(as defined by the City of Austin – LDC 25-8-2)*

Note: If the property is over the Edwards Aquifer Recharge zone, the Hydrogeologic Report and karst surveys must be completed and signed by a Professional Geoscientist Licensed in the State of Texas.

6. DOES THIS PROJECT PROPOSE FLOODPLAIN MODIFICATION?... YES** NO
- If yes, then check all that apply:
- (1) The floodplain modifications proposed are necessary to protect the public health and safety;
 - (2) The floodplain modifications proposed would provide a significant, demonstrable environmental benefit, as determined by a **functional assessment** of floodplain health as prescribed by the Environmental Criteria Manual, or
 - (3) The floodplain modifications proposed are necessary for development allowed in the critical water **quality zone under Section 25-8-261 or 25-8-262 of the LDC.**
 - (4) The floodplain modifications proposed are outside of the Critical Water Quality Zone in an area determined to be in poor or fair condition by a **functional assessment** of floodplain health.

**** If yes, then a functional assessment must be completed and attached to the ERI (see Section 1.7 and Appendix X in the Environmental Criteria Manual for forms and guidance) unless conditions 1 or 3 above apply.**

7. IF THE SITE IS WITHIN AN URBAN OR SUBURBAN WATERSHED, DOES THIS PROJECT PROPOSE A UTILITY LINE PARALLEL TO AND WITHIN THE CRITICAL WATER QUALITY ZONE?..... YES*** NO

*****If yes, then riparian restoration is required by Section 25-8-261(E) of the LDC and a functional assessment must be completed and attached to the ERI (see Section 1.5 and Appendix X in the Environmental Criteria Manual for forms and guidance).**

8. There is a total of 6 (#'s) Critical Environmental Feature(s)(CEFs) on or within 150 feet of the project site. If CEF(s) are present, attach a detailed **DESCRIPTION** of the CEF(s), color **PHOTOGRAPHS**, the **CEF WORKSHEET** and provide **DESCRIPTIONS** of the proposed CEF buffer(s) and/or wetland mitigation. Provide the number of each type of CEFs on or within 150 feet of the site (Please provide the number of CEFs):

<u>1</u> (#'s) Spring(s)/Seep(s)	<u>0</u> (#'s) Point Recharge Feature(s)	<u>0</u> (#'s) Bluff(s)
<u>1</u> (#'s) Canyon Rimrock(s)	<u>4</u> (#'s) Wetland(s)	

Note: Standard buffers for CEFs are 150 feet, with a maximum of 300 feet for point recharge features. Except for wetlands, if the standard buffer is not provided, you must provide a written request for an administrative variance from Section 25-8-281(C)(1) and provide written findings of fact to support your request. Request forms for administrative variances from requirements stated in LDC 25-8-281 are available from Watershed Protection Department.

9. The following site maps are attached at the end of this report (Check all that apply and provide):

All ERI reports must include:

- Site Specific Geologic Map with 2-ft Topography**
- Historic Aerial Photo of the Site**
- Site Soil Map**
- Critical Environmental Features and Well Location Map on current Aerial Photo with 2-ft Topography**

Only if present on site (Maps can be combined):

- Edwards Aquifer Recharge Zone with the 1500-ft Verification Zone**
(Only if site is over or within 1500 feet the recharge zone)
- Edwards Aquifer Contributing Zone**
- Water Quality Transition Zone (WQTZ)**
- Critical Water Quality Zone (CWQZ)**
- City of Austin Fully Developed Floodplains for all water courses with up to 64-acres of drainage**

10. **HYDROGEOLOGIC REPORT** – Provide a description of site soils, topography, and site specific geology below (Attach additional sheets if needed):

Surface Soils on the project site is summarized in the table below and uses the SCS Hydrologic Soil Groups*. If there is more than one soil unit on the project site, show each soil unit on the site soils map.

Soil Series Unit Names, Infiltration Characteristics & Thickness		
Soil Series Unit Name & Subgroup**	Group*	Thickness (feet)
Tarrant soils and Urban land, 0 to 2 percent slopes, (TeA)	B	0.3 to 1.2
Tarrant soils and Urban land, 5 to 18 percent slopes, (TeE)	B	0.3 to 1.2
Volente soils and Urban land, 1 to 8 percent slopes, (VuD)	C	0.2 to 4.6

*Soil Hydrologic Groups Definitions (*Abbreviated*)

A. Soils having a high infiltration rate when thoroughly wetted.

B. Soils having a moderate infiltration rate when thoroughly wetted.

C. Soils having a slow infiltration rate when thoroughly wetted.

D. Soils having a very slow infiltration rate when thoroughly wetted.

**Subgroup Classification – See Classification of Soil Series Table in County Soil Survey.

Description of Site Topography and Drainage (Attach additional sheets if needed):

Topographically, the site is approximately 700 feet above mean sea level (USGS, 1988). Drainage on the subject site occurs primarily by overland sheet flow in a west-to-east direction, towards Foster Branch of Shoal Creek.

List surface geologic units below:

Geologic Units Exposed at Surface		
Group	Formation	Member
Fredericksburg Group	Undivided (Kfr)	N/A
Fredericksburg Group	Edwards Limestone (Ked)	N/A

Brief description of site geology (Attach additional sheets if needed):

The subject site is underlain by Fredericksburg Group, undivided (Kfr) and Edwards Limestone (Ked) (UT-BEG, 1995).

The Fredericksburg Group is an undivided mixture of Edwards Limestone (Ked), Comanche Peak Limestone (Kc), Keys Valley Marl (Kkv), Cedar Park Limestone (Kcp), and Bee Cave Marl (Kbc).

The Edwards Limestone is a thinly to massively bedded, hard to soft, cherty, fossiliferous, fine-grained limestone and dolomite that commonly have red clay and calcite associated with solution features, such as caves and collapsed zones. The Edwards Limestone is known to form caves and voids.

Wells– Identify all recorded and unrecorded wells on site (test holes, monitoring, water, oil, unplugged, capped and/or abandoned wells, etc.):

There are 0 (#) wells present on the project site and the locations are shown and labeled

0 (#s)The wells are not in use and have been properly abandoned.

0 (#s)The wells are not in use and will be properly abandoned.

0 (#s)The wells are in use and comply with 16 TAC Chapter 76.

There are 2 (#s) wells that are off-site and within 150 feet of this site.

11. THE VEGETATION REPORT – Provide the information requested below:

Brief description of site plant communities (Attach additional sheets if needed):

The subject site is situated within the Blackland Prairie vegetational area of Texas (Gould, 1975).

There is woodland community on site YES NO (Check one).

If yes, list the dominant species below:

Woodland species	
Common Name	Scientific Name
plateau live oak	<i>Quercus fusiformis</i>
hackberry	<i>Celtis laevigata</i>
cedar elm	<i>Ulmus crassifolia</i>
Chinese tallow	<i>Triadica sebifera</i>

There is grassland/prairie/savanna on site YES NO (Check one).

If yes, list the dominant species below:

Grassland/prairie/savanna species	
Common Name	Scientific Name

There is hydrophytic vegetation on site YES NO (Check one).

If yes, list the dominant species in table below (next page):

Hydrophytic plant species		
Common Name	Scientific Name	Wetland Indicator Status
black willow	<i>Salix nigra</i>	FACW
common spikerush	<i>Eleocharis palustris</i>	OBL
common rush	<i>Juncus effusus</i>	OBL

A tree survey of all trees with a diameter of at least eight inches measured four and one-half feet above natural grade level has been completed on the site.

YES NO (Check one).

12. WASTEWATER REPORT – Provide the information requested below.

Wastewater for the site will be treated by (Check of that Apply):

- On-site system(s)
- City of Austin Centralized sewage collection system
- Other Centralized collection system

Note: All sites that receive water or wastewater service from the Austin Water Utility must comply with Chapter 15-12 of Austin City Code and wells must be registered with the City of Austin

The site sewage collection system is designed and will be constructed to in accordance to all State, County and City standard specifications.

YES NO (Check one).

Calculations of the size of the drainfield or wastewater irrigation area(s) are attached at the end of this report or shown on the site plan.

YES NO Not Applicable (Check one).

Wastewater lines are proposed within the Critical Water Quality Zone?

YES NO (Check one). If yes, then provide justification below:

Is the project site is over the Edwards Aquifer?

YES NO (Check one).

If yes, then describe the wastewater disposal systems proposed for the site, its treatment level and effects on receiving watercourses or the Edwards Aquifer.

City of Austin already supplies wastewater disposal for the site.

13. One (1) hard copy and one (1) electronic copy of the completed assessment have been provided.

Date(s) ERI Field Assessment was performed: 7-25-2014 6-14-2015
Date(s)

My signature certifies that to the best of my knowledge, the responses on this form accurately reflect all information requested.

James Killian, PG

512-328-2430

Print Name

Telephone

James P. Killian

james_killian@horizon-esi.com

Signature

Email Address

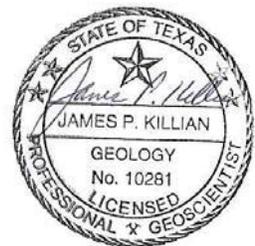
Horizon Environmental Services, Inc.

August 3, 2015

Name of Company

Date

For project sites within the Edwards Aquifer Recharge Zone, my signature and seal also certifies that I am a licensed Professional Geoscientist in the State of Texas as defined by ECM 1.12.3(A).



Attachments



MAP SOURCE: UT-BEG, 1995; COA, 2003; USDA, 2012.

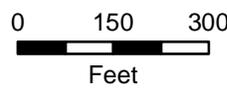


FIGURE 1

SITE SPECIFIC GEOLOGIC MAP
32-ACRE AUSTIN OAKS PROPERTY
LOCATED AT MOPAC AND
SPICEWOOD SPRINGS ROAD
AUSTIN, TRAVIS COUNTY, TEXAS



Legend

 Subject Site

MAP SOURCE: USGS, 1995.

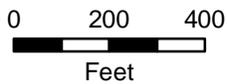
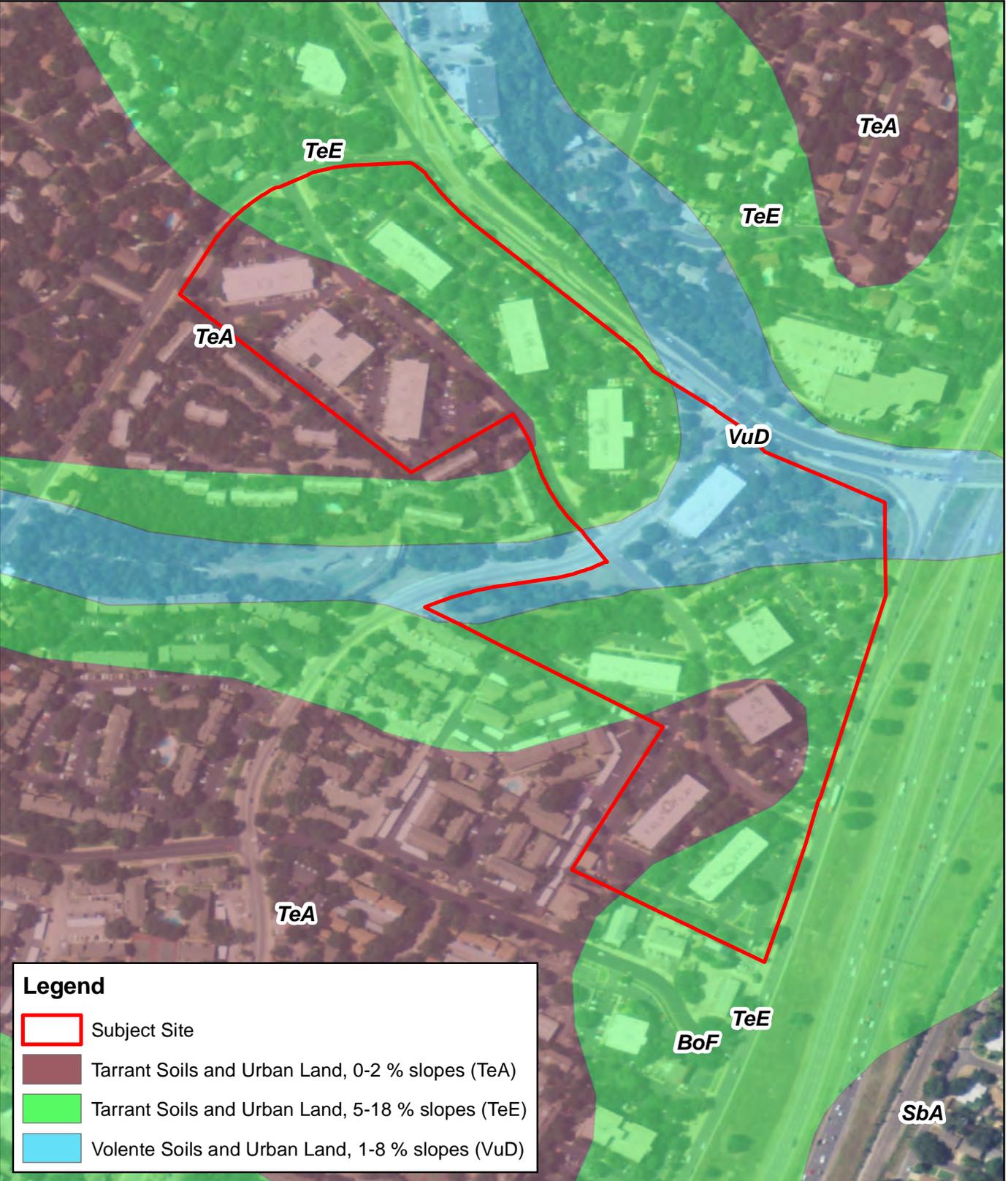


FIGURE 2

1995 HISTORICAL PHOTOGRAPH
32-ACRE AUSTIN OAKS PROPERTY
LOCATED AT MOPAC AND
SPICEWOOD SPRINGS ROAD
AUSTIN, TRAVIS COUNTY, TEXAS



Legend

- Subject Site
- Tarrant Soils and Urban Land, 0-2 % slopes (TeA)
- Tarrant Soils and Urban Land, 5-18 % slopes (TeE)
- Volente Soils and Urban Land, 1-8 % slopes (VuD)

MAP SOURCE: USDA, 2012; NRCS, 2014.

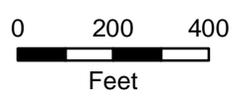


FIGURE 3
SITE SOILS MAP
32-ACRE AUSTIN OAKS PROPERTY
LOCATED AT MOPAC AND
SPICEWOOD SPRINGS ROAD
AUSTIN, TRAVIS COUNTY, TEXAS



Legend

-  Subject Site
-  Wetland CEF
-  50 - Foot CEF Buffer
-  Stream Wetland CEF
-  Rim Rock CEF
-  Water Wells
-  Seep

MAP SOURCE: COA, 2003; USDA, 2012.

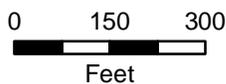


FIGURE 4

CRITICAL ENVIRONMENTAL FEATURES
32-ACRE AUSTIN OAKS PROPERTY
LOCATED AT MOPAC AND
SPICEWOOD SPRINGS ROAD
AUSTIN, TRAVIS COUNTY, TEXAS



Legend

-  Subject Site
-  Edwards Aquifer Recharge Zone
-  Critical Water Quality Zone

MAP SOURCE: COA, 2003; USDA, 2012.

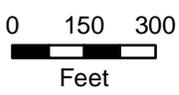


FIGURE 5

EDWARDS AQUIFER RECHARGE ZONE AND CRITICAL WATER QUALITY ZONE MAP
32-ACRE AUSTIN OAKS PROPERTY
LOCATED AT MOPAC AND SPICEWOOD SPRINGS ROAD
AUSTIN, TRAVIS COUNTY, TEXAS