

# Edwards Aquifer Application Cover Page

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## Our Review of Your Application

The Edwards Aquifer Program staff conducts an administrative and technical review of all applications. The turnaround time for administrative review can be up to 30 days as outlined in 30 TAC 213.4(e). Generally administrative completeness is determined during the intake meeting or within a few days of receipt. The turnaround time for technical review of an administratively complete Edwards Aquifer application is 90 days as outlined in 30 TAC 213.4(e). Please know that the review and approval time is directly impacted by the quality and completeness of the initial application that is received. In order to conduct a timely review, it is imperative that the information provided in an Edwards Aquifer application include final plans, be accurate, complete, and in compliance with [30 TAC 213](#).

## Administrative Review

1. [Edwards Aquifer applications](#) must be deemed administratively complete before a technical review can begin. To be considered administratively complete, the application must contain completed forms and attachments, provide the requested information, and meet all the site plan requirements. The submitted application and plan sheets should be final plans. Please submit one full-size set of plan sheets with the original application, and half-size sets with the additional copies.

To ensure that all applicable documents are included in the application, the program has developed tools to guide you and web pages to provide all forms, checklists, and guidance. Please visit the below website for assistance: <http://www.tceq.texas.gov/field/eapp>.

2. This Edwards Aquifer Application Cover Page form (certified by the applicant or agent) must be included in the application and brought to the administrative review meeting.
3. Administrative reviews are scheduled with program staff who will conduct the review. Applicants or their authorized agent should call the appropriate regional office, according to the county in which the project is located, to schedule a review. The average meeting time is one hour.
4. In the meeting, the application is examined for administrative completeness. Deficiencies will be noted by staff and emailed or faxed to the applicant and authorized agent at the end of the meeting, or shortly after. Administrative deficiencies will cause the application to be deemed incomplete and returned.

An appointment should be made to resubmit the application. The application is re-examined to ensure all deficiencies are resolved. The application will only be deemed administratively complete when all administrative deficiencies are addressed.

5. If an application is received by mail, courier service, or otherwise submitted without a review meeting, the administrative review will be conducted within 30 days. The applicant and agent will be contacted with the results of the administrative review. If the application is found to be administratively incomplete, it can be retrieved from the regional office or returned by regular mail. If returned by mail, the regional office may require arrangements for return shipping.
6. If the geologic assessment was completed before October 1, 2004 and the site **contains “possibly sensitive”** features, the assessment must be updated in accordance with the *Instructions to Geologists* (TCEQ-0585 Instructions).

## Technical Review

1. When an application is deemed administratively complete, the technical review period begins. The regional office will distribute copies of the application to the identified affected city, county, and groundwater conservation district whose jurisdiction includes the subject site. These entities and the public have 30 days to provide comments on the application to the regional office. All comments received are reviewed by TCEQ.
2. A site assessment is usually conducted as part of the technical review, to evaluate the geologic assessment and observe existing site conditions. The site must be accessible to our staff. The site boundaries should be

clearly marked, features identified in the geologic assessment should be flagged, roadways marked and the alignment of the Sewage Collection System and manholes should be staked at the time the application is submitted. If the site is not marked the application may be returned.

3. We evaluate the application for technical completeness and contact the applicant and agent via Notice of Deficiency (NOD) to request additional information and identify technical deficiencies. There are two deficiency response periods available to the applicant. There are 14 days to resolve deficiencies noted in the first NOD. If a second NOD is issued, there is an additional 14 days to resolve deficiencies. If the response to the second notice is not received, is incomplete or inadequate, or provides new information that is incomplete or inadequate, the application must be withdrawn or will be denied. Please note that because the technical review is underway, whether the application is withdrawn or denied **the application fee will be forfeited.**
4. The program has 90 calendar days to complete the technical review of the application. If the application is technically adequate, such that it complies with the Edwards Aquifer rules, and is protective of the Edwards Aquifer during and after construction, an approval letter will be issued. Construction or other regulated activity may not begin until an approval is issued.

**Mid-Review Modifications**

It is important to have final site plans prior to beginning the permitting process with TCEQ to avoid delays.

Occasionally, circumstances arise where you may have significant design and/or site plan changes after your Edwards Aquifer application has been deemed administratively complete by TCEQ. This is considered a “Mid-Review Modification”. Mid-Review Modifications may require redistribution of an application that includes the proposed modifications for public comment.

If you are proposing a Mid-Review Modification, two options are available:

- If the technical review has begun your application can be denied/withdrawn, your fees will be forfeited, and the plan will have to be resubmitted.
- TCEQ can continue the technical review of the application as it was submitted, and a modification application can be submitted at a later time.

If the application is denied/withdrawn, the resubmitted application will be subject to the administrative and technical review processes and will be treated as a new application. The application will be redistributed to the affected jurisdictions.

Please contact the regional office if you have questions. If your project is located in Williamson, Travis, or Hays County, contact TCEQ’s Austin Regional Office at 512-339-2929. If your project is in Comal, Bexar, Medina, Uvalde, or Kinney County, contact TCEQ’s San Antonio Regional Office at 210-490-3096

Please fill out all required fields below and submit with your application.

<b>1. Regulated Entity Name: Avery Oaks Park</b>				<b>2. Regulated Entity No.: RN</b>			
<b>3. Customer Name: Lakeline Avery Partners, LP</b>				<b>4. Customer No.: CN605737105</b>			
<b>5. Project Type:</b> (Please circle/check one)	New	Modification			Extension	<b>Exception</b>	
<b>6. Plan Type:</b> (Please circle/check one)	WPAP	CZP	SCS	UST	AST	<b>EXP</b>	EXT
<b>7. Land Use:</b> (Please circle/check one)	Residential	<b>Non-residential</b>			<b>8. Site (acres):</b>		7.05
<b>9. Application Fee:</b>	\$6,933.50		<b>10. Permanent BMP(s):</b>			Existing Wet Basin	
<b>11. SCS (Linear Ft.):</b>	0		<b>12. AST/UST (No. Tanks):</b>			N/A	
<b>13. County:</b>	Williamson		<b>14. Watershed:</b>			Buttercup Creek	

# Application Distribution

Instructions: Use the table below to determine the number of applications required. One original and one copy of the application, plus additional copies (as needed) for each affected incorporated city, county, and groundwater conservation district are required. Linear projects or large projects, which cross into multiple jurisdictions, can require additional copies. Refer to the “Texas Groundwater Conservation Districts within the **EAPP Boundaries**” map found at:

[http://www.tceq.texas.gov/assets/public/compliance/field\\_ops/eapp/EAPP%20GWCD%20map.pdf](http://www.tceq.texas.gov/assets/public/compliance/field_ops/eapp/EAPP%20GWCD%20map.pdf)

For more detailed boundaries, please contact the conservation district directly.

Austin Region			
County:	Hays	Travis	Williamson
Original (1 req.)	—	—	1
Region (1 req.)	—	—	1
County(ies)	—	—	1
Groundwater Conservation District(s)	<input type="checkbox"/> Edwards Aquifer Authority <input type="checkbox"/> Barton Springs/ Edwards Aquifer <input type="checkbox"/> Hays Trinity <input type="checkbox"/> Plum Creek	<input type="checkbox"/> Barton Springs/ Edwards Aquifer	NA
City(ies) Jurisdiction	<input type="checkbox"/> Austin <input type="checkbox"/> Buda <input type="checkbox"/> Dripping Springs <input type="checkbox"/> Kyle <input type="checkbox"/> Mountain City <input type="checkbox"/> San Marcos <input type="checkbox"/> Wimberley <input type="checkbox"/> Woodcreek	<input type="checkbox"/> Austin <input type="checkbox"/> Bee Cave <input type="checkbox"/> Pflugerville <input type="checkbox"/> Rollingwood <input type="checkbox"/> Round Rock <input type="checkbox"/> Sunset Valley <input type="checkbox"/> West Lake Hills	1 <input type="checkbox"/> Austin <input type="checkbox"/> Cedar Park <input type="checkbox"/> Florence <input type="checkbox"/> Georgetown <input type="checkbox"/> Jerrell <input type="checkbox"/> Leander <input type="checkbox"/> Liberty Hill <input type="checkbox"/> Pflugerville <input type="checkbox"/> Round Rock

San Antonio Region					
County:	Bexar	Comal	Kinney	Medina	Uvalde
Original (1 req.)	—	—	—	—	—
Region (1 req.)	—	—	—	—	—
County(ies)	—	—	—	—	—
Groundwater Conservation District(s)	<input type="checkbox"/> Edwards Aquifer Authority <input type="checkbox"/> Trinity-Glen Rose	<input type="checkbox"/> Edwards Aquifer Authority	<input type="checkbox"/> Kinney	<input type="checkbox"/> EAA <input type="checkbox"/> Medina	<input type="checkbox"/> EAA <input type="checkbox"/> Uvalde
City(ies) Jurisdiction	<input type="checkbox"/> Castle Hills <input type="checkbox"/> Fair Oaks Ranch <input type="checkbox"/> Helotes <input type="checkbox"/> Hill Country Village <input type="checkbox"/> Hollywood Park <input type="checkbox"/> San Antonio (SAWS) <input type="checkbox"/> Shavano Park	<input type="checkbox"/> Bulverde <input type="checkbox"/> Fair Oaks Ranch <input type="checkbox"/> Garden Ridge <input type="checkbox"/> New Braunfels <input type="checkbox"/> Schertz	NA	<input type="checkbox"/> San Antonio ETJ (SAWS)	NA

I certify that to the best of my knowledge, that the application is complete and accurate. This application is hereby submitted to TCEQ for administrative review and technical review.

Candace Craig

Print Name of Customer/Authorized Agent

*Candace Craig*

5/16/2023

Signature of Customer/Authorized Agent

Date

**\*\*FOR TCEQ INTERNAL USE ONLY\*\***

Date(s) Reviewed:		Date Administratively Complete:	
Received From:		Correct Number of Copies:	
Received By:		Distribution Date:	
EAPP File Number:		Complex:	
Admin. Review(s) (No.):		No. AR Rounds:	
Delinquent Fees (Y/N):		Review Time Spent:	
Lat./Long. Verified:		SOS Customer Verification:	
Agent Authorization Complete/Notarized (Y/N):		Fee Check:	Payable to TCEQ (Y/N):
Core Data Form Complete (Y/N):			Signed (Y/N):
Core Data Form Incomplete Nos.:			Less than 90 days old (Y/N):

# General Information Form

## Texas Commission on Environmental Quality

For Regulated Activities on the Edwards Aquifer Recharge and Transition Zones and Relating to 30 TAC §213.4(b) & §213.5(b)(2)(A), (B) Effective June 1, 1999

**To ensure that the application is administratively complete, confirm that all fields in the form are complete, verify that all requested information is provided, consistently reference the same site and contact person in all forms in the application, and ensure forms are signed by the appropriate party.**

**Note: Including all the information requested in the form and attachments contributes to more streamlined technical reviews.**

### Signature

To the best of my knowledge, the responses to this form accurately reflect all information requested concerning the proposed regulated activities and methods to protect the Edwards Aquifer. This **General Information Form** is hereby submitted for TCEQ review. The application was prepared by:

Print Name of Customer/Agent: Candace Craig, PE

Date: 05/16/2023

Signature of Customer/Agent:



### Project Information

1. Regulated Entity Name: Avery Oaks Park
2. County: Williamson
3. Stream Basin: Buttercup Creek
4. Groundwater Conservation District (If applicable): N/A
5. Edwards Aquifer Zone:
  - Recharge Zone
  - Transition Zone
6. Plan Type:
  - WPAP
  - SCS
  - Modification
  - AST
  - UST
  - Exception Request

7. Customer (Applicant):

Contact Person: Alex Clarke

Entity: Lakeline Avery Partners, LP

Mailing Address: 1000 N Lamar Blvd

City, State: Austin, TX

Zip: 78703

Telephone: (512) 374-2905

FAX: \_\_\_\_\_

Email Address: aclarke@journeymanco.com

8. Agent/Representative (If any):

Contact Person: Candace Craig, PE

Entity: Nora Engineering & Planning LLC

Mailing Address: 5114 Balcones Woods Dr., Ste. 307-122

City, State: Austin, TX

Zip: 78759

Telephone: (737) 264-3081

FAX: \_\_\_\_\_

Email Address: ccraig@noraeng.com

9. Project Location:

The project site is located inside the city limits of Austin.

The project site is located outside the city limits but inside the ETJ (extra-territorial jurisdiction) of \_\_\_\_\_.

The project site is not located within any city's limits or ETJ.

10.  The location of the project site is described below. The description provides sufficient detail and clarity so that the TCEQ's Regional staff can easily locate the project and site boundaries for a field investigation.

9204 North Lake Creek Pkwy, Austin, TX 78717

11.  **Attachment A – Road Map.** A road map showing directions to and the location of the project site is attached. The project location and site boundaries are clearly shown on the map.

12.  **Attachment B - USGS / Edwards Recharge Zone Map.** A copy of the official 7 ½ minute USGS Quadrangle Map (Scale: 1" = 2000') of the Edwards Recharge Zone is attached. The map(s) clearly show:

Project site boundaries.

USGS Quadrangle Name(s).

Boundaries of the Recharge Zone (and Transition Zone, if applicable).

Drainage path from the project site to the boundary of the Recharge Zone.

13.  **The TCEQ must be able to inspect the project site or the application will be returned.** Sufficient survey staking is provided on the project to allow TCEQ regional staff to locate the boundaries and alignment of the regulated activities and the geologic or manmade features noted in the Geologic Assessment.

Survey staking will be completed by this date: \_\_\_\_\_

14.  **Attachment C – Project Description.** Attached at the end of this form is a detailed narrative description of the proposed project. The project description is consistent throughout the application and contains, at a minimum, the following details:

- Area of the site
- Offsite areas
- Impervious cover
- Permanent BMP(s)
- Proposed site use
- Site history
- Previous development
- Area(s) to be demolished

15. Existing project site conditions are noted below:

- Existing commercial site
- Existing industrial site
- Existing residential site
- Existing paved and/or unpaved roads
- Undeveloped (Cleared)
- Undeveloped (Undisturbed/Uncleared)
- Other: \_\_\_\_\_

### *Prohibited Activities*

16.  I am aware that the following activities are prohibited on the Recharge Zone and are not proposed for this project:

- (1) Waste disposal wells regulated under 30 TAC Chapter 331 of this title (relating to Underground Injection Control);
- (2) New feedlot/concentrated animal feeding operations, as defined in 30 TAC §213.3;
- (3) Land disposal of Class I wastes, as defined in 30 TAC §335.1;
- (4) The use of sewage holding tanks as parts of organized collection systems; and
- (5) New municipal solid waste landfill facilities required to meet and comply with Type I standards which are defined in §330.41(b), (c), and (d) of this title (relating to Types of Municipal Solid Waste Facilities).
- (6) New municipal and industrial wastewater discharges into or adjacent to water in the state that would create additional pollutant loading.

17.  I am aware that the following activities are prohibited on the Transition Zone and are not proposed for this project:

- (1) Waste disposal wells regulated under 30 TAC Chapter 331 (relating to Underground Injection Control);
- (2) Land disposal of Class I wastes, as defined in 30 TAC §335.1; and

- (3) New municipal solid waste landfill facilities required to meet and comply with Type I standards which are defined in §330.41 (b), (c), and (d) of this title.

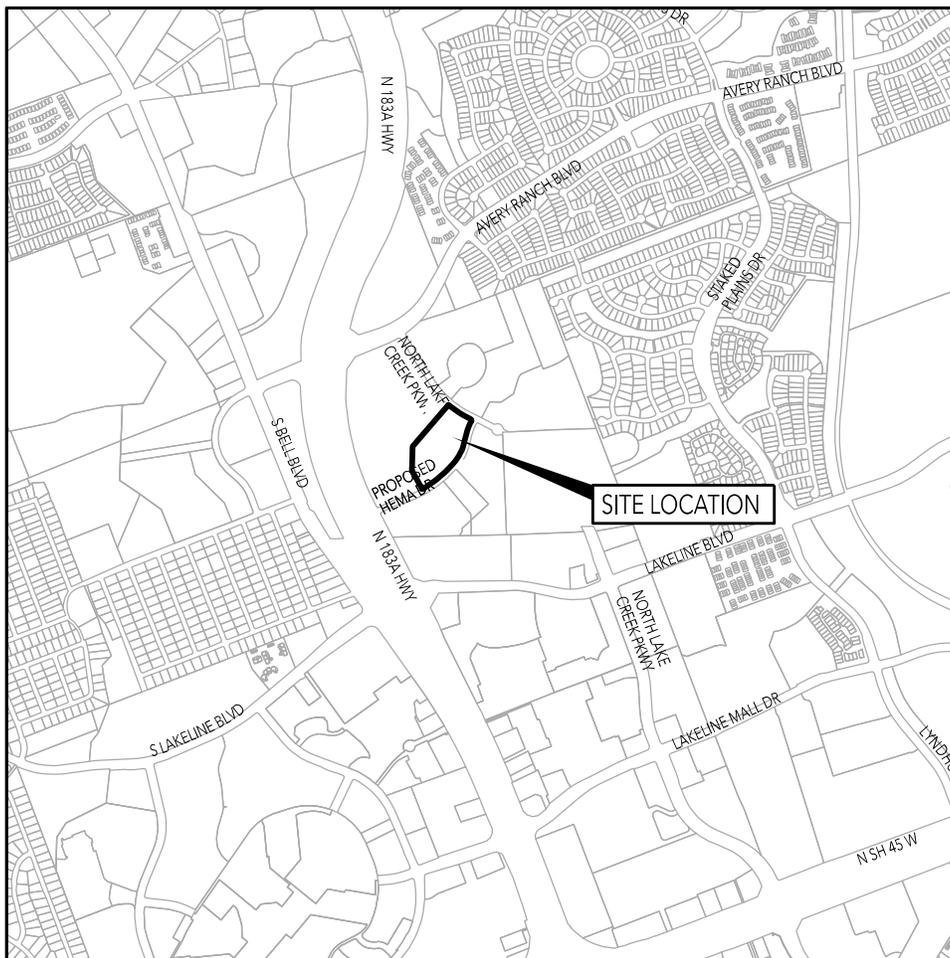
### *Administrative Information*

18. The fee for the plan(s) is based on:

- For a Water Pollution Abatement Plan or Modification, the total acreage of the site where regulated activities will occur.
  - For an Organized Sewage Collection System Plan or Modification, the total linear footage of all collection system lines.
  - For a UST Facility Plan or Modification or an AST Facility Plan or Modification, the total number of tanks or piping systems.
  - A request for an exception to any substantive portion of the regulations related to the protection of water quality.
  - A request for an extension to a previously approved plan.
19.  Application fees are due and payable at the time the application is filed. If the correct fee is not submitted, the TCEQ is not required to consider the application until the correct fee is submitted. Both the fee and the Edwards Aquifer Fee Form have been sent to the Commission's:
- TCEQ cashier
  - Austin Regional Office (for projects in Hays, Travis, and Williamson Counties)
  - San Antonio Regional Office (for projects in Bexar, Comal, Kinney, Medina, and Uvalde Counties)
20.  Submit one (1) original and one (1) copy of the application, plus additional copies as needed for each affected incorporated city, groundwater conservation district, and county in which the project will be located. The TCEQ will distribute the additional copies to these jurisdictions. The copies must be submitted to the appropriate regional office.
21.  No person shall commence any regulated activity until the Edwards Aquifer Protection Plan(s) for the activity has been filed with and approved by the Executive Director.



IF THIS BAR DOES NOT  
MEASURE 1" THEN DRAWING  
IS NOT TO SCALE



VICINITY MAP - NOT TO SCALE

COA Grid #: F40 & F41    MAPSCO Page #: 403Q, 403R, 403U, & 403V

ATTACHMENT A - ROAD MAP

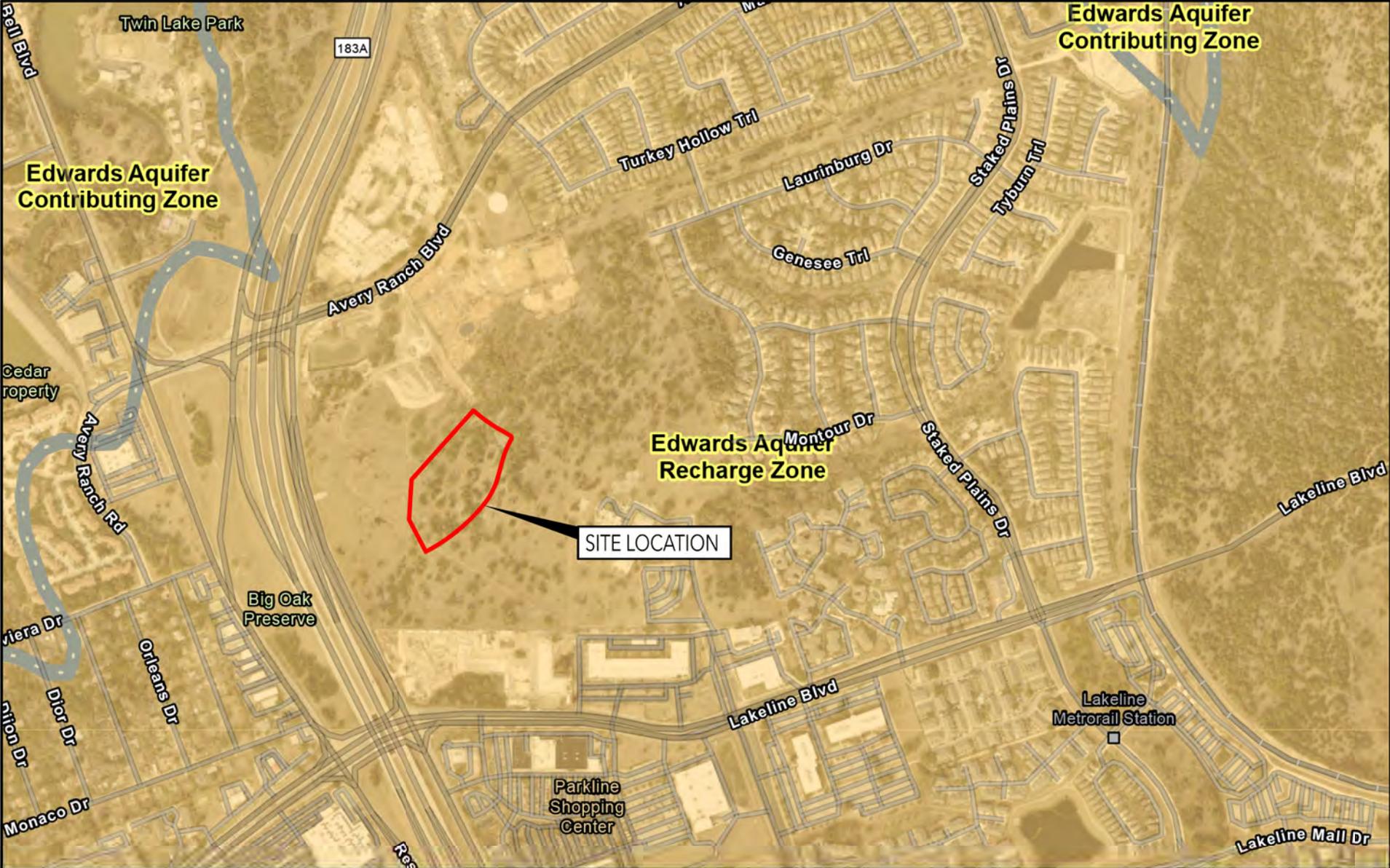
AVERY OAKS PARK  
9204 NORTH LAKE CREEK PKWY | AUSTIN, TX 78717

DATE:	PROJ. NO.:	REF. SHT.	EXHIBIT NO.	SCALE:
5/16/2023	22-103		ATT A	1" = 2000'



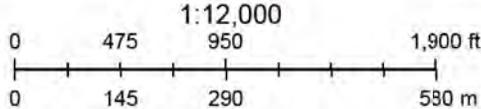
TBPELS # F-23249  
5114 BALCONES  
WOODS DRIVE  
SUITE 307-122 |  
AUSTIN, TX 78759  
WWW.NORAENG.COM  
(737) 264-3080

# Attachment B: USGS Edwards Aquifer Recharge Zone Map



4/5/2022, 2:26:49 PM

- TCEQ\_EDWARDS\_OFFICIAL\_MAPS
- Edwards Aquifer Boundary central line
- 7.5 Minute Quad Grid
- Edwards Aquifer Label
- City/Place
- Edwards Aquifer Boundary
- TX Counties

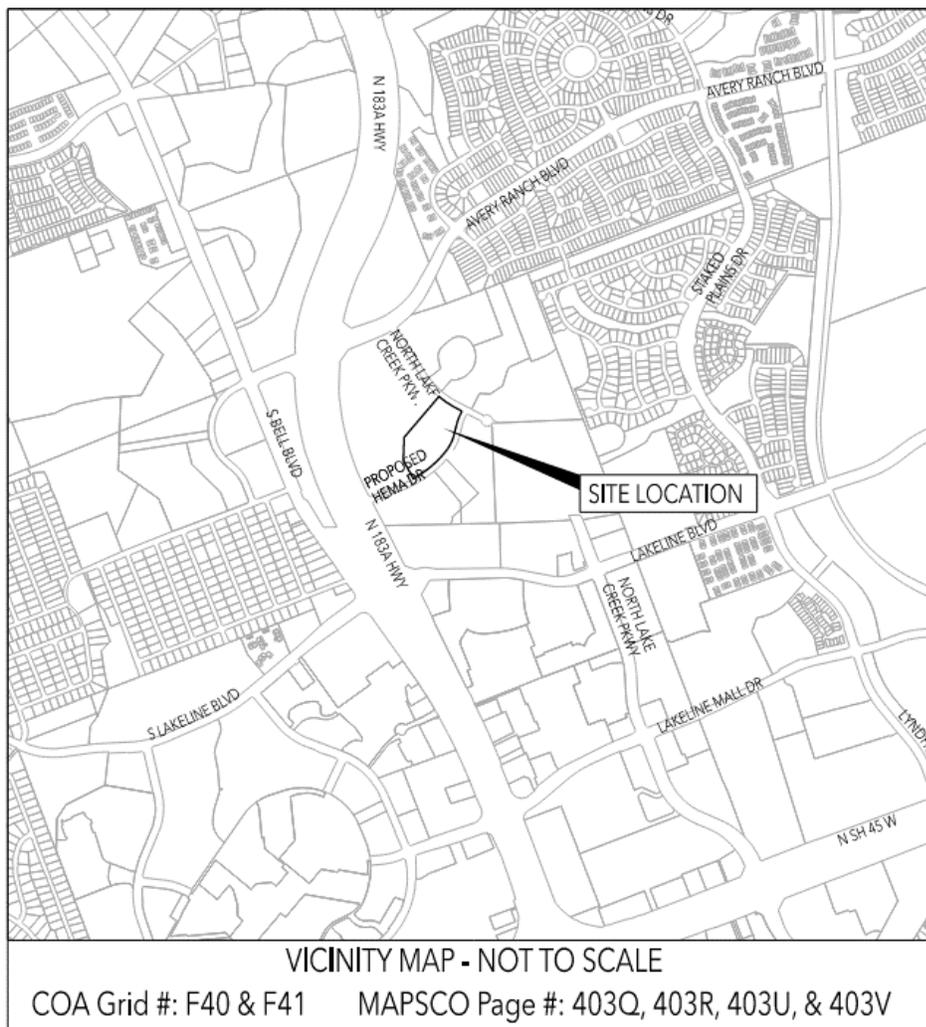


Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community, TCEQ,

Web AppBuilder for ArcGIS

**General Information Form  
ATTACHMENT C**

Avery Oaks Park is a proposed park improvement project on a 7.05-acre lot. The site is currently undeveloped. Based on the City of Austin Land Development Code which exempts public sidewalks and public trails impervious coverage (5.34% /16,412 SF), the proposed impervious coverage is 0.0%. The proposed project is a passive park with 8' wide concrete trails, picnic tables, benches, and bike racks. The property is located at 9204 North Lake Creek Parkway, on the east side of US 183A frontage road and south of Avery Ranch Boulevard. The site has frontage on Hema Drive, a proposed street in the Avery Lakeline Subdivision and North Lake Creek Parkway, but no access driveways nor parking is proposed. The location of the site is depicted in **Figure 1 (Vicinity Map)**.



**Figure 1: Vicinity Map**

The Permanent BMP for the site is an existing wet pond located at the southeast of Avery Ranch Boulevard and US 183A designed and constructed for the subdivision.

TCEQ-0587\_general\_info\_form\_AttachmentC.docx





# Geologic Assessment

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## 143-Acre Property at U.S. 183 and Avery Ranch Boulevard, Williamson County, Texas

Prepared by: Zara Environmental LLC

Date: 22 May 2017

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# Geologic Assessment

## Texas Commission on Environmental Quality

For Regulated Activities on The Edwards Aquifer Recharge/transition Zones and Relating to 30 TAC §213.5(b)(3), Effective June 1, 1999

**To ensure that the application is administratively complete, confirm that all fields in the form are complete, verify that all requested information is provided, consistently reference the same site and contact person in all forms in the application, and ensure forms are signed by the appropriate party.**

**Note: Including all the information requested in the form and attachments contributes to more streamlined technical reviews.**

### Signature

To the best of my knowledge, the responses to this form accurately reflect all information requested concerning the proposed regulated activities and methods to protect the Edwards Aquifer. My signature certifies that I am qualified as a geologist as defined by 30 TAC Chapter 213.

Print Name of Geologist: Brian D. Cowan, P.G., and Telephone: 512-291-4555

C. Clover Clamons, P.G.

Fax: 866-908-9137

Date: 22 May 2017

Representing: Zara Environmental LLC/ TBPG No. 50365 (Name of Company and TBPG or TBPE registration number) Signature of Geologist:





**Regulated Entity Name:** 143-Acre Property at U.S. 183 and Avery Ranch Boulevard, Williamson County, Texas

### Project Information

1. Date(s) Geologic Assessment was performed: 1 February 2017 – 10 February 2017

2. Type of Project

WPAP

AST

SCS

UST

3. Location of Project:

Recharge Zone

Transition Zone

Contributing Zone within the Transition Zone

4.  **Attachment A - Geologic Assessment Table.** Completed Geologic Assessment Table (Form TCEQ-0585-Table) is attached.
5.  Soil cover on the project site is summarized in the table below and uses the SCS Hydrologic Soil Groups\* (Urban Hydrology for Small Watersheds, Technical Release No. 55, Appendix A, Soil Conservation Service, 1986). If there is more than one soil type on the project site, show each soil type on the site Geologic Map or a separate soils map.

**Table 1 - Soil Units, Infiltration Characteristics and Thickness**

Soil Name	Group *	Thickness (ft)
EeB - Eckrant extremely stony clay, 0 to 3 percent slopes	B	0.9
ErE - Eckrant-Rock outcrop association, 1 to 10 percent slopes	B	0.9
DoC - Doss silty clay, moist, 1 to 5 percent slopes	B	1.4
DnB - Denton silty clay, 1 to 3 percent slopes	B	3.0

\* Soil Group 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.

6.  **Attachment B – Stratigraphic Column.** A stratigraphic column showing formations, members, and thicknesses is attached. The outcropping unit, if present, should be at the top of the stratigraphic column. Otherwise, the uppermost unit should be at the top of the stratigraphic column.
7.  **Attachment C – Site Geology.** A narrative description of the site specific geology including any features identified in the Geologic Assessment Table, a discussion of the potential for fluid movement to the Edwards Aquifer, stratigraphy, structure(s), and karst characteristics is attached.
8.  **Attachment D – Site Geologic Map(s).** The Site Geologic Map must be the same scale as the applicant's Site Plan. The minimum scale is 1": 400'

Applicant's Site Plan Scale: 1" = N/A '

Site Geologic Map Scale: 1" = 200'

Site Soils Map Scale (if more than 1 soil type): 1" = 800'

9. Method of collecting positional data:

Global Positioning System (GPS) technology.

Other method(s). Please describe method of data collection: Historic features derived from other consultant reports and Texas Speleological Survey

10.  The project site and boundaries are clearly shown and labeled on the Site Geologic Map.
11.  Surface geologic units are shown and labeled on the Site Geologic Map.

12.  Geologic or manmade features were discovered on the project site during the field investigation. They are shown and labeled on the Site Geologic Map and are described in the attached Geologic Assessment Table.

Geologic or manmade features were not discovered on the project site during the field investigation.

13.  The Recharge Zone boundary is shown and labeled, if appropriate.

14. All known wells (test holes, water, oil, unplugged, capped and/or abandoned, etc.): If applicable, the information must agree with Item No. 20 of the WPAP Application Section.

There is \_\_\_\_\_ (#) well present on the project site and the location is shown and labeled. (Check all of the following that apply.)

The wells are not in use and have been properly abandoned.

The wells are not in use and will be properly abandoned.

The wells are in use and comply with 16 TAC Chapter 76.

There are no wells or test holes of any kind known to exist on the project site.

***See Previously Identified Feature F17***

### *Administrative Information*

15.  Submit one (1) original and one (1) copy of the application, plus additional copies as needed for each affected incorporated city, groundwater conservation district, and county in which the project will be located. The TCEQ will distribute the additional copies to these jurisdictions. The copies must be submitted to the appropriate regional office.

# ATTACHMENT A

GEOLOGIC ASSESSMENT TABLE						PROJECT NAME: <i>143-Acre Property at U.S. 183 and Avery Ranch Boulevard, Williamson County, Texas</i>														
LOCATION			FEATURE CHARACTERISTICS											EVALUATION		PHYSICAL SETTING				
1A	1B*	1C*	2A	2B	3	4			5	5A	6	7	8A	8B	9	10		11		12
FEATURE ID	LATITUDE	LONGITUDE	FEATURE TYPE	POINTS	FORMATION	DIMENSIONS (FT)			TREND (DEGREES)	MOD	DENSITY (NO/FT)	APERTURE (FT)	INFILL	RELATIVE INFILTRATION RATE	TOTAL	SENSITIVITY		CATCHMENT AREA (ACRES)		TOPOGRAPHY
						X	Y	Z								<40	≥40	<1.6	≥1.6	
<b>AV1</b>	30.48322	-97.80197	CD	5	Ked	5.9	5.9	2.5	-	-	3/30ft	-	C,F	5	10	x		x		Hillside
<b>AV2</b>	30.48515	-97.79959	CD	5	Ked	16.4	13.1	1.6	-	-	-	-	F,O	5	10	x		x		Hilltop
<b>AV3</b>	30.48568	-97.80047	CD	5	Ked	7.2	7.2	1	-	-	-	-	F,O,C	5	10	x		x		Hillside
<b>AV4</b>	30.48637	-97.80383	SF	20	Ked	3.3	1	1.6	10	-	-	-	F,O	10	30	x		x		Hillside
<b>AV5</b>	30.48729	-97.80362	O	5	Ked	9.8	9.8	?	-	-	-	-	F,O,C	10	15	x		x		Drainage
<b>AV6</b>	30.49137	-97.80437	CD	5	Ked	9.8	16.4	1.6	-	-	-	-	F,O,C	5	10	x		x		Hilltop
<b>AV7</b>	30.48643	-97.80400	CD	5	Ked	4.9	4.9	1.3	-	-	-	-	F,C	5	10	x		x		Hillside
<b>AV8</b>	30.48654	-97.80357	SC	20	Ked	3	3.0	0.7	-	-	-	-	F,C	15	35	x		x		Hillside
<b>AV9</b>	30.49386	-97.80521	CD	5	Ked	4.9	6.6	0.8	-	-	-	-	F,O,C	5	10	x		x		Hilltop
<b>AV10</b>	30.48741	-97.80338	MB	30	Ked	0.3	0.3	10.5	-	-	-	-	N	5	35	x		x		Hillside
<b>AV11</b>	30.48171	-97.80103	MB	30	Ked	3.3	3.3	?	-	-	-	-	N	5	35	x		x		Hillside

\* DATUM: NAD 83

2A	TYPE	2B POINTS
C	Cave	30
SC	Solution cavity	20
SF	Solution-enlarged fracture(s)	20
F	Fault	20
O	Other natural bedrock features	5
MB	Manmade feature in bedrock	30
SW	Swallow hole	30
SH	Sinkhole	20
CD	Non-karst closed depression	5
Z	Zone, clustered or aligned features	30

8A INFILLING	
N	None, exposed bedrock
C	Coarse - cobbles, breakdown, sand, gravel
O	Loose or soft mud or soil, organics, leaves, sticks, dark colors
F	Fines, compacted clay-rich sediment, soil profile, gray or red colors
V	Vegetation. Give details in narrative description
FS	Flowstone, cements, cave deposits
X	Other materials

12 TOPOGRAPHY
Cliff, Hilltop, Hillside, Drainage, Floodplain, Streambed

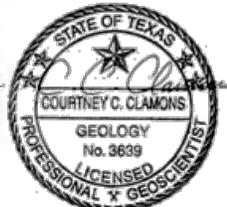
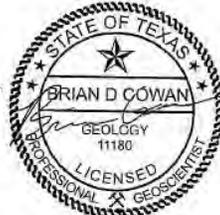
I have read, I understood, and I have followed the Texas Commission on Environmental Quality's Instructions to Geologists. The information presented here complies with that document and is a true representation of the conditions observed in the field. My signature certifies that I am qualified as a geologist as defined by 30 TAC Chapter 213.

Date 22 May 2017

Sheet   1   of   2  

TCEQ-0585-Table (Rev. 10-01-04)

*Brian Cowan* *C.C. Clamons*



## ATTACHMENT A

GEOLOGIC ASSESSMENT TABLE										PROJECT NAME: <i>143-Acre Property at U.S. 183 and Avery Ranch Boulevard, Williamson County, Texas</i>										
LOCATION			FEATURE CHARACTERISTICS										EVALUATION		PHYSICAL SETTING					
1A	1B*	1C*	2A	2B	3	4			5	5A	6	7	8A	8B	9	10		11		12
FEATURE ID	LATITUDE	LONGITUDE	FEATURE TYPE	POINTS	FORMATION	DIMENSIONS (FT)			TREND (DEGREES)	MOOD	DENSITY (NO/FT)	APERTURE (FT)	INFILL	RELATIVE INFILTRATION RATE	TOTAL	SENSITIVITY		CATCHMENT AREA (ACRES)		TOPOGRAPHY
						X	Y	Z								<40	≥40	<1.6	≥1.6	
<b>AV12</b>	30.48659	-97.80016	SH	20	Ked	3.3	8.2	4.9	165	-	-	-	F,O,C	25	45		x	x		Hillside
<b>F12</b>	30.48759	-97.80381	SC	20	Ked	3.3	1.3	1	-	-	-	-	F,O	15	35	x		x		Hilltop
<b>F14</b>	30.48933	-97.80139	CD	5	Ked	1.3	1.6	0.7	-	-	-	-	F,O	5	10	x		x		Hilltop
<b>F15</b>	30.49132	-97.80180	DC	5	Ked	5.9	5.9	1.6	-	-	-	-	F,O	5	10	x		x		Hillside
<b>R9</b>	30.48602	-97.79990	O	5	Ked	98	66	0	-	-	-	-	F,O,V	5	10	x		x		Hillside
<b>X9</b>	30.48461	-97.80084	SH	20	Ked	5.9	6.6	2.0	-	-	-	-	F,O,C	30	50		x	x		Hillside
<b>X10</b>	30.48395	-97.80141	SH	20	Ked	3.9	1	3.0	-	-	-	-	F,O,C	20	40		x	x		Hillside

\* DATUM: NAD 83

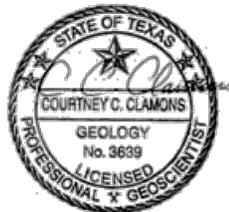
2A	TYPE	2B POINTS
C	Cave	30
SC	Solution cavity	20
SF	Solution-enlarged fracture(s)	20
F	Fault	20
O	Other natural bedrock features	5
MB	Manmade feature in bedrock	30
SW	Swallow hole	30
SH	Sinkhole	20
CD	Non-karst closed depression	5
Z	Zone, clustered or aligned features	30

8A INFILLING	
N	None, exposed bedrock
C	Coarse - cobbles, breakdown, sand, gravel
O	Loose or soft mud or soil, organics, leaves, sticks, dark colors
F	Fines, compacted clay-rich sediment, soil profile, gray or red colors
V	Vegetation. Give details in narrative description
FS	Flowstone, cements, cave deposits
X	Other materials

12 TOPOGRAPHY
Cliff, Hilltop, Hillside, Drainage, Floodplain, Streambed

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*Brian Cowan* *C. C. Clamons*



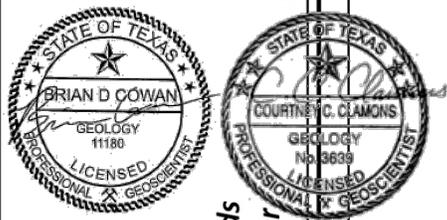
Date 22 May 2017

Sheet 2 of 2

TCEQ-0585-Table (Rev. 10-01-04)

## ATTACHMENT B

Stratigraphic Units		Hydrogeologic Units			
<b>Upper Cretaceous</b>	Anacacho Limestone	Pecan Gap Chalk	<b>Upper Confining Units</b>		
	Austin Chalk				
	Eagle Ford Group				
	Buda Limestone				
	Del Rio Clay				
<b>Lower Cretaceous</b>	Georgetown Formation		<b>Edwards Aquifer</b>		
	<b>Edwards Group</b>	Person Formation		Cyclic and Marine member	3-30 m
				Leached and collapsed member	21-30 m
				Regional Dense member	5-7 m
	<b>Kainer Formation</b>			Grainstone member	15-18 m
				Kirshberg Evaporite member	15-18 m
				Dolomitic member	34-43 m
				Basal Nodular member	6-21 m
		Comanche Peak Formation		12-18 m	
		Walnut Formation		8 m	
	<b>Trinity Group</b>	<b>Glen Rose Formation</b>		Cavernous member	>35 m
				Camp Bullis member	37-46 m
				Upper evaporite member	5-7.6 m
				Fossiliferous member	40-53 m
				Lower evaporite member	1.8-4.7 m
Lower member			120 m		
		Hensell Formation	20 m		
	Cow Creek Formation	20 m			
	Hamett Formation	9 m			
		<b>Upper Trinity Aquifer</b>			
		<b>Middle Trinity Aquifer</b>			



Surface outcrop  
in survey area

This stratigraphic column shows the regional geologic units and indicates the zones of rocks that outcrop in the project area. Adapted from Lindgren et al. (2004).

# ATTACHMENT C

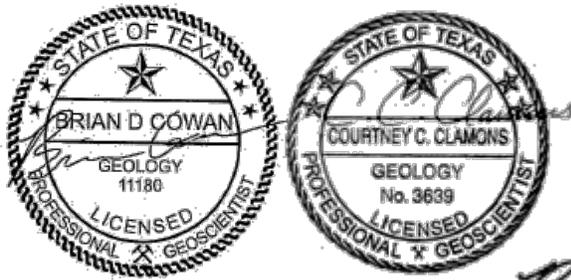
## Geologist Certification

### Geologic Assessment for 143-Acre Property at U.S. 183 and Avery Ranch Boulevard, Williamson County, Texas

Prepared for: Texas Department of Transportation  
Prepared by: Zara Environmental LLC  
Date: 22 May 2017

In accordance with the Texas Board of Professional Geologists rules at 22 Texas Administrative Code, Part 39, Chapter 851, Subchapter C, §851.156, this report is signed and sealed on the title page to assure the user that the work has been performed by or directly supervised by the following professional geologist who takes full responsibility for this work.

The computer generated seals appearing on this document were authorized by Brian D. Cowan, P.G. 11180 and C. Clover Clamons, P.G. 3639 on 22 May 2017.



*Brian D. Cowan C.C. Clamons*

Brian D. Cowan, Texas Professional Geoscientist No. 11180  
C. Clover Clamons, Texas Professional Geoscientist No. 3639  
Zara Environmental LLC Geoscience Firm Registration No. 50365

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### Introduction

A Geologic Assessment (GA) was conducted within the approximately 143-acre survey area in Williamson County, Texas (Figure 1). A detailed walking survey of the entire area was conducted over four days between 1 February 2017 and 10 February 2017, documenting 17 surface features. Ten additional features were previously identified within the survey area but were not located during surveys for this GA. The majority of the survey area is inside the Edwards Aquifer Recharge Zone with small areas in the Edwards Aquifer Contributing Zone in the northern and western portions of the survey area (Figure 1).

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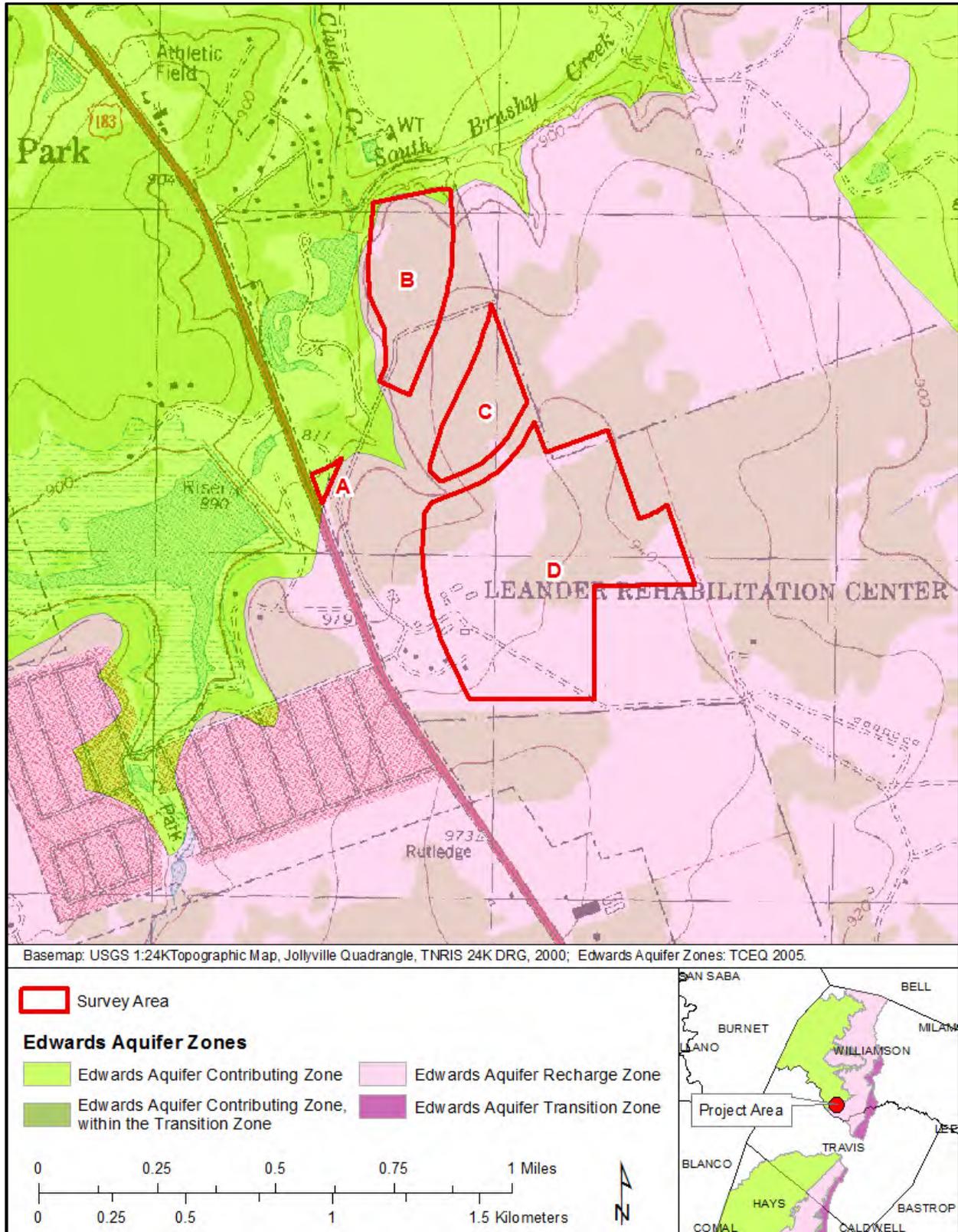


Figure 1. Location map displaying the survey area in Williamson County, Texas, and Edwards Aquifer Zones.

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### Methods

#### *Background Data Collection*

Surface geologic maps from the Geologic Atlas of Texas (GAT; 2010) were reviewed. Soil descriptions were compiled from the Web Soil Survey of the U.S. Department of Agriculture Natural Resources Conservation Service (USDA NRCS; 2017). Available Texas Water Development Board (TWDB) and Texas Commission on Environmental Quality (TCEQ) water well information was also reviewed for the survey area. Available floodplain maps from the Federal Emergency Management Agency (FEMA) or other local/regional floodplain administrators were reviewed.

Geology staff consulted records of cave locations from the Texas Speleological Survey (TSS), Veni (2005), and Veni (1998). Staff geologists also performed an exhaustive search of TCEQ files to determine if there were any previous GAs performed in this survey area.

#### *Field Survey*

Karst survey methods followed protocols outlined in TCEQ Instructions to Geologists for Geologic Assessments (TCEQ 2004) and the U.S. Fish and Wildlife Service (USFWS) Section 10(a)(1)(A) Scientific Permit Requirements for Conducting Presence/Absence Surveys for Endangered Karst Invertebrates in Central Texas (USFWS 2015). Walking ground surveys, as defined by Veni and Reddell (2002), Barrett (2005), and TCEQ (2004) were conducted throughout the survey area and reconnaissance excavations were conducted at all potential karst features. Positions of all features were documented using Global Positioning System (GPS) technology and checked with field maps based on digital orthoimagery. All features identified were inspected by a licensed professional geologist and evaluated for potential impact to Edwards Aquifer recharge. This was completed by ranking the recharge sensitivity of each feature using the point scheme defined by TCEQ (2004). Fieldwork for the karst survey was supervised by Texas licensed professional geoscientist Brian Cowan (#111180).

### Results

#### *Background Data*

##### Soils

Four different soil types are identified in the survey area by the USDA NRCS (Figure 2). A brief description of each soil type is included below.

*Eckrant extremely stony clay, 0 to 3 percent slopes (EeB)*. This soil is a ridge-forming, extremely stony clay with depths of approximately 11 in. This soil has the capacity to transmit water to the subsurface at moderately low to moderately high rates (0.06 to 0.57 in/hr) through its limiting layer to the subsurface, placing it in Hydrologic Soil Group D (USDA NRCS 2017). This soil forms 90 percent of the survey area.

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*Eckrant-Rock outcrop association, 1 to 10 percent slopes (ErE)*. This association is 58 percent Eckrant and similar soils and 42 percent rock and other minor components. It is ridge-forming, cobbly to very-cobbly clay with depths of approximately 11 in. This soil has the capacity to transmit water to the subsurface at moderately low to moderately high rates (0.06 to 0.57 in/hr) through its limiting layer to the subsurface, placing it in Hydrologic Soil Group D (USDA NRCS 2017). This soil forms 7.3 percent of the survey area.

*Doss silty clay, moist, 1 to 5 percent slopes (DoC)*. This soil is a hillslope-forming, silty clay with depths of approximately 1.4 ft. This soil has the capacity to transmit water to the subsurface at moderately low to moderately high rates (0.06 to 0.57 in/hr) through its limiting layer to the subsurface, placing it in Hydrologic Soil Group D (USDA NRCS 2017). This soil forms 2.6 percent of the survey area.

*Denton silty clay, 1 to 3 percent slopes (DnB)*. This soil is a hillslope-forming, silty clay and gravely-silty clay with depths of approximately 3 ft. This soil has the capacity to transmit water to the subsurface at moderately low to moderately high rates (0.06 to 0.20 in/hr) through its limiting layer to the subsurface, placing it in Hydrologic Soil Group D (USDA NRCS 2017). This soil forms 0.1 percent of the survey area.

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Basemap: ESRI 2017; Soils: USDA Web Soil Survey, 2017.

### Soils

DnB - Denton silty clay, 1 to 3 % slopes	Oc - Oakalla soils, 0 to 1 % slopes, channeled, frequently flooded
DoC - Doss silty clay, moist, 1 to 5 % slopes	SuB - Sunev silty clay loam, 0 to 1 % slopes
EaD - Eckrant cobbly clay, 1 to 8 % slopes	W - Water
EeB - Eckrant extremely stony clay, 0 to 3 % slopes	Streams
ErE - Eckrant-Rock outcrop association, 1 to 10 % slopes	Survey Area
FaB - Fairlie clay, 0 to 1 % slopes	
GsB - Georgetown stony clay loam, 1 to 3 % slopes	

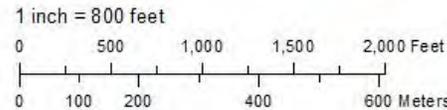


Figure 2. Soil types occurring in the survey area.

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### Site Geology

Site geology is generally consistent with that mapped by the GAT (2010) and shown in Figure 3 and Attachment D. Most of the survey area, with the exception of the most northwestern portion, is mapped as Edwards Limestone, which is consistent with observations made in the field. The Edwards Limestone is generally describe as a hard, crystalline, fossiliferous limestone that contains voids and caverns formed by karst processes. Stratigraphic members of the Edwards Limestone cropping out within the survey area are consistent with the Kirschberg, Basal Nodular, and Dolomitic members of the Kainer Formation, although these are generally not differentiated in maps north of the Lower Colorado River as explained in detail in the Regional Stratigraphy section.

Rock cropping out in the far northern and western portions of the survey area are consistent with the Comanche Peak Formation, particularly along cliffs formed by downcutting of South Brushy Creek. The Comanche Peak Formation is a nodular, marly, poorly permeable limestone that intergrades in wedges with the Edwards in this area. Veni (1999) describes this as the lower stratigraphic limit of cave development in the area. Small portions of the survey area are mapped as Walnut Formation, but no exposures of that unit were observed. There are no mapped faults within the survey area and no evidence of faulting was observed in the field.

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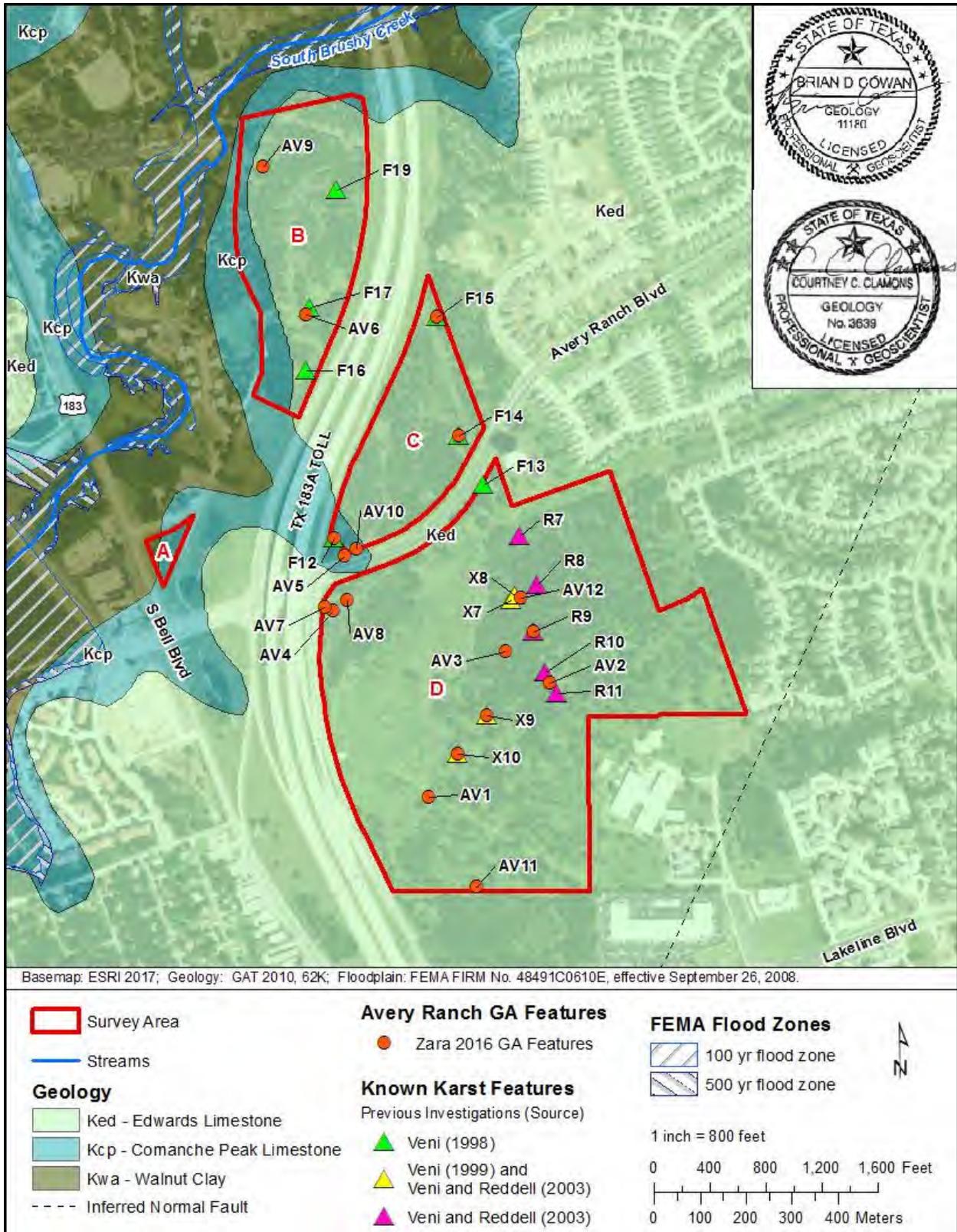


Figure 3. Geology of survey area including locations of all features discovered during pedestrian surveys.

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### Regional Geology

The survey area is located in the southeastern portion of the Edwards Plateau Physiographic Province of central Texas, along the Balcones Fault Zone (BFZ). The BFZ also forms the Balcones Escarpment, which is a highly eroded region bordering the Edwards Plateau on its southern and western boundaries. The region is typified by higher elevations to the north and west, generally sloping in a southeastern direction. Canyons and drainage basins were formed by surface flow of the Brazos River basin, including Brushy Creek, which drains the site.

The geologic formations occurring within the region are comprised mostly of Cretaceous age-rocks with some overlaying Quaternary alluvium along surface drainages. The soils that have formed on top of these limestones are relatively thin and offer minimal filtering capability. The limestone bedrock developed from the accumulation of thick sequences of marine sediments deposited in a lagoon environment on the San Marcos Platform protected by a barrier reef during the Cretaceous about 100 million years ago (Rose 1972). In central Texas, the Cretaceous strata slightly dip to the southeast at about 10 to 15 ft/mi toward the Gulf of Mexico.

### Regional Stratigraphy

The geological formations that comprise the Edwards Aquifer are from top to bottom the Georgetown, Person, and Kainer (also known as the Edwards Group). A stratigraphic column showing the regional geology is included as Attachment B, before the Site Geology Narrative (Attachment C).

The Georgetown Formation is described as limestone and marl, but mostly limestone, fine grained, argillaceous, nodular, moderately indurated, and light gray. Some zones are hard, brittle, thick bedded, white containing some shale, marly, soft, light gray to yellowish gray in color. Marine megafossils include *Kingena wacoensis* and *Gryphaea washitaensis*. The Georgetown Formation is 30 to 80 ft thick and thins southward. It is overlain by the Del Rio Clay and underlain by the Edwards Limestone. Although permeable, it is less permeable than the underlying Edwards Limestone and is often considered the upper confining unit of the Edwards Aquifer.

The Person and Kainer Formations comprise the Edwards Group (Rose 1972). The composition of the Person Formation ranges from crystalline limestone to grainstone to mudstone and is comprised of three informal hydrogeologic units: the Cyclic and Marine members, undivided; the Leached and Collapsed members, undivided; and the Regional Dense member. Member subdivisions within the Edwards Group are not formally mapped north of the Colorado River; therefore, it is generally mapped as the Edwards Formation. Recent geologic mapping and borings by City of Austin Watershed Protection staff indicate that geologic members equivalent to those mapped south of the Colorado River are present

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(Hauwert 2010), so those members are discussed below. Thicknesses of members are not well understood north of the Colorado River; therefore, no thicknesses will be given.

The Cyclic and Marine members are composed of a chert-bearing wackestone and can be somewhat variable in thickness because of the erosional unconformity between the Person and Georgetown Formations (Small et al 1996).

The Leached and Collapsed members are a light-colored wackestone with interbedded mudstone and grainstone intervals that form one of the more porous and permeable subdivisions of the Edwards Aquifer. The leached member is a dense, bioturbated micrite, and the collapsed member is composed of several zones of collapsed stromatolitic limestone that are 1 to 5 ft thick (Small et al 1996).

The lowermost member of the Person Formation is the Regional Dense Member (RDM). The RDM is composed of a dense argillaceous mudstone and is easily identified in the outcrop and on a variety of geophysical logs (Small et al 1996). Most of the fractures that penetrate the RDM do not appear to be solution enlarged. Caves that breach the RDM are not enlarged but are usually vertical shafts with horizontal caverns developed above or below the RDM. The RDM can function as a confining unit between the upper and lower portions of the Edwards Aquifer (i.e., between the Kainer and the Person Formation); however, caves, faults, and fractures may greatly reduce the vertical confining ability of the RDM. The RDM is probably not an effective barrier to lateral flow at faults because of the relatively thin section. The flow of water tends to circumvent the RDM because of the impermeable nature of this unit (Hauwert 2009).

The lithology of the Kainer Formation ranges from mudstone to miliolid grainstone to crystalline limestone. The Kainer is subdivided into four informal members that include the Grainstone, Kirschberg Evaporite, Dolomitic, and Basal Nodular members (Rose 1972).

The Grainstone member is the uppermost unit of the Kainer Formation. It is composed of thick sequences of dense, tightly cemented, miliolid grainstone (Small et al 1996). Primary matrix porosity, as measured on geophysical logs, is some of the lowest in the Edwards Aquifer. Secondary fracture porosity accounts for the bulk of effective porosity in this aquifer unit.

The Kirschberg evaporite member underlies the Grainstone member and consists of crystalline limestone and chalky pulverulite with chert nodules and lenses (Hauwert 2009). Collapse features are common. The porosity has been described as boxwork (Small et al 1996) because of the configuration of the voids and the secondary neospar and travertine deposits. The boxwork porosity does not seem to be prevalent throughout the entire

## ATTACHMENT C

thickness or extent of the member but occurs sporadically within more massive limestone. Dissolution of evaporite minerals, such as gypsum and anhydrite, and the existence of contorted beds in the Kirschberg evaporite, result in extensive secondary porosity, which creates one of the most permeable subdivisions in the Edwards Aquifer.

The Dolomitic member is a resistant, highly-bedded wackestone with interbedded grainstone, burrowed mudstone, and some chert nodules (Small et al 1996). Effective porosity and probable pathways of water in this unit are restricted to solution enlarged bedding planes, joints, fractures, and faults.

The basal nodular member is the lowermost unit of the Edwards Group and is a fossiliferous, nodular limestone with negligible porosity and permeability (Small et al 1996) and can function as part of the lower confining unit; however, in outcrop the basal nodular member often displays extensive karstification, which has generated secondary porosity in the form of large lateral caves.

The Comanche Peak Limestone, a poorly bedded marly limestone with thin shale interfingers in wedges into the Edwards Group limestone. The Comanche Peak Limestone is 40 to 60 ft thick and underlays the Edwards Limestone and overlays the Walnut Formation. The Walnut Formation is an interbedded shale, limestone, and sandstone unit that is approximately 25 ft thick.

### Regional Groundwater

The survey area is in a semi-arid environment with average annual rainfall of about 30 to 35 in/yr. Evaporation of 75 to 90 in/yr removes much of this water prior to recharging the aquifers. Many of the rainfall events occur as thermal convection thunderstorms that can produce excessive amounts of precipitation in short periods. Some of this water makes its way into the aquifers usually through concentrated areas along creeks and rivers in outcrop areas of the recharge zone.

The survey area is located in the Northern Segment of Edwards Aquifer, which stretches from the Lower Colorado River in Austin along the BFZ into central Bell County, Texas. The Northern Segment of the Edwards Aquifer is relied upon by many municipalities, businesses, and private landowners. Karst aquifers are, by their nature, extremely vulnerable to contamination. Soils in karst areas tend to be thin and patchy. Thus, the filtration of diffuse recharge afforded by soils is at best low, and is only decreased by human activity. Recharge in karst systems commonly occurs as point recharge into specific karst features, bypassing what little filtration a limited soil zone might afford.

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### Water Wells

One well is mapped within the survey area based on available TWDB records (see Previously Identified Feature F17; Figure 3). The first record of the well dates to 1972, but no reliable data on the date drilled, depth, construction, or current status of the well could be located in TWDB records. This well was not encountered during field surveys. Further discussion of this well is included in the Previously Identified Features Section.

### Floodplains

The FEMA flood map for the survey area is number 48491C0610E, effective 26 September 2008. No portion of the survey area was mapped within a flood zone.

### Previously Identified Features

Information on karst features obtained from TSS, Veni (1998), and Veni (2005) indicated additional karst features within the survey area. The following features were not located during survey for this GA.

#### F13

This feature was described by Veni (1998, p. 8) as:

*This is a 1.2-m-long by 0.9-m-wide sinkhole that was dug 0.3 m to continuing loose soil fill. It captures sheetwash from a roughly 5-m-long by 1-m-wide area.*

Veni (2005) indicated that this karst feature was not excavated following the initial Veni (1998) study. It was located beyond 165 ft of the original proposed alignment of the 183A right-of-way, and therefore excavations were not completed following USFWS standards at that time (Veni 2005).

#### F16

This feature was described by Veni (1998, p. 9) as:

*This solutional sinkhole is 4 m in diameter and 0.25 m deep. It captures sheetwash from an area that is roughly 20 m long by 10 m wide. It has a compact floor of rocks amid silts that settled out from slow-draining recharge.*

Veni (2005) noted that this feature is within the US 183A right-of-way alignment proposed in 1998. However, it was not excavated due to unknown circumstances (Veni 2005).

#### F17

This uncapped water well was described by Veni (1998, p. 9) as:

*[The water well] has a 20-cm-diameter (8-inch) casing. The depth of the well was not measured. It is located in a square concrete pad and captures no surface drainage. A 4-m-diameter sinkhole-like feature located 20 m from the well at a bearing of 190°*

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*is likely a stock tank. Slabs of limestone were removed to create a depression that captured some surface runoff; the depression could also have been filled from the well.*

The well was recommended for proper closure in accordance with state rules (Veni 2005). No well was visible at the location indicated by Veni (1998); however, a large pile of debris was present at that location. On 9 March 2017 TxDOT provided a backhoe for excavation of karst features, and to remove debris over the well location from TWDB records. The debris was removed and the ground surface was excavated in an attempt to locate the well. The well was not located; therefore, no additional information is available on the status of the well. It is possible that the well location was not correct, or that it was sealed before the 2017 surveys and backhoe excavation. The current status of the well is unknown.

### F19

This feature was described by Veni (1998, p. 9) as:

*Originally about 6 cm in diameter and 1 cm deep, this feature is probably a solution sinkhole. It was dug to a depth of 0.4 m, a length of 0.4, and a width of 0.3 m. Loose rocks and soil continue downward at least 0.3 m to a ledge or possible rock floor as determined by probing. A joint with a 35° bearing may guide the feature, but additional excavation is needed to determine if it is actually a joint or a parting between large buried rocks.*

The results of an excavation conducted on 8 December 1998 indicated that it was an epikarstic feature with little hydrological significance. The excavation results also indicated that the feature has no known biological significance (Veni 2005).

### R7, R8, R10, R11

Feature R9 was located in the field and is described in the next section; however, the other features in this set are described by Veni and Reddell (2003, p. 14) as:

*Features R7 and R8 were each described as a “fractured rock feature” and R9, R10, and R11 each as a “vuggy rock feature”. They were all shown as aligned north to south, their boundaries nearly connecting, along the west side of the gentle ridge that extends through the study area and within the western portion of the main wooded area. Combined, they had a length of about 300 m and a width of 10-20 m. These features were re-examined during the present study and found to be an area where the hillside slopes down and through a honeycombed limestone bed that becomes highly fractured at the land surface. The rock is not “vuggy” by definition of the term, but a locally intense epikarstic pit and tunnel karren developed over a preexisting, less dense, phreatically-formed honeycomb. Of far greater permeability are the fractures through the 1- to 1.3-m-thick bed. Most formed by downslope*

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*slumping of the bed, many others by tree growth along those fractures that raised and further split the rock, but none seem likely to extend to a sufficient depth to make them hydrologically significant. The relatively steep gradient of the land surface in this location probably contributed to the slumping, fracturing, and subsequent soil loss and exposure of the bed. Poorly developed karren suggests that the soil was removed during geologically recent times. Since this group of features is in fact one large continuous feature, they were listed as such by Veni (1999) in the TNRCC geologic assessment at the end of that report. Veni (1999) determined this feature had a low probability of opening to a cave, and it was not excavated or further investigated during this Phase 2 study, except for Karst Feature X7, which is a distinct feature within the group.*

### X8

This feature was described by Veni and Reddell (2003, p. 11) as:

*Located about 6 m north of Karst Feature X7, this solutionally enlarged fracture is roughly aligned with X7 but not along its exact trend. It is dissimilarly oriented with a bearing of 106°. It has a width of 0.4 m, a depth excavated during Phase 1 from 0.2 m to 0.4 m, and a length exposed for 0.6 m before its limestone walls extend beneath the soil. The floor of the feature is a compact, black, clayey soil, onto which sheetwash drains from a roughly 12-m-long by 2-m-wide area. It seemed to have little potential to open to a cave and even less now that similar, but larger X7 has been excavated and found predominantly non-karstic.*

### *Description of Features*

Results of the surface karst feature survey are presented in the TCEQ Geologic Assessment Table (Attachment A) and discussed below. All features were ranked according to TCEQ (2004) and reported in TCEQ-0585-Geologic Assessment Table (Attachment A) and Figure 3 and Attachment D. A search of the TWDB Groundwater Database indicated one well located within the survey area (see Previously Identified Feature F17), but the well was not encountered during pedestrian surveys or backhoe excavations.

### Feature AV1; Non-karst Closed Depression

This non-karst closed depression is located in Parcel D (Figure 3) and measures 5.9 ft long by 5.9 ft wide and is 2.5 ft deep (Figure 4 and Figure 5). The feature was filled with compact, fine-grained, brown/tan to reddish modern soils, and cobble. The feature is located on a hillside and it has a catchment area of 0.01 ac. No airflow was detected from the feature. A reconnaissance excavation was performed and revealed a hard-packed, clay bottom. There is a very low potential for this feature to rapidly transmit water to the subsurface. This feature is not rated as sensitive according to the Edwards Aquifer Rules (30 TAC §213.5(b)(3)).

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Figure 4. Overview of Feature AV1 after excavation.

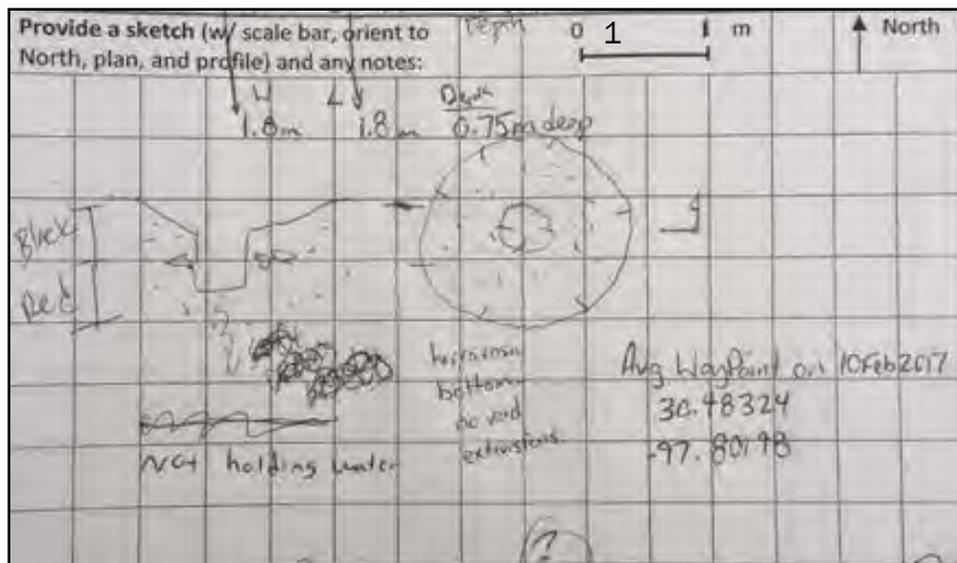


Figure 5. Field sketch of Feature AV1.

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### Feature AV2; Non-karst Closed Depression

This is a cluster of three non-karst closed depressions is located in Parcel D (Figure 3), with the largest measuring 16.4 ft long by 13.1 ft wide by 1.6 ft deep (Figure 6 and Figure 7). The non-karst closed depressions were filled with compact modern soils, leaf litter, and vegetation. The features are located on a hilltop and have a catchment area of 0.02 ac. No airflow was detected coming from any of the features. On 9 March 2017, the features were excavated using a backhoe to a weathered bedrock and hard clay terminus 2 ft below the ground surface (Figure 8), confirming that they are non-karst closed depressions. There is a very low potential for these features to rapidly transmit water to the subsurface; therefore, they are not rated as sensitive according to the Edwards Aquifer Rules (30 TAC §213.5(b)(3)).



Figure 6. Overview of Feature AV2 prior to excavation.

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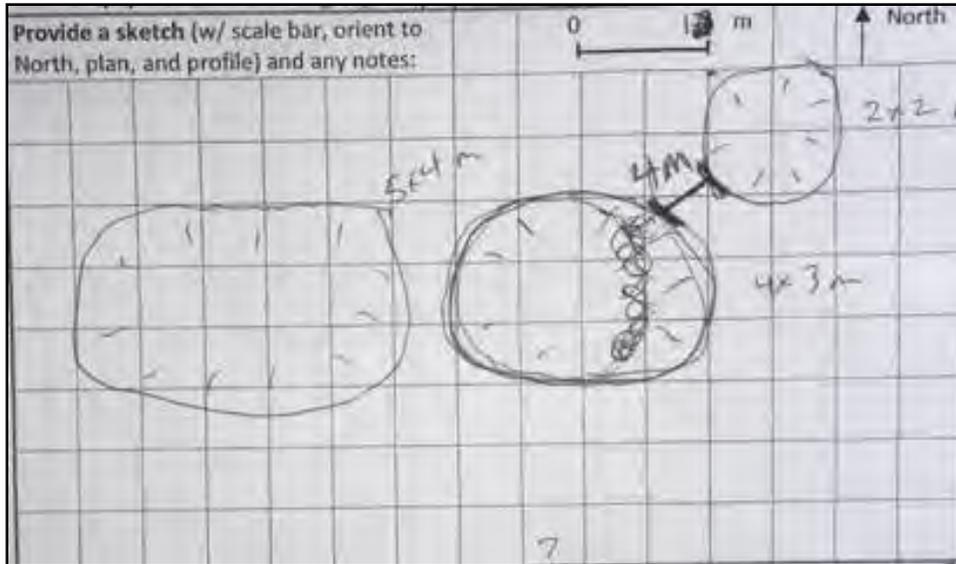


Figure 7. Field sketch of Feature AV2.



Figure 8. Overview of Feature AV2 after excavation.

### Feature AV3; Non-karst Closed Depression

This non-karst closed depression is located in Parcel D (Figure 3) and measures 7.2 ft long by 7.2 ft wide and is 1 ft deep (Figure 9 and Figure 10). The feature is filled with leaf litter and brown to tan clay that is loose to a depth of 9.8 in. The feature is located on a hillside and it has a catchment area of 0.04 ac. No airflow was detected coming from the feature. A reconnaissance excavation was performed and revealed that the feature is an animal burrow with a compact clay bottom (Figure 11). There is a very low potential for this feature to rapidly transmit water to the subsurface. This feature is not rated as sensitive according to the Edwards Aquifer Rules (30 TAC §213.5(b)(3)).



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Figure 11. Overview of Feature AV3 after excavation.

### Feature AV4: Solution-enlarged Fracture

This solution-enlarged fracture is located in Parcel D (Figure 3) and measures 3.3 ft by 1 ft wide and is 1.6 ft deep (Figure 12- Figure 14). It is bedrock lined and is partially filled with black modern soils and leaf litter that is loose to a depth of approximately 1.2 in. It is located on a hillside, but is raised relative to the ground surface around it; therefore, it has no catchment area. No airflow was detected coming from the feature. Excavation on 20 March 2017 with a jackhammer opened the feature up to approximately 3.3 ft wide by 4.9 ft long by 2.3 ft deep. Excavation included chiseling limestone from around the perimeter of the feature and removing a depth of 0.7 ft of black soil to reveal a solid rock bottom with considerable root growth in the bedding plane (Figure 15). Following excavation, the feature was determined to be epikarstic. There is low potential for this feature to rapidly transmit water to the subsurface. This feature is not rated as sensitive according to the Edwards Aquifer Rules (30 TAC §213.5(b)(3)).

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Figure 12. Overview of Feature AV4 prior to excavation.

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Figure 13. Close view of feature AV4.

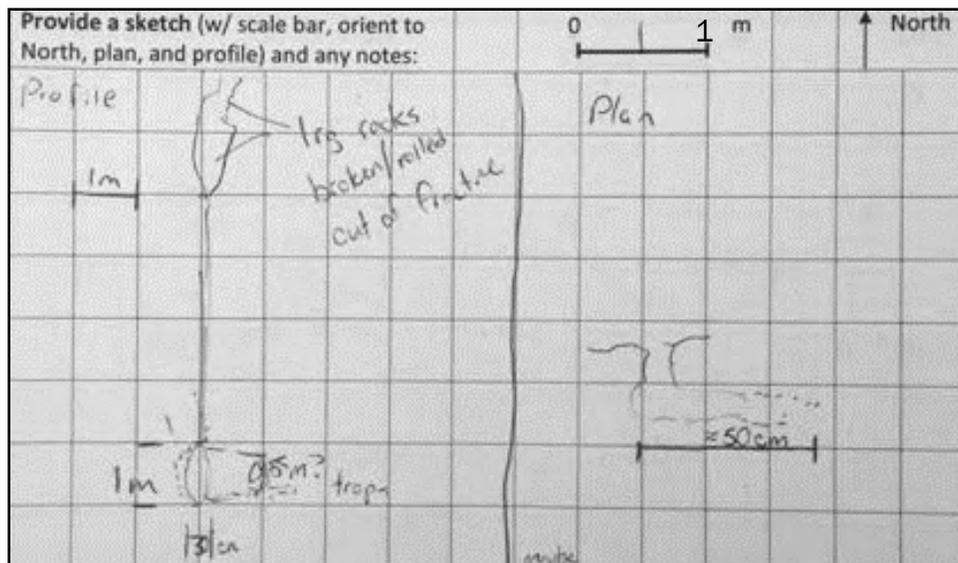


Figure 14. Field sketch of Feature AV4.

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Figure 15. Feature AV4 after excavation revealed solid rock bottom with no extensions and a large root possibly contributing to the epikarstic characteristic and enlarged bedding plane.

### Feature AV5: Other Natural Bedrock Feature (Spring)

This flowing spring is located just outside the survey area near Parcel C (Figure 3) but is visible from the survey area. It discharges diffusely over a large area that is 9.8 ft long by 9.8 ft wide, is flush with the ground, and extends an unknown depth into the subsurface (Figure 16- Figure 18). There is no discreet conduit visible at the surface. The spring is filled with coarse and fine sediment, organic materials, cobble, and rip-rap. It is in a drainage adjacent to Avery Ranch Boulevard. No airflow was detected coming from the feature. No reconnaissance excavation was performed. There is low potential for this feature to rapidly transmit water to the subsurface, as water was actively discharging from the feature. When found the spring was discharging at a rate of approximately 0.2 cubic feet per second. This feature is not rated as sensitive according to the Edwards Aquifer Rules (30 TAC §213.5(b)(3)).

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Figure 16. Close-up of Feature AV5.

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Figure 17. Looking upstream with Avery Ranch Boulevard in the background.

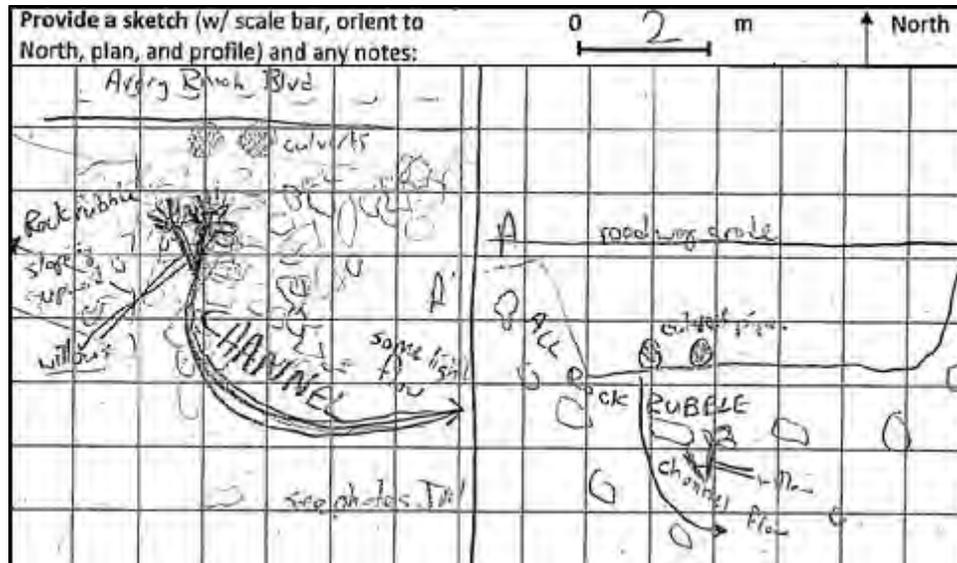


Figure 18. Field sketch of Feature AV5.

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### Feature AV6; Non-karst Closed Depression

This non-karst closed depression is located in Parcel B (Figure 3) and measures 9.8 ft long by 16.4 ft wide and is 1.6 ft deep (Figure 19 and Figure 20). The feature is filled with vegetation, leaf litter, rocks, and modern fine soils that are loose to a depth of approximately 11.8 in. The feature is located on a hilltop and it has a catchment area of 0.04 ac. No airflow was detected coming from the feature. Backhoe excavation of the feature was performed on 9 March 2017. Following excavation, it was confirmed that the feature was a non-karst closed depression terminating in weathered bedrock and hard clay 1.5 ft below ground surface (Figure 21). There is a very low potential for this feature to rapidly transmit water to the subsurface. This feature is not rated as sensitive according to the Edwards Aquifer Rules (30 TAC §213.5(b)(3)).



Figure 19. Overview of Feature AV6 prior to excavation.

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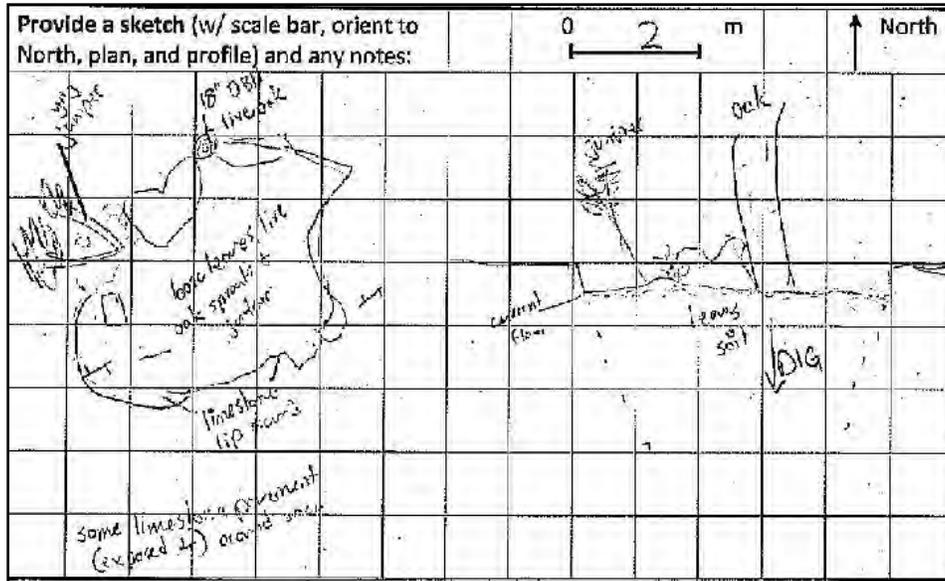


Figure 20. Field sketch of Feature AV6.



Figure 21. Overview of Feature AV6 after excavation.

### Feature AV7; Non-karst Closed Depression

This non-karst closed depression is located in Parcel D (Figure 3) and measures 4.9 ft long by 4.9 ft wide and is 1.3 ft deep (Figure 22 and Figure 23). It is filled with cobble and modern soils that are loose to a depth of approximately 1.9 in, and compact beyond 2 in. The feature is located on a hillside and has a catchment area of 0.02 ac. No airflow was detected coming from the feature. A reconnaissance excavation was not performed, as the feature appeared to have been recently excavated. There is a low potential for this feature to rapidly transmit water to the subsurface. This feature is not rated as sensitive according to the Edwards Aquifer Rules (30 TAC §213.5(b)(3)).

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Figure 22. Overview of Feature AV7 prior to excavation.

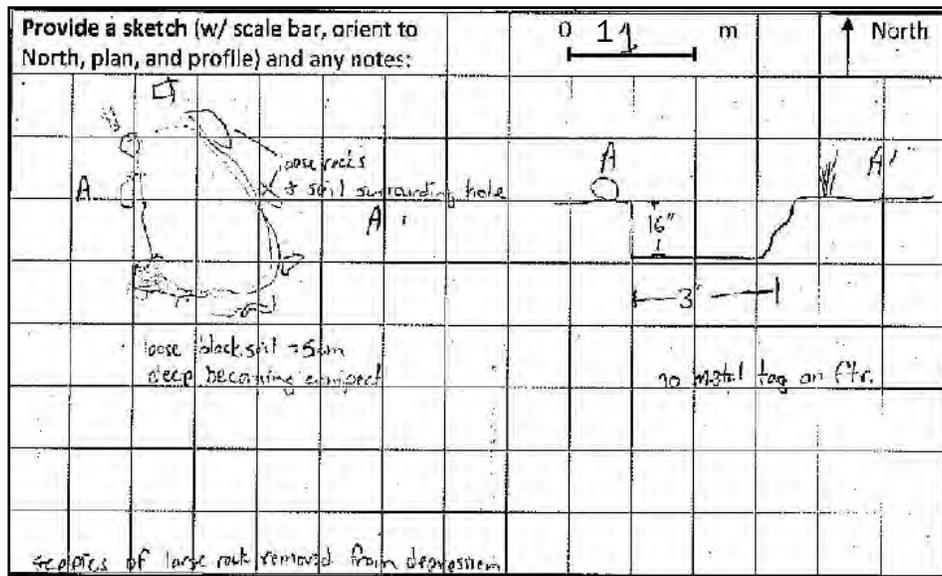


Figure 23. Field sketch of Feature AV7.

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### Feature AV8; Solution Cavity (Enlarged bedding plane)

This solution cavity is an enlarged bedding plane is located in Parcel D (Figure 3) and measures 3 ft long by 3 ft wide with a 0.7 ft aperture that extends 1.6 ft below the surface (Figure 24 and Figure 25). The feature is filled with rocks and compact modern soils. The feature is located on a hillside and it has a catchment area of 0.005 ac. No airflow was detected coming from the feature. A reconnaissance excavation was performed to remove the overhanging limestone boulder. Once the boulder was removed, a distinct terminus at a hard-packed soil floor (Figure 26). There is a low potential for this feature to rapidly transmit water to the subsurface. This feature is not rated as sensitive according to the Edwards Aquifer Rules (30 TAC §213.5(b)(3)).



Figure 24. Overview of Feature AV8 prior to excavation.

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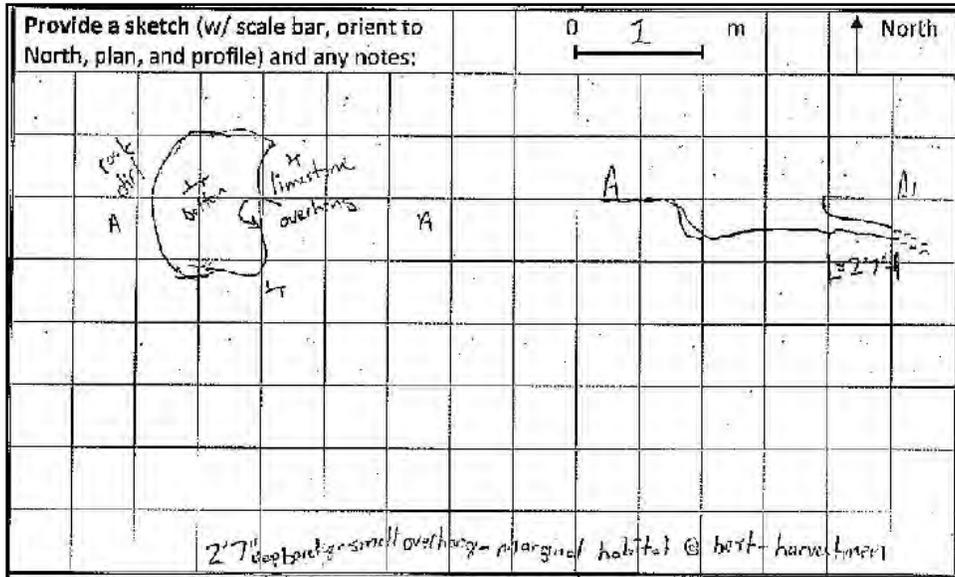


Figure 25. Field sketch of Feature AV8.



Figure 26. Feature AV8 after excavation, which revealed a hard-packed soil floor.

### Feature AV9: Non-karst Closed Depression

This non-karst closed depression is located in Parcel B (Figure 3) and measures 4.9 ft long by 6.6 ft wide and 0.8 ft deep (Figure 27 and Figure 28). The feature is filled with leaf litter, vegetation, cobble, and modern soils that are compact. The feature is located on a hilltop and it has a catchment area of 0.004 ac. No airflow was detected coming from the feature. A reconnaissance excavation was conducted on 10 February 2017 revealing that the feature terminated in compact black soil. (Figure 29) There is a low potential for this feature

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to rapidly transmit water to the subsurface. This feature is not rated as sensitive according to the Edwards Aquifer Rules (30 TAC §213.5(b)(3)).



Figure 27. Overview of Feature AV9 prior to excavation.

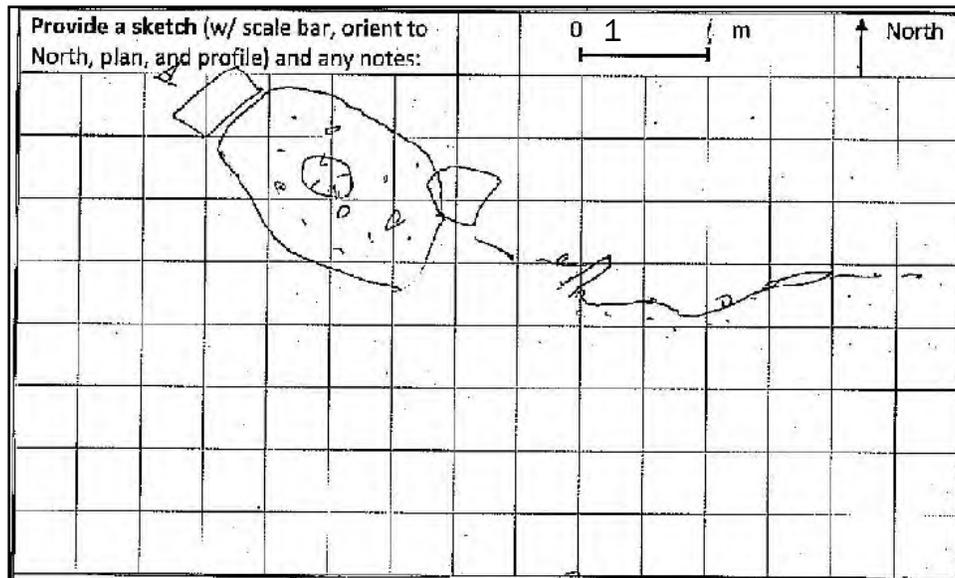


Figure 28. Field sketch of Feature AV9.

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Figure 29. Close view of Feature AV9 after excavation.

### Feature AV10: Manmade Feature in Bedrock (Cleanout Pipe)

This manmade feature is a polyvinyl chloride pipe likely associated with an adjacent sedimentation pond that is located in Parcel C (Figure 3). AV10 measures 0.3 ft long by 0.3 ft wide, and extends approximately 10.5 ft below the surface based on the depth of the detention pond (Figure 30 – Figure 32). The feature is surrounded by compact fill and vegetation. The feature is located on a hillside and has no catchment area, as it extends above the ground surface. Airflow was detected coming from the cleanout pipe visible in Figure 30, likely due to convective flow through the cleanout pipe network. A reconnaissance excavation was not performed. There is no potential for this feature to rapidly transmit water to the subsurface as it appears to be constructed in fill. This feature is not rated as sensitive according to the Edwards Aquifer Rules (30 TAC §213.5(b)(3)).

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Figure 30. Overview of Feature AV10.

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Figure 31. Interior of Feature AV10.

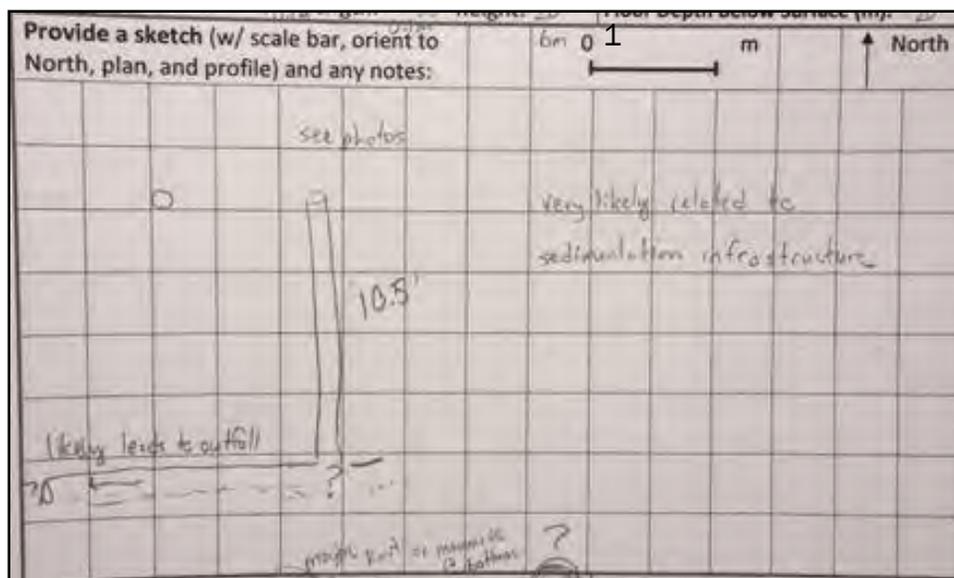


Figure 32. Field sketch of Feature AV10.

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### Feature AV11: Manmade Feature in Bedrock (Utility Vault)

This manmade feature is an underground utility vault set in a concrete pad that is located in Parcel D (Figure 3). Feature AV11 measures 3.3 ft long by 3.3 ft wide with an unknown depth below the surface (Figure 33 and Figure 34). It has no infill and is surrounded by compact modern soils and vegetation. It is located in a level field and has no catchment area. No airflow was detected coming from the feature. No reconnaissance excavation was performed. There is no potential for this feature to rapidly transmit water to the subsurface. This feature is not rated as sensitive according to the Edwards Aquifer Rules (30 TAC §213.5(b)(3)).



Figure 33. Overview of Feature AV11.

## ATTACHMENT C

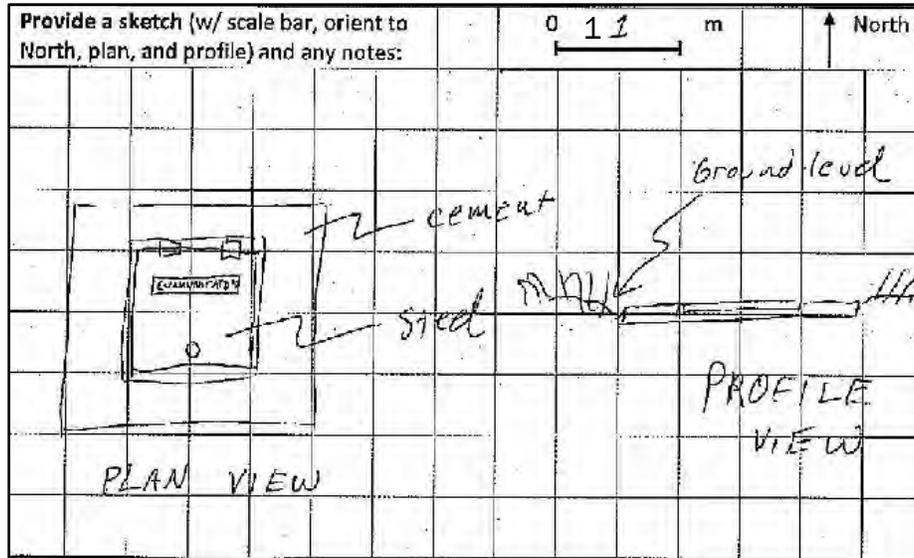


Figure 34. Field sketch of Feature AV11.

### Feature AV12/X7: Sinkhole

This feature was originally described by Veni and Reddell (2003 p. 10-11) as:

*During the Phase 1 investigation, this feature was identified as a sinkhole formed along a solutionally enlarged joint. It was 1.8 m long, up to 0.4 m wide and was excavated from 0.15 m to a depth of 0.4 m. It was suspected to extend at least another meter north to an aligned 0.2-m-diameter by 0.1-m-deep sinkhole.*

*Excavation during this Phase 2 study extended the length of the sinkhole to 3 m, encompassing the aforementioned sinkhole to the north. It reached a depth of 1.5 m. Excavation ceased as the walls of the enlarged fracture narrowed with depth to 0.25 m, and the floor filled with compact medium brown clay. The excavation allowed a closer examination of the fracture which was found to strike  $175^{\circ}$  and dip  $69^{\circ}W$ . The feature is probably a solutionally enlarged stress-release fracture and warrants no further action.*

This sinkhole is located in Parcel D (Figure 3) and measures 3.3 ft wide by 8.2 ft long and extends 3.3 ft below the ground surface developed along an enlarged fracture with a bearing of 165 degrees (Figure 35- Figure 37). This feature appears to be consistent with Feature X7 as described by Veni (1999) and Veni and Reddell (2003) as reported above. The feature was filled with modern soils, leaf litter, and vegetation. It is located on a hillside and has a catchment of 0.2 ac. Airflow was not detected coming from the feature. Two days of excavation extended the feature downward to 4.9 ft in depth and exposed a narrowing crack measuring less than 4 in wide that was filled with compact black soil and roots with no apparent mesocavernous extensions and narrowed downward making further excavation

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unjustifiable. Although no visible voids extended into the subsurface, this feature has a moderate potential for rapid recharge into the subsurface due to its size and orientation along a significant fracture. This feature is rated as sensitive according to the Edwards Aquifer Rules (30 TAC §213.5(b)(3)). Because this feature is rated as sensitive, a buffer must be delineated around it. The feature has no well-defined drainages entering it and it is located in a relatively flat location; therefore, the buffer was extended 50 ft in all directions (Attachment D).



Figure 35. Overview of Feature AV12/X7 prior to excavation.

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Figure 36. Feature AV12/X7 after excavation. Note the soil filled fracture potentially continuing downward. The fracture narrows downward and further excavation was not justified.

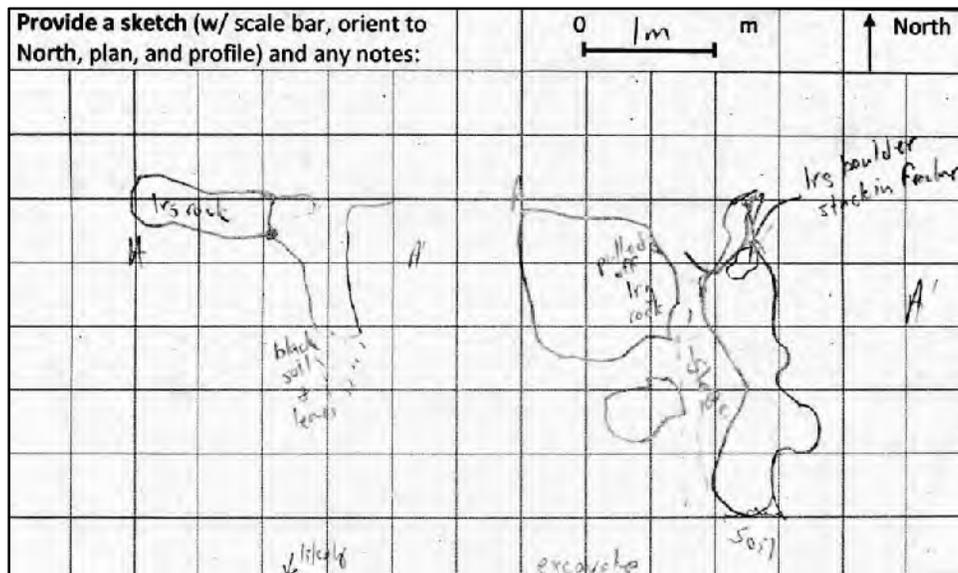


Figure 37. Field sketch of Feature AV12/X7.

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### Feature F12; Solution Cavity (Enlarged Bedding Plane)

Feature F12 is a previously discovered sinkhole (Veni 1998, p. 8) described as:

*This sinkhole is 0.4 m in diameter and was dug to a depth of 0.3 m where it enters a solutionally enlarged bedding plane. Additional digging may reveal the bedding plane as large enough to be a cave, but it seems unlikely. It captures sheetwash drainage from an area roughly 5 m long by half a meter wide.*

Feature F12 is located in Parcel D (Figure 3), and when evaluated on 2 March 2017, the feature was found to measure 3.3 ft long by 1.3 ft wide by 1 ft deep (Figure 38- Figure 40). The feature was filled with modern soils, leaf litter, and roots. It is located on a hillside and it has a catchment area of 0.001 ac. Airflow was not detected coming from the feature. A reconnaissance excavation was performed and revealed a bedrock floor and no mesocavernous voids leading into the subsurface, showing that this feature is not a sinkhole as originally reported by Veni (1998 p. 8). The morphology of this feature is more similar to a solution cavity that has been filled in with sediment. There is a low potential for this feature to rapidly transmit water to the subsurface. This feature is not rated as sensitive according to the Edwards Aquifer Rules (30 TAC §213.5(b)(3)).



Figure 38. Feature F12 prior to excavation.

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Figure 39. Feature F12 after excavation.

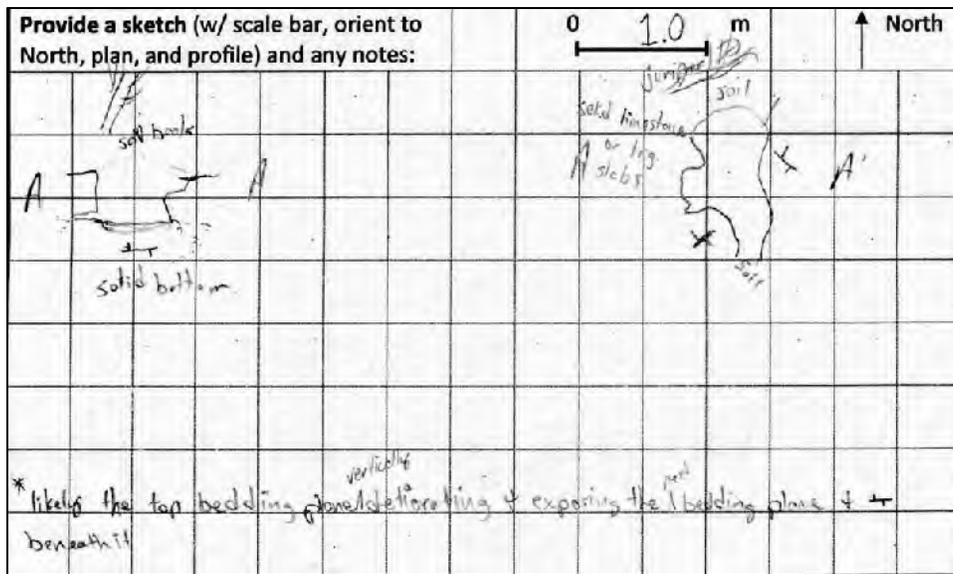


Figure 40. Field sketch of Feature F12.

### Feature F14: Non-karst Closed Depression

This non-karst closed depression is located in Parcel C (Figure 3) and measures 1.3 ft long by 1.6 ft wide and is 0.7 ft deep (Figure 41- Figure 43). The feature is filled with modern soils and leaf litter. It is located on a hilltop and it has a catchment area of 0.004 ac. Airflow was not detected coming from the feature. A reconnaissance excavation was performed and revealed a hard packed soil floor, and no voids leading into the subsurface. There is a very low potential for this feature to rapidly transmit water to the subsurface. This feature is not rated as sensitive according to the Edwards Aquifer Rules (30 TAC §213.5(b)(3)).

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Figure 41. Feature F14 prior to excavation.



Figure 42. Feature F14 after excavation.

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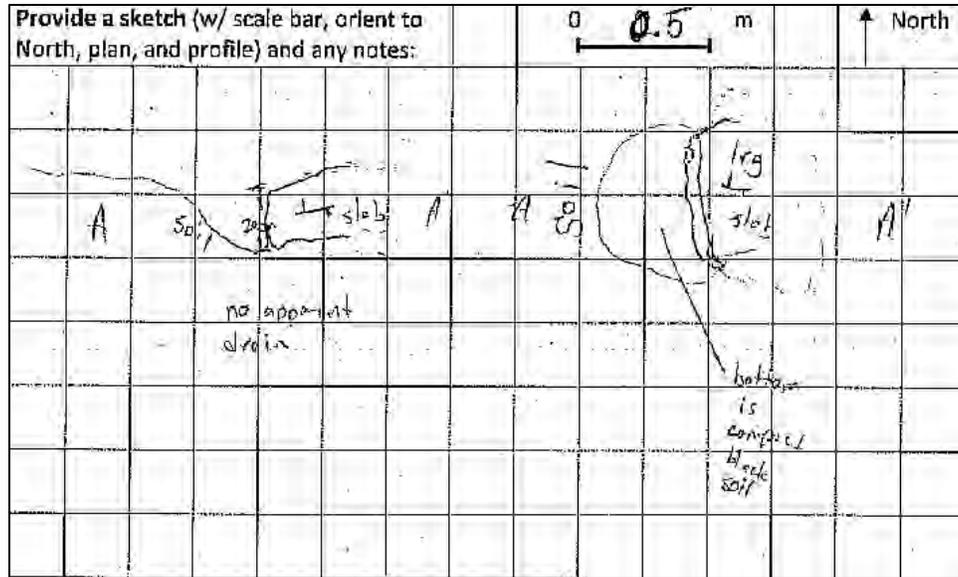


Figure 43. Field sketch of feature F14.

### Feature F15: Non-karst Closed Depression

This non karst closed depression is located in Parcel C (Figure 3) and measures 5.9 ft long by 5.9 ft and is 1.6 ft deep (Figure 44 and Figure 45). The feature is filled with compact modern soils, vegetation, and leaf litter. The feature is located on a hillside and it has a catchment area of 0.01 ac. Airflow was not detected coming from the feature. A reconnaissance excavation was not performed as the floor of the feature was hard-packed soil, and no voids leading into the subsurface were present. There is a very low potential for this feature to rapidly transmit water to the subsurface. This feature is not rated as sensitive according to the Edwards Aquifer Rules (30 TAC §213.5(b)(3)).

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Figure 44. Overview of feature F15.

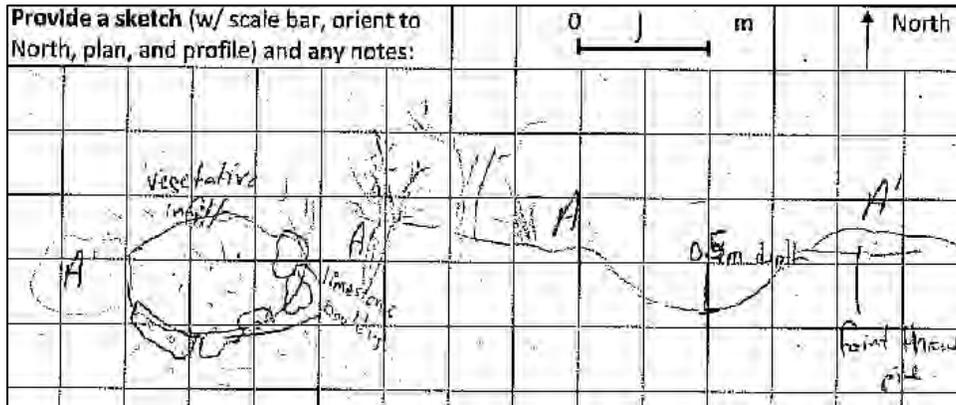


Figure 45. Field sketch of feature F15.

### Feature R9: Other Natural Bedrock Feature (Vuggy Rock Outcrop)

Feature R9 is a previously discovered feature (Veni and Reddell 2003, Figure 46 and Figure 47) that is located in Parcel D (Figure 3). The vuggy area is a rocky ridge running north/south and sloping to the west and is 98 ft long and 66 ft wide. It does not appear to extend into the subsurface. Large, honeycombed rocks protrude from the ground likely due to root lift, persistent erosion, or a combination of both, which created a discernable rock ridge extending roughly from Feature AV3 to AV12. No voids extending into the subsurface were observed. Feature R9 appears to be epikarstic. There is a very low potential for this feature



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### Feature X9; Sinkhole

This feature was described by Veni and Reddell (2003) as:

*A large rock initially blocked access to what appears to be a sediment-filled cave entrance. When first discovered, this collapse sinkhole was 1.3 m long, 0.6 m wide and 0.3 m deep. Sheetwash from about a 20-m-long by 2-m-wide area would drain and deposit sediment around the 1-m-long by 0.5-m-wide by 0.3-m-thick rock centered in the sinkhole. Upon the rock's removal during the Phase 1 study, a 0.1-m-high by 0.15-m-wide opening could be seen to extend north from the sinkhole for at least 0.5 m. The floor of the small passage was covered with loose rocks and soil, and further excavation seemed likely to reveal a cave.*

*Excavation of the feature during this Phase 2 project enlarged it to about 2 m in diameter by 0.6 m deep. One inaccessibly small conduit was found to continue northward and was probably the source of the troglobitic species, but excavating it further was not feasible. The origin of the sinkhole is undetermined. It could be a large stump hole, but more likely it is a relict karst feature or a cavity that formed in the past and later truncated and filled by erosion of the land surface (p. 11).*

Feature X9 is located in Parcel D (Figure 3) and the feature description was confirmed on 1 February 2017 (Figure 48). This feature has a moderate potential for rapid recharge into the subsurface; therefore, it is rated as sensitive according to the Edwards Aquifer Rules (30 TAC §213.5(b)(3)). Because this feature is rated as sensitive, a buffer must be delineated around it. The feature has no well-defined drainages entering it but it is located on a slope; therefore, the buffer was extended 50 ft in all directions except in the uphill direction where it was extended 75 ft to account for runoff flowing toward the feature (Attachment D).

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Figure 48. Overview of Feature X9 from 1 February 2017.

### Feature X10: Sinkhole

This feature, located near Feature X9, was described by Veni and Reddell (2003) as:

*The general style of this feature is that of a soil-floored sinkhole sloping east under a limestone wall, similar to Karst Feature X9, except smaller and without the big rock. This sinkhole was initially 1.2 m long, 0.3 m wide and 0.3 m deep. It had a loose soil floor and drains sheetwash from an area about 12 m long by 6 m wide. Excavation of the feature during this Phase 2 investigation yielded results also similar to X9, a soil-filled cavity about 2 m in diameter by 1.4 m deep, but with no obvious open conduits*

Feature X10 is located in Parcel D (Figure 3) and the feature description was confirmed by Zara on 1 February 2017 (Figure 49 and Figure 50). Soil and organic material deposited during intervening years had apparently decreased the feature depth to 0.7 meter (2.3 ft). Hand excavation removed soils and leaf litter, extending the depth of the feature to 3.0 ft. A downhole camera was used to examine a series of small voids along the interface of the

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feature's floor and wall. It was found that these pockets terminated in black soil presenting no evidence of mesocavernous voids in bedrock. No indications additional mesocavernous voids or an extension of the feature were observed. This feature is rated as sensitive according to the Edwards Aquifer Rules (30 TAC §213.5(b)(3)). Because this feature is rated as sensitive, a buffer must be delineated around it. The feature has no well-defined drainages entering it but it is located on a slope; therefore, the buffer was extended 50 ft in all directions except in the uphill direction where it was extended 75 ft to account for runoff flowing toward the feature (Attachment D).



Figure 49. Overview of Feature X10 from 01 February 2017.

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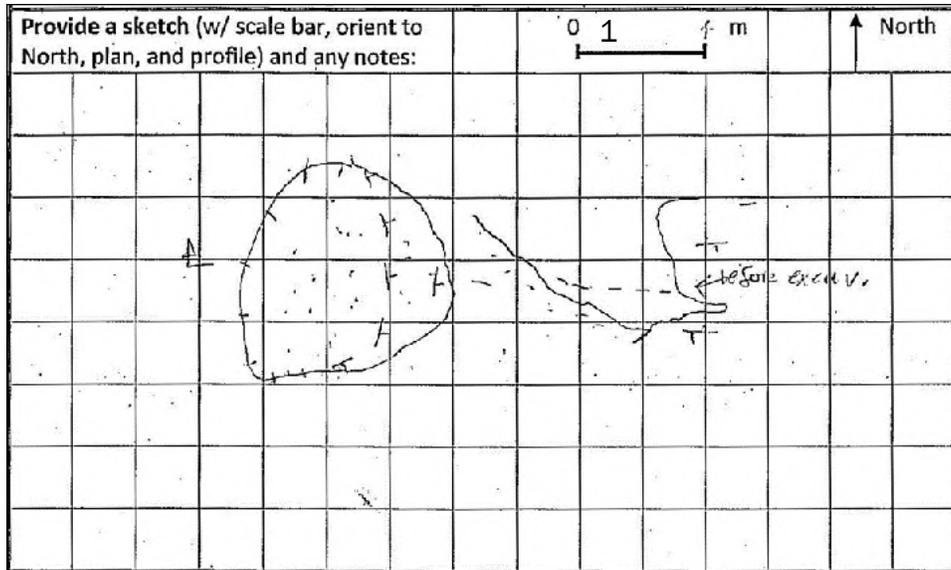


Figure 50. Field sketch of Feature X10 after excavation on 1 February 2017, showing prior floor level.

### Discussion and Recommendations

The overall potential for rapid infiltration of runoff into the Edwards Aquifer within the survey area is moderate due to the thin soils that overly the bedrock. Three features (AV12/X7, X9, and X10) were rated as sensitive (i.e.; score of  $\geq 40$  points in column 10 of the Geologic Assessment Table, Attachment B). The TCEQ requires that an appropriate buffer should be placed around all features identified as sensitive. The TCEQ guidelines suggest a natural buffer around each sensitive feature extending 50 ft in all directions from the footprint of the feature. When the boundary of the drainage area is more than 50 ft from the feature, the buffer should extend to the boundary of the drainage area or 200 ft, whichever is less (Barrett 2005). Because feature AV12/X7 is located in a relatively flat area and there is a lack of well-defined drainages to carry runoff to the feature, a buffer extending 50 ft in all directions was delineated for the feature. Features X9 and X10 were very similar in size, morphology and both located on a hillside. Neither feature had well defined drainages to carry runoff into the features, but because both are located on a hillside, there is some potential for runoff flowing down the hillside as sheetflow to enter the feature; therefore, the buffers around X9 and X10 were extended 50 ft in all directions except uphill, which was extended 75 ft to account for sheetflow into the features.

Care should be taken when working around sensitive features, particularly when ground disturbing work is taking place. If the property is developed in the future, an appropriate buffer should be placed around all features identified as sensitive. Proper storm water best management practices should be implemented to prevent untreated urban runoff from

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entering South Brushy Creek. All excavation that may penetrate the bedrock should be performed under the supervision of a qualified Professional Geoscientist.

### Literature Cited

Barrett, M.E. 2005. Complying with the Edwards Aquifer Rules: Technical Guidance on Best Management Practices: TCEQ, Field Operations Divisions, RG-348 (Revised). July 2005. 315 p.

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## ATTACHMENT C

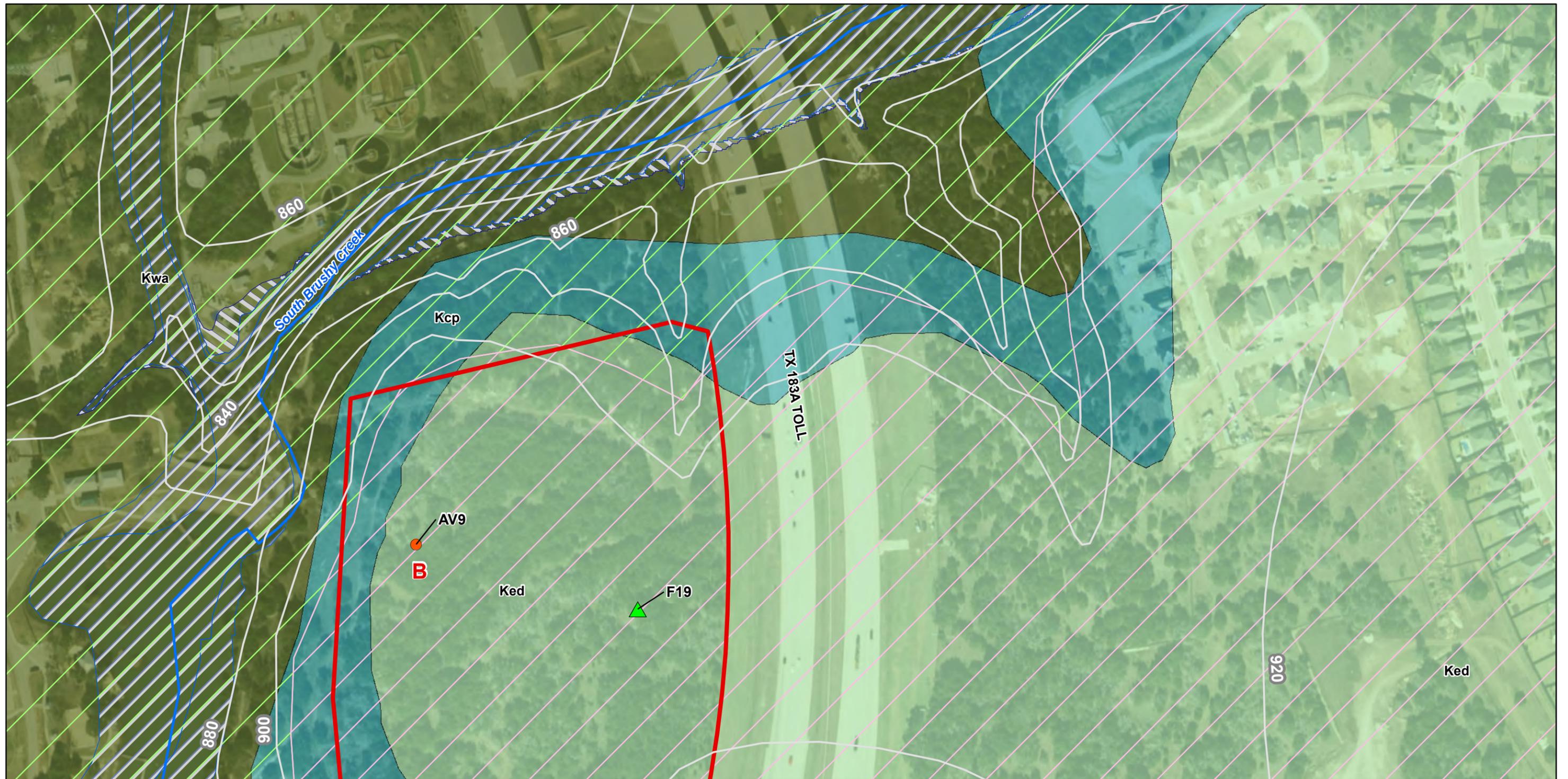
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# ATTACHMENT D

## Site Geologic Maps

## ATTACHMENT D

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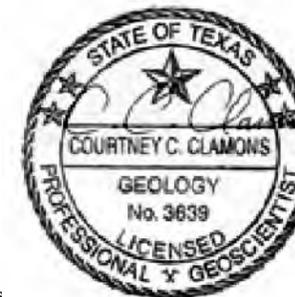
Basemap: ESRI 2017; Geology: GAT 2010, 62K; Floodplain: FEMA FIRM No. 48491C0610E, effective September 26, 2008; Edwards Aquifer Zones: TCEQ 2005; Elevation contours: TNRIS Stratmap Hypsography 1997.

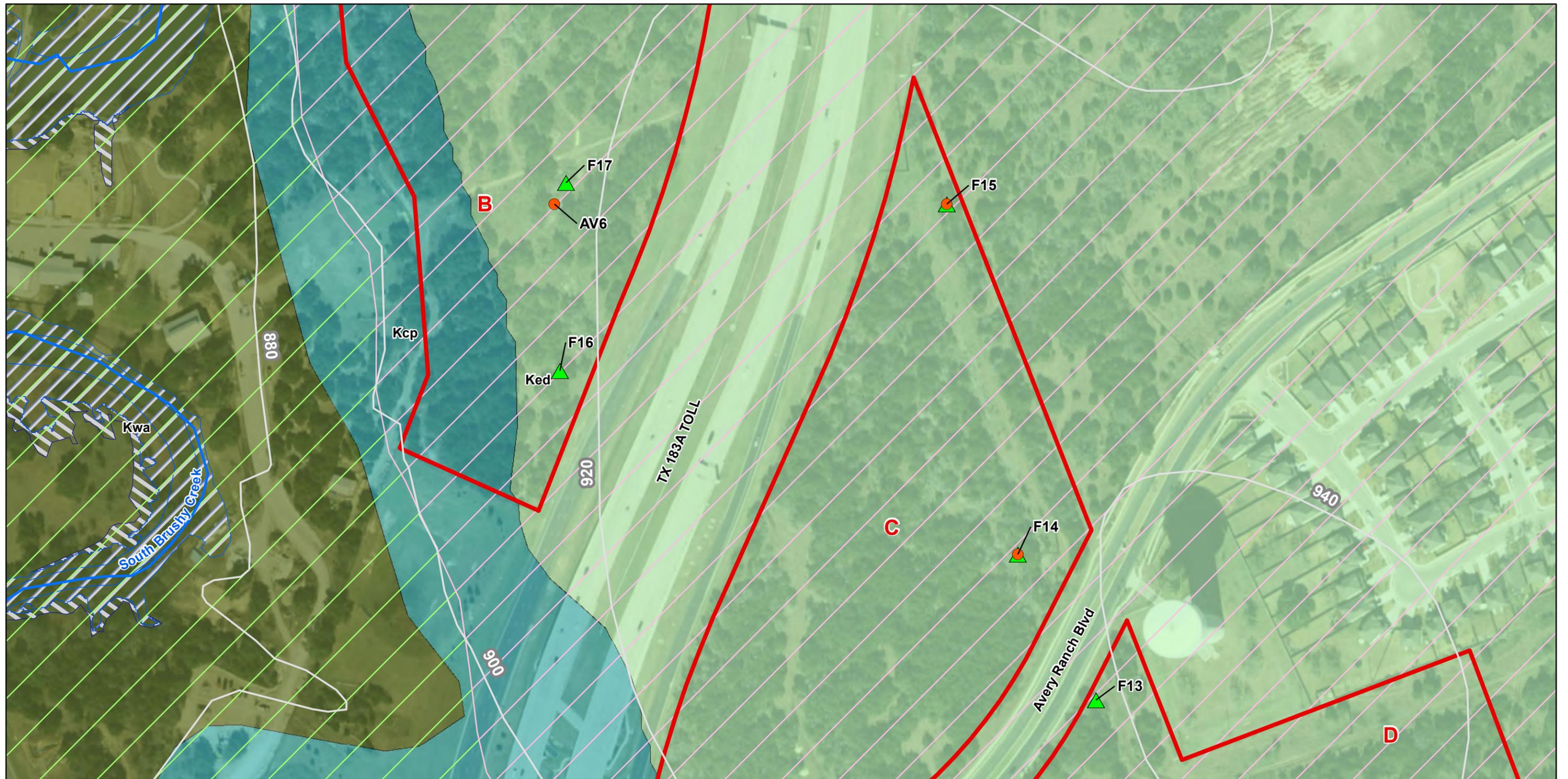
- Survey Area
- Streams
- 10 ft contours
- Geology**
- Ked - Edwards Limestone
- Kcp - Comanche Peak Limestone
- Kwa - Walnut Clay
- Inferred Normal Fault

- FEMA Flood Zones**
- 100 yr flood zone
- 500 yr flood zone
- Edwards Aquifer Zone**
- Contributing Zone
- Recharge Zone

- Known Karst Features**
- Previous Investigations (Source)
- Veni (1998)
- Veni (1999) and Veni and Reddell (2003)
- Veni and Reddell (2003)

- Avery Ranch GA Features**
- Zara 2016 GA Features
- 1 inch = 200 feet
- 0 100 200 300 400 Feet
- 0 20 40 80 120 Meters





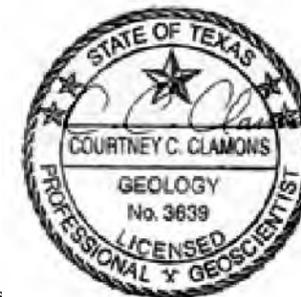
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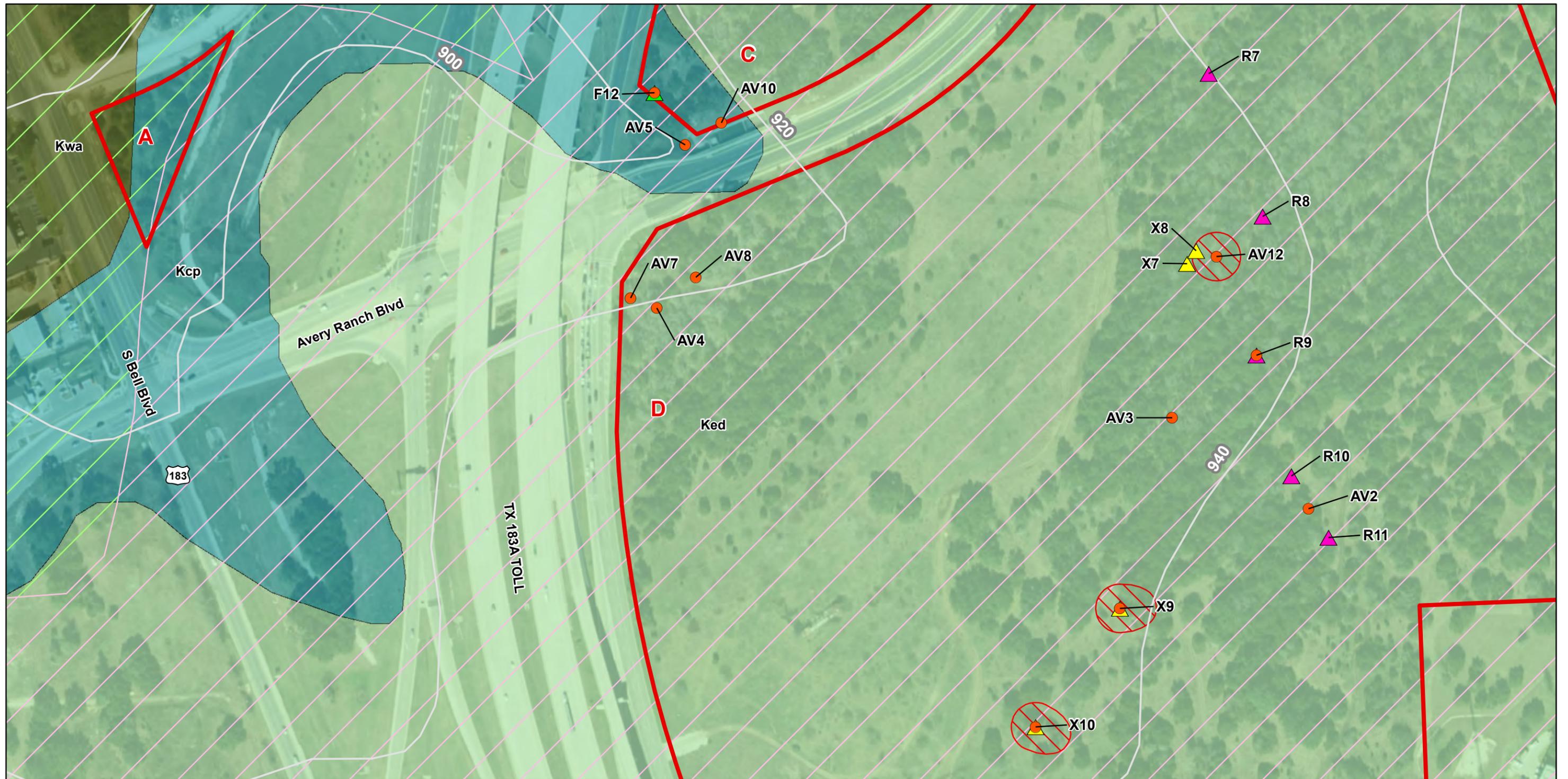
- Survey Area
- Streams
- 10 ft contours
- Geology**
- Kcd - Edwards Limestone
- Kcp - Comanche Peak Limestone
- Kwa - Walnut Clay
- Inferred Normal Fault

- FEMA Flood Zones**
- 100 yr flood zone
- 500 yr flood zone
- Edwards Aquifer Zone**
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- Avery Ranch GA Features**
- Zara 2016 GA Features
- 1 inch = 200 feet**
- 
- 





Basemap: ESRI 2017; Geology: GAT 2010, 62K; Floodplain: FEMA FIRM No. 48491C0610E, effective September 26, 2008; Edwards Aquifer Zones: TCEQ 2005; Elevation contours: TNRIS Stratmap Hypsography 1997.

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- 10 ft contours
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- FEMA Flood Zones**
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**Avery Ranch GA Features**

- Zara 2016 GA Features

1 inch = 200 feet





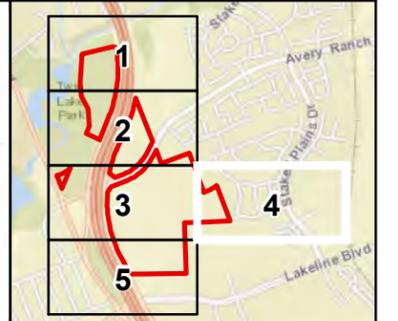
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- FEMA Flood Zones**
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- 
- 





Basemap: ESRI 2017; Geology: GAT 2010, 62K; Floodplain: FEMA FIRM No. 48491C0610E, effective September 26, 2008; Edwards Aquifer Zones: TCEQ 2005; Elevation contours: TNRIS Stratmap Hypsography 1997.

-  Survey Area
-  Streams
-  10 ft contours
- Geology**
-  Ked - Edwards Limestone
-  Kcp - Comanche Peak Limestone
-  Kwa - Walnut Clay
-  Inferred Normal Fault

**FEMA Flood Zones**

-  100 yr flood zone
-  500 yr flood zone

**Edwards Aquifer Zone**

-  Contributing Zone
-  Recharge Zone

**Known Karst Features**

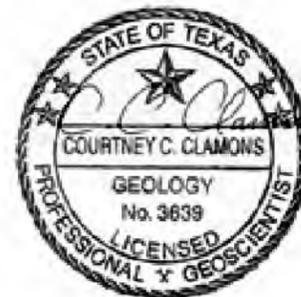
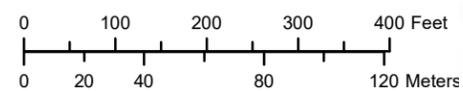
Previous Investigations (Source)

-  Veni (1998)
-  Veni (1999) and Veni and Reddell (2003)
-  Veni and Reddell (2003)

**Avery Ranch GA Features**

-  Zara 2016 GA Features

1 inch = 200 feet



This report was written on behalf of the Texas Department of Transportation by



# Recharge and Transition Zone Exception Request Form

## Texas Commission on Environmental Quality

30 TAC §213.9 Effective June 1, 1999

**To ensure that the application is administratively complete, confirm that all fields in the form are complete, verify that all requested information is provided, consistently reference the same site and contact person in all forms in the application, and ensure forms are signed by the appropriate party.**

**Note: Including all the information requested in the form and attachments contributes to more streamlined technical reviews.**

### Signature

To the best of my knowledge, the responses to this form accurately reflect all information requested concerning the proposed regulated activities and methods to protect the Edwards Aquifer. This **Recharge and Transition Zone Exception Request Form** is hereby submitted for TCEQ review and executive director approval. The request was prepared by:

Print Name of Customer/Agent: Candace Craig, PE

Date: 05/16/2023

Signature of Customer/Agent:



Regulated Entity Name: Avery Oaks Park

### Exception Request

- Attachment A - Nature of Exception.** A narrative description of the nature of each exception requested is attached. All provisions of 30 TAC §213 Subchapter A for which an exception is being requested have been identified in the description.
- Attachment B - Documentation of Equivalent Water Quality Protection.** Documentation demonstrating equivalent water quality protection for the Edwards Aquifer is attached.

### Administrative Information

- Submit one (1) original and one (1) copy of the application, plus additional copies as needed for each affected incorporated city, groundwater conservation district, and county in which the project will be located. The TCEQ will distribute the additional copies to these jurisdictions. The copies must be submitted to the appropriate regional office.
- The applicant understands that no exception will be granted for a prohibited activity in Chapter 213.
- The applicant understands that prior approval under this section must be obtained from the executive director for the exception to be authorized.

## RECHARGE AND TRANSITION ZONE EXCEPTION REQUEST FORM ATTACHMENTS A - B

### **ATTACHMENT A: NATURE OF EXCEPTION**

Avery Oaks Park is a proposed park improvement project on a 7.05-acre lot. The site is currently undeveloped. Based on the City of Austin Land Development Code which exempts public sidewalks and public trails impervious coverage (5.34% /16,412 SF), the proposed impervious coverage for the site is considered 0.0%. No parking nor driveways are proposed. Since the project proposes only 5.34% of sidewalk/trail impervious cover which are also disconnected impervious cover, we respectfully request approval as an Exception.

### **ATTACHMENT B - DOCUMENTATION OF EQUIVALENT WATER QUALITY PROTECTION**

The stormwater from this site will be collected by storm inlets in the adjoining streets and routed to the existing wet basin designed for the overall development.

The TSS calculation for the existing wet basin was provided on the Pond A2 Details and Calcs of the Subdivision Construction Plans for Avery Lakeline (sheet 74 of 95) Which area attached as Exhibits to Attachment A-I of the Permanent Stormwater Section. The required capacity at the water quality elevation of the wet basin is 344,569 cubic feet and 356,424 cubic feet are provided, which is oversized for the planned development and effectively provides equivalent water quality protection for the minimal development.

Based on the City of Austin Land Development Code which exempts public sidewalks and public trails impervious coverage (5.34% /16,412 SF), the proposed impervious coverage is 0.0%. Since the sidewalk/trail are disconnected impervious cover, we respectfully request approval as an Exception.

# Temporary Stormwater Section

## Texas Commission on Environmental Quality

for Regulated Activities on the Edwards Aquifer Recharge Zone and Relating to 30 TAC §213.5(b)(4)(A), (B), (D)(I) and (G); Effective June 1, 1999

**To ensure that the application is administratively complete, confirm that all fields in the form are complete, verify that all requested information is provided, consistently reference the same site and contact person in all forms in the application, and ensure forms are signed by the appropriate party.**

**Note: Including all the information requested in the form and attachments contributes to more streamlined technical reviews.**

### Signature

To the best of my knowledge, the responses to this form accurately reflect all information requested concerning the proposed regulated activities and methods to protect the Edwards Aquifer. This **Temporary Stormwater Section** is hereby submitted for TCEQ review and executive director approval. The application was prepared by:

Print Name of Customer/Agent: Candace Craig, PE

Date: 05/16/2023

Signature of Customer/Agent:

 \_\_\_\_\_

Regulated Entity Name: Avery Oaks Park

### Project Information

#### Potential Sources of Contamination

*Examples: Fuel storage and use, chemical storage and use, use of asphaltic products, construction vehicles tracking onto public roads, and existing solid waste.*

1. Fuels for construction equipment and hazardous substances which will be used during construction:

The following fuels and/or hazardous substances will be stored on the site: \_\_\_\_\_

These fuels and/or hazardous substances will be stored in:

- Aboveground storage tanks with a cumulative storage capacity of less than 250 gallons will be stored on the site for less than one (1) year.

- Aboveground storage tanks with a cumulative storage capacity between 250 gallons and 499 gallons will be stored on the site for less than one (1) year.
- Aboveground storage tanks with a cumulative storage capacity of 500 gallons or more will be stored on the site. An Aboveground Storage Tank Facility Plan application must be submitted to the appropriate regional office of the TCEQ prior to moving the tanks onto the project.
- Fuels and hazardous substances will not be stored on the site.
- 2.  **Attachment A - Spill Response Actions.** A site specific description of the measures to be taken to contain any spill of hydrocarbons or hazardous substances is attached.
- 3.  Temporary aboveground storage tank systems of 250 gallons or more cumulative storage capacity must be located a minimum horizontal distance of 150 feet from any domestic, industrial, irrigation, or public water supply well, or other sensitive feature.
- 4.  **Attachment B - Potential Sources of Contamination.** A description of any activities or processes which may be a potential source of contamination affecting surface water quality is attached.

### *Sequence of Construction*

- 5.  **Attachment C - Sequence of Major Activities.** A description of the sequence of major activities which will disturb soils for major portions of the site (grubbing, excavation, grading, utilities, and infrastructure installation) is attached.
  - For each activity described, an estimate (in acres) of the total area of the site to be disturbed by each activity is given.
  - For each activity described, include a description of appropriate temporary control measures and the general timing (or sequence) during the construction process that the measures will be implemented.
- 6.  Name the receiving water(s) at or near the site which will be disturbed or which will receive discharges from disturbed areas of the project: N/A

### *Temporary Best Management Practices (TBMPs)*

*Erosion control examples: tree protection, interceptor swales, level spreaders, outlet stabilization, blankets or matting, mulch, and sod. Sediment control examples: stabilized construction exit, silt fence, filter dikes, rock berms, buffer strips, sediment traps, and sediment basins. Please refer to the Technical Guidance Manual for guidelines and specifications. All structural BMPs must be shown on the site plan.*

- 7.  **Attachment D – Temporary Best Management Practices and Measures.** TBMPs and measures will prevent pollution of surface water, groundwater, and stormwater. The construction-phase BMPs for erosion and sediment controls have been designed to retain sediment on site to the extent practicable. The following information is attached:

- A description of how BMPs and measures will prevent pollution of surface water, groundwater or stormwater that originates upgradient from the site and flows across the site.
  - A description of how BMPs and measures will prevent pollution of surface water or groundwater that originates on-site or flows off site, including pollution caused by contaminated stormwater runoff from the site.
  - A description of how BMPs and measures will prevent pollutants from entering surface streams, sensitive features, or the aquifer.
  - A description of how, to the maximum extent practicable, BMPs and measures will maintain flow to naturally-occurring sensitive features identified in either the geologic assessment, TCEQ inspections, or during excavation, blasting, or construction.
8.  The temporary sealing of a naturally-occurring sensitive feature which accepts recharge to the Edwards Aquifer as a temporary pollution abatement measure during active construction should be avoided.
- Attachment E - Request to Temporarily Seal a Feature.** A request to temporarily seal a feature is attached. The request includes justification as to why no reasonable and practicable alternative exists for each feature.
  - There will be no temporary sealing of naturally-occurring sensitive features on the site.
9.  **Attachment F - Structural Practices.** A description of the structural practices that will be used to divert flows away from exposed soils, to store flows, or to otherwise limit runoff discharge of pollutants from exposed areas of the site is attached. Placement of structural practices in floodplains has been avoided.
10.  **Attachment G - Drainage Area Map.** A drainage area map supporting the following requirements is attached:
- For areas that will have more than 10 acres within a common drainage area disturbed at one time, a sediment basin will be provided.
  - For areas that will have more than 10 acres within a common drainage area disturbed at one time, a smaller sediment basin and/or sediment trap(s) will be used.
  - For areas that will have more than 10 acres within a common drainage area disturbed at one time, a sediment basin or other equivalent controls are not attainable, but other TBMPs and measures will be used in combination to protect down slope and side slope boundaries of the construction area.
  - There are no areas greater than 10 acres within a common drainage area that will be disturbed at one time. A smaller sediment basin and/or sediment trap(s) will be used in combination with other erosion and sediment controls within each disturbed drainage area.

- There are no areas greater than 10 acres within a common drainage area that will be disturbed at one time. Erosion and sediment controls other than sediment basins or sediment traps within each disturbed drainage area will be used.
11.  **Attachment H - Temporary Sediment Pond(s) Plans and Calculations.** Temporary sediment pond or basin construction plans and design calculations for a proposed temporary BMP or measure have been prepared by or under the direct supervision of a Texas Licensed Professional Engineer. All construction plans and design information must be signed, sealed, and dated by the Texas Licensed Professional Engineer. Construction plans for the proposed temporary BMPs and measures are attached.
- N/A
12.  **Attachment I - Inspection and Maintenance for BMPs.** A plan for the inspection of each temporary BMP(s) and measure(s) and for their timely maintenance, repairs, and, if necessary, retrofit is attached. A description of the documentation procedures, recordkeeping practices, and inspection frequency are included in the plan and are specific to the site and/or BMP.
13.  All control measures must be properly selected, installed, and maintained in accordance with the manufacturer's specifications and good engineering practices. If periodic inspections by the applicant or the executive director, or other information indicate a control has been used inappropriately, or incorrectly, the applicant must replace or modify the control for site situations.
14.  If sediment escapes the construction site, off-site accumulations of sediment must be removed at a frequency sufficient to minimize offsite impacts to water quality (e.g., fugitive sediment in street being washed into surface streams or sensitive features by the next rain).
15.  Sediment must be removed from sediment traps or sedimentation ponds not later than when design capacity has been reduced by 50%. A permanent stake will be provided that can indicate when the sediment occupies 50% of the basin volume.
16.  Litter, construction debris, and construction chemicals exposed to stormwater shall be prevented from becoming a pollutant source for stormwater discharges (e.g., screening outfalls, picked up daily).

### *Soil Stabilization Practices*

*Examples: establishment of temporary vegetation, establishment of permanent vegetation, mulching, geotextiles, sod stabilization, vegetative buffer strips, protection of trees, or preservation of mature vegetation.*

17.  **Attachment J - Schedule of Interim and Permanent Soil Stabilization Practices.** A schedule of the interim and permanent soil stabilization practices for the site is attached.

18.  Records must be kept at the site of the dates when major grading activities occur, the dates when construction activities temporarily or permanently cease on a portion of the site, and the dates when stabilization measures are initiated.
19.  Stabilization practices must be initiated as soon as practicable where construction activities have temporarily or permanently ceased.

### *Administrative Information*

20.  All structural controls will be inspected and maintained according to the submitted and approved operation and maintenance plan for the project.
21.  If any geologic or manmade features, such as caves, faults, sinkholes, etc., are discovered, all regulated activities near the feature will be immediately suspended. The appropriate TCEQ Regional Office shall be immediately notified. Regulated activities must cease and not continue until the TCEQ has reviewed and approved the methods proposed to protect the aquifer from any adverse impacts.
22.  Silt fences, diversion berms, and other temporary erosion and sediment controls will be constructed and maintained as appropriate to prevent pollutants from entering sensitive features discovered during construction.

## **TEMPORARY STORMWATER SECTION ATTACHMENTS A - J**

### **ATTACHMENT A: SPILL RESPONSE ACTION**

During construction, the general contractor should take actions to prevent leaks or spills of pollutants to drainage systems or waterways including education, training of contractors and subcontractors and enforcement of safety measures. Spill cleanup and control materials should be stored at an easily accessible area of the site. In the event a spill occurs, the responsible person shall immediately abate and contain the spill or discharge and cooperate fully with the executive director and the local incident command system. The responsible person shall also begin reasonable response actions including initiating efforts to stop the discharge or spill to minimize the impact to the public health and the environment, neutralize the effects of the incident, remove the discharged or spilled substances, and safely dispose of the wastes. Do not bury or wash spills with water and do not allow it to discharge into drainage facilities or watercourses.

For significant or hazardous spills that are in reportable quantities, notify the TCEQ by telephone as soon as possible and within 24 hours at (512) 339-2929 between 8 AM and 5 PM. After hours, contact the Environmental Release Hotline at 1-800-832-8224. It is the contractor's responsibility to have all emergency phone numbers at the construction site. For spills of federal reportable quantities, in conformance with the requirements in 40 CFR parts 110,119, and 302, the contractor should notify the National Response Center at (800) 424-8802.

### **ATTACHMENT B - POTENTIAL SOURCES OF CONTAMINATION**

Potential sources of contamination include fuel, paint, sanitary/septic waste, cleaning chemicals soil, fertilizer, construction debris and other fluids for construction equipment.

### **ATTACHMENT C - SEQUENCE OF MAJOR ACTIVITIES**

1. Installation of erosion and sedimentation controls.
2. Pre-construction meeting.
3. Clearing and grubbing of the site.
4. Rough grading and preparation for building pads.
5. Installation of underground utilities
6. Building construction
7. Install flatwork
8. Final grading, site revegetation and landscaping

### **ATTACHMENT D - TEMPORARY BEST MANAGEMENT PRACTICES AND MEASURES**

Proposed temporary BMPs include stabilized construction entrances, construction staging and storage areas, a concrete washout area, inlet protection and silt fencing. These temporary BMP measures are intended to contain the sediment transported by stormwater runoff.

## **ATTACHMENT E - REQUEST TO TEMPORARILY SEAL A FEATURE**

Not Applicable

## **ATTACHMENT F - STRUCTURAL PRACTICES**

An existing wet pond designed in accordance with City of Austin Standards provides stormwater quality and detention for runoff from the site.

## **ATTACHMENT G - DRAINAGE AREA MAP**

An on-site drainage area map is included as site plan. The drainage area map for the wet pond is included as Exhibit 1

## **ATTACHMENT H - TEMPORARY SEDIMENT POND(S) PLANS AND CALCULATIONS**

An existing wet pond designed in accordance with City of Austin Standards provides stormwater quality and detention for runoff from the site, so a temporary pond is not proposed

## **ATTACHMENT I - INSPECTION AND MAINTENANCE FOR BMPS**

Inspection and Maintenance for BMPs will be performed in accordance with a stormwater pollution prevention plan (SWPPP) which will be submitted and approved by TCEQ prior to construction. The contractor is required to provide a certified inspector that is either a licensed engineer (or person directly supervised by the licensed engineer) or certified professional in erosion and sediment control (CPESC or CPESC - IT), certified erosion, sediment and stormwater - inspector (CESSWI or CESSWI - IT) or certified inspector of sedimentation and erosion controls (CISEC or CISEC - IT) certification to inspect the construction entrance, construction staging and storage areas, concrete washout area, inlet protection and silt fences at weekly or bi-weekly intervals and after one-half (½) inch or greater rainfall events to insure that they are functioning properly. The person(s) responsible for maintenance of controls and fences shall immediately make any necessary repairs to damaged areas. Silt accumulation at controls must be removed when the depth reaches six (6) inches or one-third (⅓) of the installed height of the control whichever is less. Records including inspection logs shall be maintained with the SWPPP document posted at the site.

## **ATTACHMENT J - SCHEDULE OF INTERIM AND PERMANENT SOIL STABILIZATION PRACTICES**

The contractor should minimize disturbed area and protect natural features and soil to the greatest extent practicable. The vegetative stabilization of areas disturbed by construction shall be as specified in Sheet 2, General Construction Notes, Erosion Control Note No. 9.

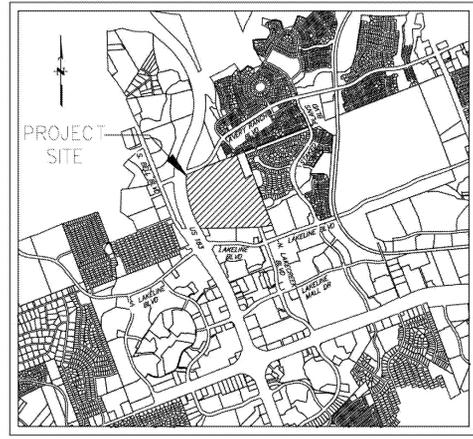
If portions of the site will have a temporary or permanent cease in construction activity lasting longer than 14 days, soil stabilization in those areas shall be initiated as soon as possible prior to the 14<sup>th</sup> day of inactivity. If activity will resume prior to the 21<sup>st</sup> day, stabilization measures are not required. If drought conditions or inclement weather prevent action by the 14<sup>th</sup> day, stabilization measures shall be initiated as soon as possible.

# SUBDIVISION CONSTRUCTION PLANS

## FOR AVERY LAKELINE

### AUSTIN, TEXAS 78747

## FOR JOURNEYMAN RESIDENTIAL, LLC



VICINITY MAP  
1" = 3,000'

WASTEWATER  
PEAK WET WEATHER FLOW = 588 GPM  
  
WATER  
DEMAND (PEAK HOUR) = 2,038 GPM  
FIRE FLOW = 2,000 GPM  
  
LUEs THIS SET = 760  
LUEs FUTURE SITE PLANS = 166  
TOTAL LUEs = 926  
  
PRESSURE ZONE  
NORTHWEST B  
  
WASTEWATER SER 4446 - OPTION 2  
WATER SER 4445

DATE OF SUBMITTAL: OCTOBER 28, 2020

OWNER/DEVELOPER:  
LAKELINE AVERY PARTNERS, LP  
1000 N LAMAR BLVD, SUITE 400  
AUSTIN, TX 78703  
512-374-2905  
ATTN: ALEX CLARKE

ENGINEER:  
JONES | CARTER INC.  
3100 ALVIN DEVANE BLVD, SUITE 150  
AUSTIN, TEXAS 78741  
512-441-9493  
ATTN: JOHN A ALVAREZ II, P.E.

LEGAL DESCRIPTION:  
97.24 ACRES OF LAND, SURVEYED BY LAND, SURVEYED BY LANDESIGN SERVICES, INC., SITUATED IN THE SAMUEL DAMON SAUL LEAGUE, ABSTRACT NO. 170 AND IN THE RACHEL SAUL LEAGUE, ABSTRACT NO. 551, BOTH IN WILLIAMSON COUNTY, TEXAS

GENERAL PLAN NOTES:

- 1. RELEASE OF THIS APPLICATION DOES NOT CONSTITUTE A VERIFICATION OF ALL DATA, INFORMATION AND CALCULATIONS SUPPLIED BY THE APPLICANT. THE ENGINEER OF RECORD IS SOLELY RESPONSIBLE FOR THE COMPLETENESS, ACCURACY AND ADEQUACY OF HIS/HER SUBMITTAL, WHETHER OR NOT THE APPLICATION IS REVIEWED FOR CODE COMPLIANCE BY CITY ENGINEERS.
- 2. WATERSHED STATUS: THIS PROJECT IS LOCATED IN THE BUTTERCUP CREEK AND SOUTH BRUSHY CREEK (SUBURBAN) WATERSHED, AND IS LOCATED OVER THE EDWARDS AQUIFER RECHARGE ZONE. THIS PROJECT COMPLIES TO THE WATERSHED PROTECTION REGULATIONS IN CHAPTERS 25-7 AND 25-8 OF THE LDC.
- 3. THIS PROPERTY DOES NOT LIE WITHIN THE AE ZONE AS IDENTIFIED BY THE FEDERAL EMERGENCY MANAGEMENT AGENCY (FEMA) FLOOD INSURANCE RATE MAP (FIRM) MAP AND PANEL NO. 48491C0610E FOR TRAVIS COUNTY, TEXAS DATED 9/26/2008.
- 4. THERE ARE CRITICAL ENVIRONMENTAL FEATURES ON THIS SITE.
- 5. THE PLAN IS COMPLETE, ACCURATE AND IN COMPLIANCE WITH CHAPTER 25-8, SUBCHAPTER A OF THE LAND DEVELOPMENT CODE.
- 6. APPROVAL OF THESE PLANS BY CITY OF AUSTIN INDICATES COMPLIANCE WITH APPLICABLE CITY REGULATIONS ONLY. APPROVAL BY OTHER GOVERNMENTAL ENTITIES MAY BE REQUIRED PRIOR TO THE START OF CONSTRUCTION. THE APPLICANT IS RESPONSIBLE FOR DETERMINING WHAT ADDITIONAL APPROVALS MAY BE NECESSARY. COMPLIANCE WITH ACCESSIBILITY STANDARDS SUCH AS THE 2010 STANDARDS FOR ACCESSIBLE DESIGN OR THE 2012 TEXAS ACCESSIBILITY STANDARDS WAS NOT VERIFIED. THE APPLICANT IS RESPONSIBLE FOR COMPLIANCE WITH ALL APPLICABLE ACCESSIBILITY STANDARDS.
- 7. RETAINING WALLS OVER FOUR FEET IN HEIGHT, MEASURED FROM THE BOTTOM OF THE FOOTING TO THE TOP OF THE WALL, SHALL BE ENGINEERED AND WILL REQUIRE A SEPARATE PERMIT (UNIFORMED BUILDING CODE 106.2.5)
- 8. THIS NOTE IS BEING PLACED ON THE PLAN SET IN PLACE OF A TEMPORARY TRAFFIC CONTROL STRATEGY WITH THE FULL UNDERSTANDING THAT, AT A MINIMUM OF 6 WEEKS PRIOR TO THE START OF CONSTRUCTION, A TEMPORARY TRAFFIC CONTROL PLAN MUST BE REVIEWED AND APPROVED BY THE RIGHT OF WAY MANAGEMENT DIVISION. THE OWNER/REPRESENTATIVE FURTHER RECOGNIZES THAT A REVIEW FEE, AS PRESCRIBED BY THE MOST CURRENT VERSION OF THE CITY'S FEE ORDINANCE, SHALL BE PAID EACH TIME A PLAN OR PLAN REVISION IS SUBMITTED TO THE RIGHT OF WAY MANAGEMENT DIVISION FOR REVIEW.
- 9. CONTRACTOR SHALL NOTIFY THE CITY OF AUSTIN - SITE & SUBDIVISION DIVISION TO SUBMIT REQUIRED DOCUMENTATION, PAY CONSTRUCTION INSPECTION FEES, AND TO SCHEDULE THE REQUIRED SITE AND SUBDIVISION PRE-CONSTRUCTION MEETING. THIS MEETING MUST BE HELD PRIOR TO ANY CONSTRUCTION ACTIVITIES WITHIN THE R.O.W. OR PUBLIC EASEMENTS. PLEASE VISIT <http://austintexas.gov/page/commercial-site-and-subdivision-inspections> FOR A LIST OF SUBMITTAL REQUIREMENTS, FEE CALCULATIONS, AND TO ARRANGE PAYMENT OF INSPECTION FEES. PROVIDE THE LOCATION OF THE NOTE IN THE RESPONSE TO COMMENTS FOR VERIFICATION IT HAS BEEN INCLUDED.
- 10. ALL GRADING ACTIVITIES WITHIN THE 1/2 CRITICAL ROOT ZONE OF ALL PRESERVED TREES TO BE PERFORMED BY HAND TOOLS ONLY.
- 11. THERE ARE NO NATURAL SLOPES EXCEEDING 15% ON THIS SITE.
- 12. THIS PROJECT IS SUBJECT TO THE VOID AND WATER FLOW MITIGATION RULE (COA ECM 1.12.0 AND COA ITEM NO. 6585 OF THE SSM) PROVISION THAT ALL TRENCHING GREATER THAN 5 FEET DEEP MUST BE INSPECTED BY A LICENSED GEOLOGIST (TEXAS P.G.) OR A GEOLOGIST'S REPRESENTATIVE.
- 13. ALL PERMANENT FENCING MUST BE INSTALLED AT THE PERIMETER OF THE CRITICAL ENVIRONMENTAL FEATURE (CEF) BUFFER PRIOR TO THE INITIATION OF ANY CONSTRUCTION OR CLEARING ACTIVITY. THE FENCE MATERIAL SHALL BE IN ACCORDANCE WITH COA ITEM NO. 7015 OF THE SSM, UNLESS OTHER MATERIALS ARE APPROVED BY THE CITY OF AUSTIN. A LOCKABLE ACCESS GATE SHALL BE INSTALLED FOR EACH CRITICAL ENVIRONMENTAL FEATURE (CEF) BUFFER.
- 14. THE PRESENCE OF A CRITICAL ENVIRONMENTAL FEATURE ON OR NEAR A PROPERTY MAY AFFECT DEVELOPMENT. ALL ACTIVITIES WITHIN THE CRITICAL ENVIRONMENTAL FEATURES (CEF) BUFFER MUST COMPLY WITH THE CITY OF AUSTIN CODE AND CRITERIA. THE NATURAL VEGETATIVE COVER MUST BE RETAINED TO THE MAXIMUM EXTENT PRACTICABLE; CONSTRUCTION IS PROHIBITED; AND WASTEWATER DISPOSAL OR IRRIGATION IS PROHIBITED.
- 15. THE CRITICAL ENVIRONMENTAL FEATURE (CEF) BUFFERS MUST BE MAINTAINED PER CITY OF AUSTIN CODE AND CRITERIA. EXISTING DRAINAGE AND NATIVE VEGETATION SHALL REMAIN UNDISTURBED TO ALLOW THE WATER QUALITY FUNCTION OF THE BUFFER. INSPECTION AND MAINTENANCE OF BUFFER SHALL OCCUR SEMIANNUALLY IN ACCORDANCE TO CITY OF AUSTIN CODE AND CRITERIA.
- 16. PUBLIC SIDEWALKS, BUILT TO CITY OF AUSTIN STANDARDS, ARE REQUIRED ALONG THE FOLLOWING STREETS AND AS SHOWN BY A DOTTED LINE ON THE FACE OF THE PLAT: HEMA DRIVE AND NORTH LAKECREEK PARKWAY. THESE SIDEWALKS SHALL BE IN PLACE PRIOR TO THE LOT BEING OCCUPIED. FAILURE TO CONSTRUCT THE REQUIRED SIDEWALKS MAY RESULT IN THE WITHHOLDING OF CERTIFICATES OF OCCUPANCY, BUILDING PERMITS, OR UTILITY CONNECTIONS BY THE GOVERNING BODY OR UTILITY COMPANY.
- 17. FOR INTEGRATED PEST MANAGEMENT PLAN, SEE AGREEMENT FILED IN DOCUMENT NO. \_\_\_\_\_, OFFICIAL PUBLIC RECORDS, TRAVIS COUNTY, TEXAS.

ZONING:  
MF-4, CS-MU  
CASE NO. C14-2019-0035

SUBURBAN WATERSHED: BUTTERCUP CREEK AND SOUTH BRUSHY CREEK

FEMA FIRM:  
FEMA MAP NUMBER 48491C0610E, DATED 9/26/2008

RELATED CASES:  
SP-2019-0422D  
SP-2019-0183D

### REVISIONS/CORRECTIONS

No.	DESCRIPTION	REVISE (R) DELETE (D) ADD (A) SHEET No's	TOTAL SHEETS IN PLAN SET	NET CHANGE IMPERV. COVER SF	TOTAL SITE IMPERV. COVER SF / %	CITY OF AUSTIN APPROVAL DATE	DATE IMAGED
A1	CONSTRUCTION PHASE PLAN	(R) 019-42, 44-50, 52-59	82	0		09/10/2020	
A2	RELOCATING CURB INLET, UPDATING STORM OUTFALL AND STATIONING	(R) 022, 23, 30, 36, 44-49, 52, 60-63, 72, 74	82	0			10/02/2020
A3	LAKELINE AVERY REDESIGN	(R) 019-42, 44-50, 52-59, 60-63, 72, 74	95	-29,621 SF	119,354 SF		
C5	RELOCATE WL STUB, UPDATE STORM STUB	(R) 37, 42, 53, 62, 85, 86, 89, 91, 93	95	0	119,354 SF	03/23/22 ZW	
C6	ADDED WL STUB, UPDATE OFFSITE STORM, UPDATE BIOFILTRATION POND OUTFALL	(R) 35, 59, 62, 70, 85, 92, 93, 94, 95	95	0	119,354 SF	04/07/2022	



JOHN A. ALVAREZ II, P.E.  
10/28/2020

OCTOBER 28, 2020

PREPARED BY  
**JONES CARTER**  
Texas Board of Professional Engineers Registration No. F-439  
3100 Alvin Devane Boulevard, Suite 150 • Austin, Texas 78741 • 512.441.9493

**TEXAS ONE CALL SYSTEM**  
1-800-245-4545  
CALL BEFORE YOU. TEXAS ONE CALL PARTICIPANTS REQUEST 72  
HOURS NOTICE BEFORE YOU DIG, DRILL, OR BLAST

### Sheet List Table

Sheet Number	Sheet Title	Sheet Number	Sheet Title
1	Cover Sheet & Sheet Index	83	Hema Drive Sta 1+00 - 8+50
2	General Construction Notes	84	Hema Drive Sta 7+60 - End
AW-3	AWU Sheet	AW-85	Waterline B Sta 1+00 - 7+60
4	Final Plat (1 of 2)	AW-87	Waterline B Sta 7+60 - End
AW-5	Final Plat (2 of 2)	AW-88	Waterline C Sta 1+00 - 5+20
6	Overall Existing Conditions & Tree Survey	AW-89	Waterline C Sta 5+20 - End
7	Existing Conditions & Tree SurveyPlan A	AW-90	Wastewater Line B Sta 1+00 - 9+00
8	Existing Conditions & Tree SurveyPlan B	91	Wastewater Line B Sta 9+00 - End
9	Existing Conditions & Tree SurveyPlan C	92	Storm Line B Sta 1+00 - End
10	Existing Conditions & Tree SurveyPlan D	93	Storm Line C Sta 1+00 - 5+80
11	Existing Conditions & Tree SurveyPlan E	94	Storm Line C Sta 5+80 - End
12	Existing Conditions & Tree SurveyPlan F	95	Biofiltration & Detention Pond A1 Plan
13	Existing Conditions & Tree SurveyPlan G		Pond A1 Sections
14	Tree List (1 of 4)		
15	Tree List (2 of 4)		
16	Tree List (3 of 4)		
17	Tree List (4 of 4)		
18	Slope Map		
AW-19	Pre-Construction Erosion Control & Demolition Plan		
20	Overall Mid-Construction Erosion Control Plan		
21	Mid-Construction Erosion Control Plan A		
22	Mid-Construction Erosion Control Plan B		
23	Mid-Construction Erosion Control Plan C		
24	Mid-Construction Erosion Control Plan D		
25	Mid-Construction Erosion Control Plan E		
26	Mid-Construction Erosion Control Plan F		
27	Mid-Construction Erosion Control Plan G		
AW-28	Overall Utility Plan		
AW-29	Waterline A Sta 1+00 - 8+20		
AW-30	Waterline A Sta 8+20 - End		
AW-34	Offsite Water Sta 1+00 - End		
AW-35	Water Service Leads (1 of 3)		
AW-36	Water Service Leads (2 of 3)		
AW-37	Water Service Leads (3 of 3)		
AW-38	Wastewater Line A Sta 1+00 - 8+30		
AW-39	Wastewater Line A Sta 8+30 - End		
AW-42	Wastewater Service Lead		
43	Overall Signage & Striping Plan		
44	N. Lakecreek Pkwy Sta 1+00 - 8+80		
45	N. Lakecreek Pkwy Sta 8+80 - End		
50	183A Frontage Road Decel Lane		
51	Overall Grading & Drainage Plan		
52	Storm Line A Sta 1+00 - 9+20		
53	Storm Line A Sta 9+20 - End		
57	Offsite Storm Sta 0+00 - 7+80		
58	Offsite (2 of 3)		
59	Offsite (3 of 3)		
60	Avery Ranch Culvert		
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65	Proposed Drainage Area Map		
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70	Pond A1 Details & Calcs		
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AW-76	Water Details		
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80	Erosion Control Details		
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82	Pavement Details		

OMITTED SHEETS:  
31-33, 40, 41, 46-49, 54-56, 63, 68, 69

### REVIEWED BY:

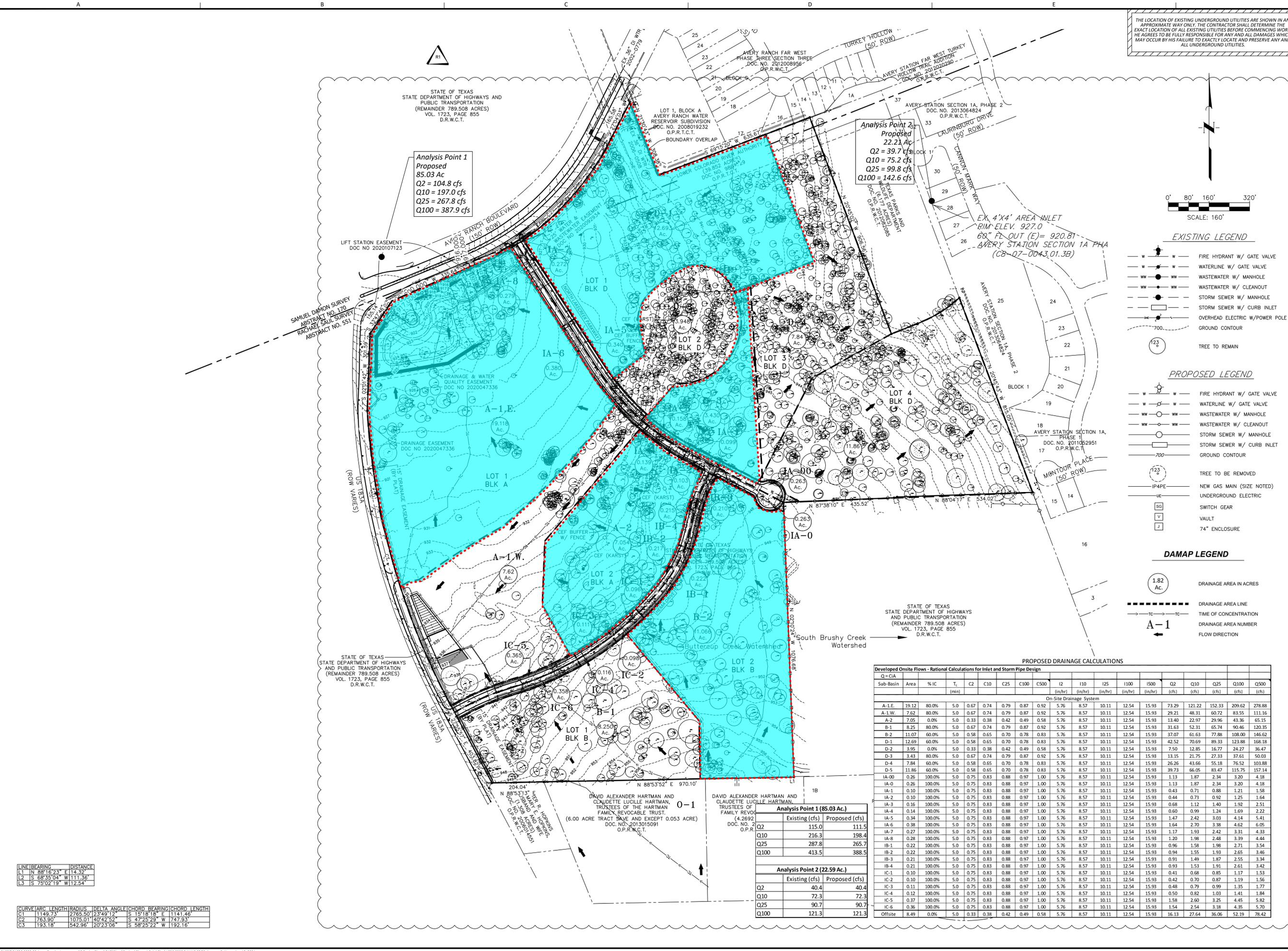
FOR THE DIRECTOR OF  
DEVELOPMENT SERVICES DEPARTMENT

FIRE DEPARTMENT  
AUSTIN WATER UTILITY

PERMIT NO. C8-2019-0041.1B(R1)

SITE PLAN APPROVAL SHEET 1 OF 85  
FILE NUMBER: C8-2019-0041.1B(R1) APPLICATION DATE: 07/11/2019  
APPROVED BY COMMISSION ON UNDER SECTION 112 OF  
CHAPTER 265 OF THE CITY OF AUSTIN CODE  
EXPIRATION DATE (25-5-01, LDC) CASE MANAGER TBD  
PROJECT EXPIRATION DATE (ORD.#970905-A) DWPZ DDZ  
  
Director, Development Services Department  
RELEASED FOR GENERAL COMPLIANCE: ZONING: ERC  
Rev. 1 Correction 1  
Rev. 2 Correction 2  
Rev. 3 Correction 3  
  
SHEET NO. 1 OF 95

1  
2  
3  
4



THE LOCATION OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK. HE AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MAY OCCUR BY HIS FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.



**EXISTING LEGEND**

- W — FIRE HYDRANT W/ GATE VALVE
- W — WATERLINE W/ GATE VALVE
- WW — WASTEWATER W/ MANHOLE
- WW — WASTEWATER W/ CLEANOUT
- S — STORM SEWER W/ MANHOLE
- S — STORM SEWER W/ CURB INLET
- P — OVERHEAD ELECTRIC W/ POWER POLE
- 700 — GROUND CONTOUR
- (123) TREE TO REMAIN

**PROPOSED LEGEND**

- W — FIRE HYDRANT W/ GATE VALVE
- W — WATERLINE W/ GATE VALVE
- WW — WASTEWATER W/ MANHOLE
- WW — WASTEWATER W/ CLEANOUT
- S — STORM SEWER W/ MANHOLE
- S — STORM SEWER W/ CURB INLET
- 700 — GROUND CONTOUR
- (123) TREE TO BE REMOVED
- IP4PE — NEW GAS MAIN (SIZE NOTED)
- UE — UNDERGROUND ELECTRIC
- SG — SWITCH GEAR
- V — VAULT
- E — 74" ENCLOSURE

**DAMAP LEGEND**

- (1.82 Ac) DRAINAGE AREA IN ACRES
- TC — DRAINAGE AREA LINE
- TC — TIME OF CONCENTRATION
- A-1 — DRAINAGE AREA NUMBER
- F — FLOW DIRECTION

**PROPOSED DRAINAGE CALCULATIONS**

Developed Onsite Flows - Rational Calculations for Inlet and Storm Pipe Design

Q=CIA	Sub-Basin	Area	% IC	T <sub>c</sub>	C2	C10	C25	C100	C500	I2	I10	I25	I100	I500	Q2	Q10	Q25	Q100	Q500
				(min)						(in/hr)	(in/hr)	(in/hr)	(in/hr)	(in/hr)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)
On-Site Drainage System																			
	A-1.E	19.12	80.0%	5.0	0.67	0.74	0.79	0.87	0.92	5.76	8.57	10.11	12.54	15.93	73.29	121.22	152.33	209.62	278.88
	A-1.W	7.62	80.0%	5.0	0.67	0.74	0.79	0.87	0.92	5.76	8.57	10.11	12.54	15.93	29.21	48.31	60.72	83.55	111.16
	A-2	7.05	0.0%	5.0	0.33	0.38	0.42	0.49	0.58	5.76	8.57	10.11	12.54	15.93	13.40	22.97	29.96	43.36	65.15
	B-1	8.25	80.0%	5.0	0.67	0.74	0.79	0.87	0.92	5.76	8.57	10.11	12.54	15.93	31.63	52.31	65.74	90.46	120.35
	B-2	11.07	60.0%	5.0	0.58	0.65	0.70	0.78	0.83	5.76	8.57	10.11	12.54	15.93	37.07	61.63	77.88	108.00	146.62
	D-1	12.69	60.0%	5.0	0.58	0.65	0.70	0.78	0.83	5.76	8.57	10.11	12.54	15.93	42.52	70.69	89.33	123.88	168.18
	D-2	3.95	0.0%	5.0	0.33	0.38	0.42	0.49	0.58	5.76	8.57	10.11	12.54	15.93	7.50	12.85	16.77	24.27	36.47
	D-3	3.43	80.0%	5.0	0.67	0.74	0.79	0.87	0.92	5.76	8.57	10.11	12.54	15.93	13.15	21.75	27.33	37.61	50.03
	D-4	7.94	60.0%	5.0	0.58	0.65	0.70	0.78	0.83	5.76	8.57	10.11	12.54	15.93	26.26	43.66	55.18	76.52	103.88
	D-5	11.86	60.0%	5.0	0.58	0.65	0.70	0.78	0.83	5.76	8.57	10.11	12.54	15.93	39.73	66.05	83.47	115.75	157.14
	IA-00	0.26	100.0%	5.0	0.75	0.83	0.88	0.97	1.00	5.76	8.57	10.11	12.54	15.93	1.13	1.87	2.34	3.20	4.18
	IA-0	0.26	100.0%	5.0	0.75	0.83	0.88	0.97	1.00	5.76	8.57	10.11	12.54	15.93	1.13	1.87	2.34	3.20	4.18
	IA-1	0.10	100.0%	5.0	0.75	0.83	0.88	0.97	1.00	5.76	8.57	10.11	12.54	15.93	0.43	0.71	0.88	1.21	1.58
	IA-2	0.10	100.0%	5.0	0.75	0.83	0.88	0.97	1.00	5.76	8.57	10.11	12.54	15.93	0.44	0.73	0.92	1.25	1.64
	IA-3	0.16	100.0%	5.0	0.75	0.83	0.88	0.97	1.00	5.76	8.57	10.11	12.54	15.93	0.68	1.12	1.40	1.92	2.51
	IA-4	0.14	100.0%	5.0	0.75	0.83	0.88	0.97	1.00	5.76	8.57	10.11	12.54	15.93	0.60	0.99	1.24	1.69	2.22
	IA-5	0.34	100.0%	5.0	0.75	0.83	0.88	0.97	1.00	5.76	8.57	10.11	12.54	15.93	1.47	2.42	3.03	4.14	5.41
	IA-6	0.38	100.0%	5.0	0.75	0.83	0.88	0.97	1.00	5.76	8.57	10.11	12.54	15.93	1.64	2.70	3.38	4.62	6.05
	IA-7	0.27	100.0%	5.0	0.75	0.83	0.88	0.97	1.00	5.76	8.57	10.11	12.54	15.93	1.17	1.93	2.42	3.31	4.33
	IA-8	0.28	100.0%	5.0	0.75	0.83	0.88	0.97	1.00	5.76	8.57	10.11	12.54	15.93	1.20	1.98	2.48	3.39	4.44
	IB-1	0.22	100.0%	5.0	0.75	0.83	0.88	0.97	1.00	5.76	8.57	10.11	12.54	15.93	0.96	1.58	1.98	2.71	3.54
	IB-2	0.22	100.0%	5.0	0.75	0.83	0.88	0.97	1.00	5.76	8.57	10.11	12.54	15.93	0.94	1.55	1.93	2.65	3.46
	IB-3	0.21	100.0%	5.0	0.75	0.83	0.88	0.97	1.00	5.76	8.57	10.11	12.54	15.93	0.91	1.49	1.87	2.55	3.34
	IB-4	0.21	100.0%	5.0	0.75	0.83	0.88	0.97	1.00	5.76	8.57	10.11	12.54	15.93	0.93	1.53	1.91	2.61	3.42
	IC-1	0.10	100.0%	5.0	0.75	0.83	0.88	0.97	1.00	5.76	8.57	10.11	12.54	15.93	0.41	0.68	0.85	1.17	1.53
	IC-2	0.10	100.0%	5.0	0.75	0.83	0.88	0.97	1.00	5.76	8.57	10.11	12.54	15.93	0.42	0.70	0.87	1.19	1.56
	IC-3	0.11	100.0%	5.0	0.75	0.83	0.88	0.97	1.00	5.76	8.57	10.11	12.54	15.93	0.48	0.79	0.99	1.35	1.77
	IC-4	0.12	100.0%	5.0	0.75	0.83	0.88	0.97	1.00	5.76	8.57	10.11	12.54	15.93	0.50	0.82	1.03	1.41	1.84
	IC-5	0.37	100.0%	5.0	0.75	0.83	0.88	0.97	1.00	5.76	8.57	10.11	12.54	15.93	1.58	2.60	3.25	4.45	5.82
	IC-6	0.36	100.0%	5.0	0.75	0.83	0.88	0.97	1.00	5.76	8.57	10.11	12.54	15.93	1.54	2.54	3.18	4.35	5.70
	Offsite	8.49	0.0%	5.0	0.33	0.38	0.42	0.49	0.58	5.76	8.57	10.11	12.54	15.93	16.13	27.64	36.06	52.19	78.42

LINE BEARINGS DISTANCE

L1	N 88°18'23" E	114.32
L2	S 68°35'04" W	111.36
L3	S 75°02'19" W	112.54

CURVE DATA

CURVE	ARC LENGTH	RADIUS	DELTA ANGLE	CHORD BEARING	CHORD LENGTH
C1	1149.73	2765.50	23°49'12"	S 15°18'18" E	1141.46
C2	763.90	1075.01	40°42'52"	S 47°25'29" W	747.93
C3	193.18	542.96	120°23'06"	S 58°25'22" W	192.16

APP. NO. R1 DATE 11/09/2020 CHANGE TO HEMA DR. CHANGES TO DRAINAGE AREAS

REVISIONS

DESIGNED BY: JAA  
CHECKED BY: GMR  
DRAWN BY: SH

SCALE: AS SHOWN DATE: OCTOBER 28, 2020 JOB NO.: 04836-008

JONES CARTER  
Texas Board of Professional Engineers Registration No. F-439  
3300 Avon Avenue Boulevard, Suite 150 • Austin, Texas 78741 • 512-441-9493

JOHN A. ALVAREZ II  
127206  
10/28/2020

STATE OF TEXAS  
PROFESSIONAL ENGINEER

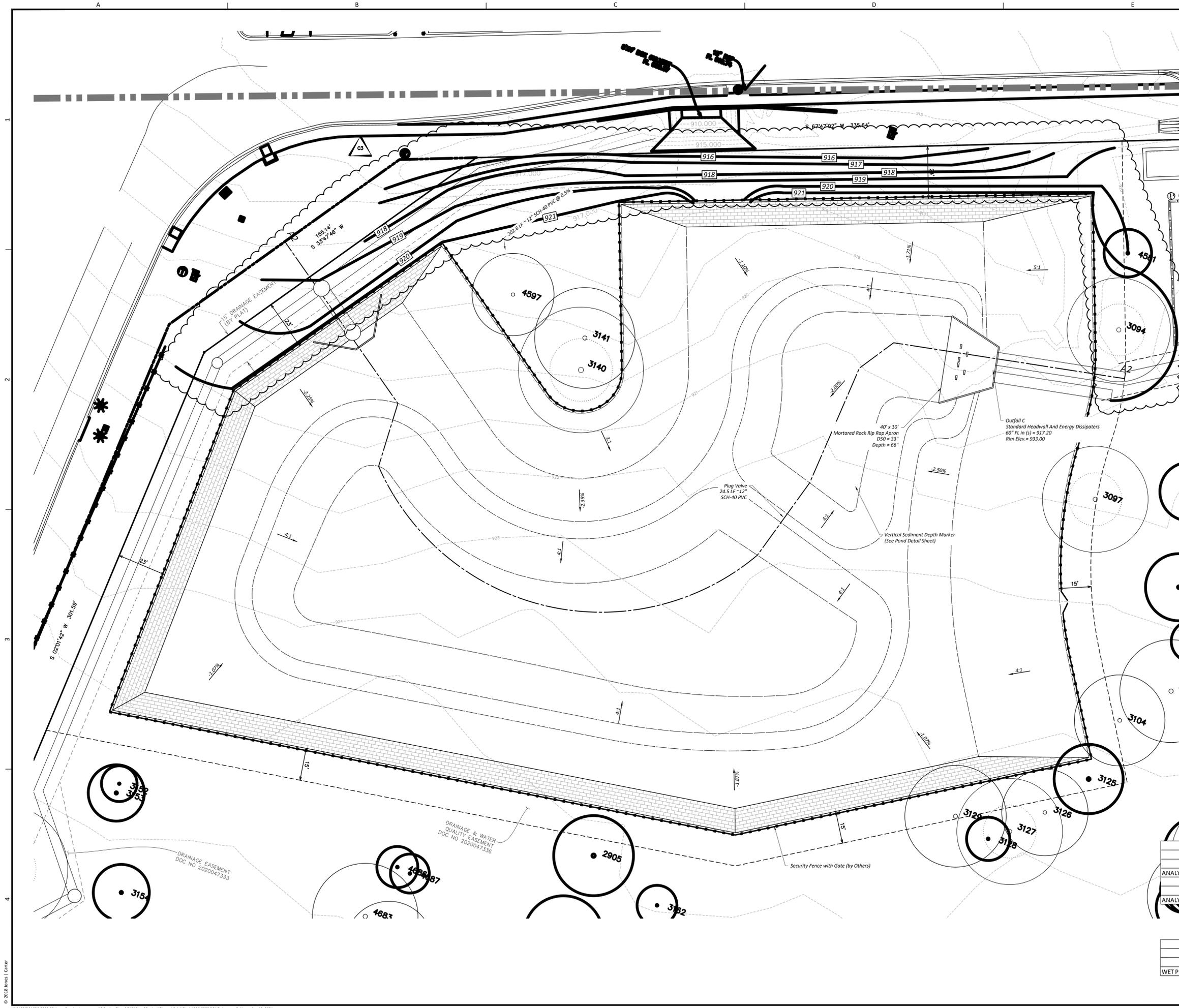
10/28/2020

AVERY LAKELINE

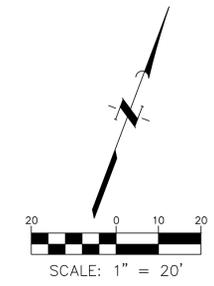
PROPOSED DRAINAGE AREA MAP

SHEET NO. 65 OF 95

CB-2019-0041-1B (R1)



THE LOCATION OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK. HE AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MAY OCCUR BY HIS FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.



**EXISTING LEGEND**

- FIRE HYDRANT W/ GATE VALVE
- WATERLINE W/ GATE VALVE
- WASTEWATER W/ MANHOLE
- WASTEWATER W/ CLEANOUT
- STORM SEWER W/ MANHOLE
- STORM SEWER W/ CURB INLET
- OVERHEAD ELECTRIC W/ POWER POLE
- GROUND CONTOUR
- TREE TO REMAIN

**PROPOSED LEGEND**

- FIRE HYDRANT W/ GATE VALVE
- WATERLINE W/ GATE VALVE
- WASTEWATER W/ MANHOLE
- WASTEWATER W/ CLEANOUT
- STORM SEWER W/ MANHOLE
- STORM SEWER W/ CURB INLET
- GROUND CONTOUR
- TREE TO BE REMOVED

**NOTE:**  
 1. ALL POND BOTTOMS, SIDE SLOPES, AND EARTHEN EMBANKMENTS SHALL BE COMPACTED TO NINETY-FIVE (95) PERCENT MAXIMUM DENSITY, IN ACCORDANCE WITH CITY OF AUSTIN STANDARD SPECIFICATIONS.  
 2. MAKE-UP WATER FOR THE WET POND TO BE PROVIDED BY TRUCK TO ENSURE THE PERMANENT POOL LEVEL DOES DROP GREATER THAN 1 FOOT. AT THE TIME OF SITE PLAN, THE BUILDING MUST TIE THE AC CONDENSATE INTO THE STORM SYSTEM TO PROVIDE THE REQUIRED AMOUNT OF MAKEUP WATER FOR THE POND.

HEC-HMS 4.3				
EXISTING CONDITION				
	2 YEAR (CFS)	10 YEAR (CFS)	25 YEAR (CFS)	100 YR (CFS)
ANALYSIS POINT A	109.5	211.3	282.6	402.8
PROPOSED CONDITION				
	2 YEAR (CFS)	10 YEAR (CFS)	25 YEAR (CFS)	100 YR (CFS)
ANALYSIS POINT A	95.9	189.9	260.9	390.5

HEC-HMS 4.1				
PROPOSED CONDITION				
	2 YEAR (FT)	10 YEAR (FT)	25 YEAR (FT)	100 YR (FT)
WET POND WSEL	915.5	917.3	918.4	920.1

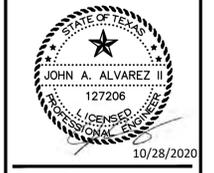
APD: \_\_\_\_\_

REVISIONS

No.	Date	Description
C3	4/24/2021	GRADING AT OUTFALL ADDED

**JONES CARTER**  
 Texas Board of Professional Engineers Registration No. F-439  
 3100 Avon Avenue Boulevard, Suite 150 • Austin, Texas 78751 • 512.441.9493

SCALE: AS SHOWN    DESIGNED BY: JAA  
 DATE: OCTOBER 28, 2020    CHECKED BY: GNR  
 JOB NO.: 04836-0008    DRAWN BY: SH

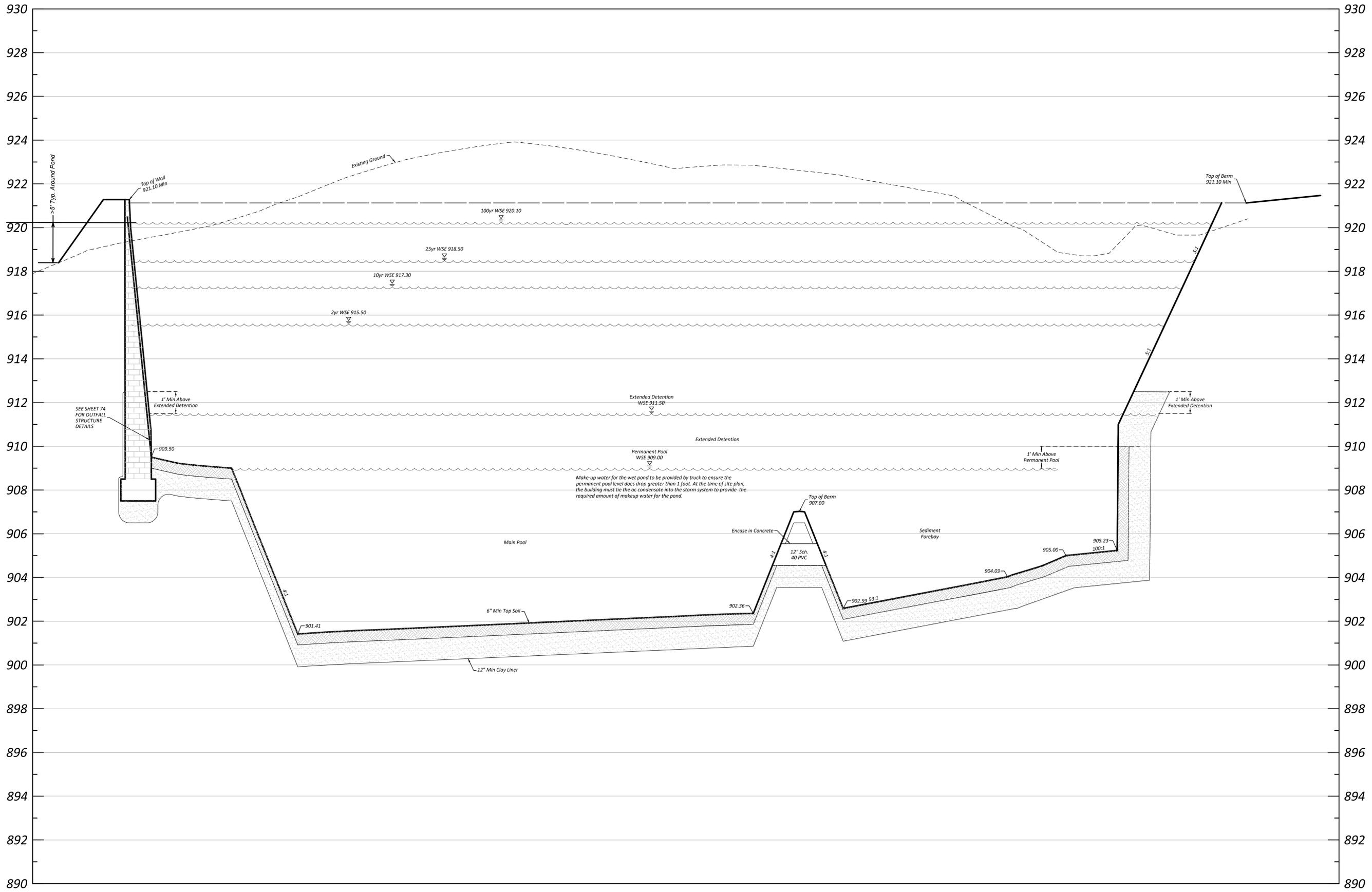


AVERY LAKELINE  
**WATER QUALITY AND DETENTION  
 POND PLAN A**

SHEET NO. **72**  
 OF 95

CS-2019-0041-1B(R1)

CS



**SECTION A2**  
1"=20' H; 1"=2' V

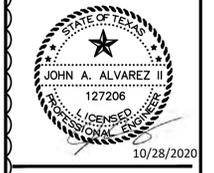
APD. REVISIONS

No.	DATE	DESCRIPTION
CS	4/24/2021	POUND HEIGHT AND GRADING UPDATED TO MATCH AS BUILT INFORMATION

**JONES CARTER**  
Texas Board of Professional Engineers Registration No. F-439  
3100 Avon Avenue Boulevard, Suite 150 • Austin, Texas 78741 • 512.441.8493

SCALE: AS SHOWN  
DATE: OCTOBER 28, 2020  
JOB NO.: 0A836-0008

DESIGNED BY: JAA  
CHECKED BY: GMR  
DRAWN BY: SH



AVERY LAKELINE  
**POND A2 SECTIONS**

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CS-2019-0041-1B(R1)

APPENDIX R-4  
WETPOND CALCULATIONS  
FOR AVERY LAKELINE PHASE 1 CONSTRUCTION PLANS

Additional information is provided for cells with a red triangle in the upper right corner. Place the cursor over the cell. Text shown in blue indicate location of instructions in the Technical Guidance Manual - RG-348. Characters shown in red are data entry fields. Characters shown in black (Bold) are calculated fields. Changes to these fields will remove the equations used in the spreadsheet.

1. The Required Load Reduction for the total project: Calculations from RG-348 Pages 3-27 to 3-30

Page 3-29 Equation 3.3:  $L_{wR} = 27.2(A_{N1} \times P)$

where:  $L_{wR}$  REQUIRED = Required TSS removal resulting from the proposed development = 80% of increased load  
 $A_{N1}$  = Net increase in impervious area for the project  
 $P$  = Average annual precipitation, inches

Site Data: Determine Required Load Removal Based on the Entire Project

County = Williamson	Overall ALS Area = 97.21 acres
Total project area included in plan = 97.21 acres	Overall proposed IC + decal area = 46.90 acres
Predevelopment impervious area within the limits of the plan = 0.00 acres	Overall proposed IC + decal area = 46.90 acres
Total post-development impervious area within the limits of the plan = 46.90 acres	Overall proposed IC + decal area = 46.90 acres
Total post-development impervious cover fraction = 0.48	
$P = 32$ inches	

$L_{wR}$  TOTAL PROJECT = 40735 lbs. \*THIS IS OVERALL REQUIRED TSS REMOVAL FOR PROJECT SITE (WET POND + BIOTREATMENT)

\*The values entered in these fields should be for the total project area.

Number of drainage basins / outfalls areas leaving the plan area = 2

2. Drainage Basin Parameters (This information should be provided for each basin):

Drainage Basin/Outfall Area No. = 2

Total drainage basin/outfall area = 60.25 acres	*ALS On-Site Drainage Area Drain to Pond = 0.00 acres
Predevelopment impervious area within drainage basin/outfall area = 0.00 acres	Overall Prop. IC Proposed on ALS Site = 40.39 acres
Post-development impervious area within drainage basin/outfall area = 40.39 acres	
Post-development impervious fraction within drainage basin/outfall area = 0.67	
$L_{wR}$ THIS BASIN = 35165 lbs.	

3. Indicate the proposed BMP Code for this basin.

Proposed BMP = Wet Basin \*The proposed Wet Pond is designed to capture runoff from ALS site.

4. Calculate Maximum TSS Load Removed ( $L_{wR}$ ) for this Drainage Basin by the selected BMP Type.

RG-348 Page 3-33 Equation 3.7:  $L_{wR} = (BMP \text{ efficiency}) \times P \times (A_1 \times 34.6 + A_2 \times 0.54)$

where:  $A_1$  = Total On-Site drainage area in the BMP catchment area  
 $A_2$  = Impervious area proposed in the BMP catchment area  
 $A_3$  = Previous area remaining in the BMP catchment area  
 $L_{wR}$  = TSS Load removed from this catchment area by the proposed BMP

$A_1 = 60.25$ acres	*Overall Drainage Area Treated by Wet Pond
$A_2 = 40.39$ acres	*Overall IC Treated by Wet Pond
$A_3 = 19.86$ acres	
$L_{wR} = 41909$ lbs	

5. Calculate Fraction of Annual Runoff to Treat the drainage basin / outfall area

Desired  $L_{wR}$  THIS BASIN = 35913 lbs. \*5% Additional

$F = 0.88$

6. Calculate Capture Volume required by the BMP Type for this drainage basin / outfall area. Calculations from RG-348 Pages 3-34 to 3-36

Rainfall Depth = 1.50 inches  
Post Development Runoff Coefficient = 0.48  
On-site Water Quality Volume = 156622 cubic feet

Calculations from RG-348 Pages 3-36 to 3-37

Off-site area draining to BMP = 0.00 acres	Off-site Runoff Coefficient = 0.00
Off-site impervious cover draining to BMP = 0.00 acres	Off-site Water Quality Volume = 0 cubic feet
Impervious fraction of off-site area = 0	
Storage for Sediment = 31324	
Total Capture Volume (required water quality volume(s) x 1.20) = 187947 cubic feet	

The following sections are used to calculate the required water quality volume(s) for the selected BMP. The values for BMP Types not selected in cell C45 will show NA.

11. Wet Basins

Required capacity of Permanent Pool = 187947 cubic feet  
Required capacity at WQV Elevation = 344569 cubic feet

Permanent Pool Capacity is 1.20 times the WQV  
Total Capacity should be the Permanent Pool Capacity plus a second WQV.

Detention Pond Summary Table

Storm Event (YR)	Elevation (FT)	Existing Flows (CFS)	Analysis Point A (CFS)	Proposed Pond Outflows (CFS)
2	915.5	109.5	59.7	59.7
10	917.3	211.3	124.8	124.8
25	918.5	282.6	175.1	175.1
100	920.1	402.8	267.1	267.1

Note: All Storm Events were modeled in HEC-HMS based on Atlas 14 rainfall data provided by NOAA.

Detention Pond Elevation - Area Table

Elevation (FT)	Area (AC)	Storage (AC-FT)	Total Storage (AC-FT)
912	1.721	0	0.00
913	1.799	1.76	1.76
914	1.87	1.8345	3.59
915	1.908	1.904	5.50
916	2.002	1.97	7.47
917	2.061	2.0315	9.50
918	2.118	2.0895	11.59
919	2.175	2.1465	13.74
920	2.223	2.199	15.94

DRAINAGE AREA DATA

DRAINAGE AREA TO CONTROL (DA)	60.25 ACRES
DRAINAGE AREA IMPERVIOUS COVER (IC)	67% PERCENT
OVER RECHARGE ZONE (YES OR NO)	YES
RAINFALL DEPTH	1.50 INCHES
LINER TYPE (CLAY OR GEOMEMBRANE)	CLAY LINER
DEPTH OF CLAY LINER	MIN 12 IN

WATER QUALITY CONTROL CALCULATIONS

	REQUIRED	PROVIDED
PERMANENT POOL VOLUME (PPV=0.162*RD*DA)	187947 CF	195,741 CF
PERMANENT POOL AREA (PPA)	21789 SF	43358 SF
PERMANENT POOL ELEVATION	909 FT MSL	909 FT MSL
FOREBAY VOLUME (15%-25% OF PPV)	Min 29361 CF	39859 CF
	Max 48935 CF	
ELEVATION OF FOREBAY SEPARATION WALL (PPE-2 FT)		907.0 FT MSL
MAIN POOL VOLUME	146806 CF	156882 CF

BIOLOGICAL ELEMENTS

	REQUIRED	PROVIDED
AREA OF VEGETATIVE BENCH (5 TO 15% OF PPA)	2167.9	6503.7 SF
WETLAND PLANTING QUANTITY (PPA * 0.03)		1301.0 PLANTS
GAMBUSIA AFFINIS (200 * PPA/43560)		200.0 INDIVIDUALS

EXTENDED DETENTION CALCULATIONS

STAGE (ft msl)	AREA (sf)	STORAGE (cf)	TOT. STORAGE (cf)
902.62	0	0	0
903	1145	218	218
904	4,285	2,715	2,933
905	5,435	4,860	7,793
906	6,631	6,033	13,826
907	7,921	7,276	21,102
908	9,354	8,638	29,739
909	10,896	10,120	39,859

WATER QUALITY ELEVATION CAPACITY = 909

EXTENDED DETENTION

STAGE (ft msl)	AREA (sf)	STORAGE (cf)	TOT. STORAGE (cf)
909	43,358	0	0
909.5	66,429	27,447	27,447
910.5	72,179	86,653	86,653
911.5	75,862	74,030	160,683

WATER QUALITY ELEVATION CAPACITY = PERMANENT POOL VOL + EXTENDED DETENTION CAPACITY = 356,424 CF

\*12" PVC Water Quality Outflow Pipe Elevation set at 909.00

ORIFICE SIZING FOR EXTENDED DETENTION

WQ VOLUME = 160683 CF  
MINIMUM DRAWDOWN TIME = 72 HR = 259200 SECONDS  
160683 CF / 259200 SECONDS = 0.62 CFS  
HEAD = 909 + 911.52 - 909 = 1.25 FT  
 $A = 0.62 \text{ CFS} / (60 * (64.4 * 1.25)^{0.5}) = 0.115 \text{ SF}$   
 $R = (A / (3.14)^{0.5}) * 2 = 0.19 \text{ FT}$   
 $D (\text{in.}) = 2R * 12 = 4.60 \text{ INCH ORIFICE}$

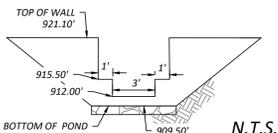
$Q = 0.115 * 60 * (64.4 * 1.8)^{0.5} = 0.620 \text{ CFS}$   
DRAWDOWN TIME = 160683 CF / 0.620 CFS = 259200 SEC = 72 HRS  
THEREFORE, POND WILL DRAWDOWN WITHIN 72 HRS

ELEMENTS CALCULATIONS

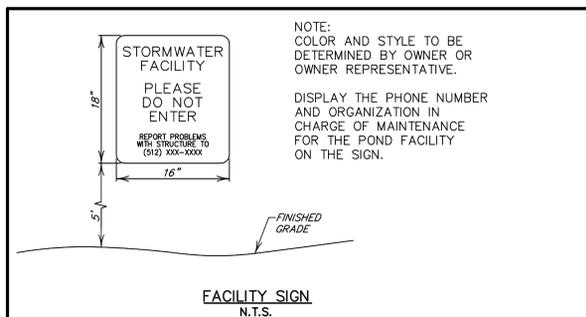
PERMANENT POOL AREA	43358	SF
AREA OF VEGETATIVE BENCH (MINIMUM 5% OF PPA)	2168	SF
WETLAND PLANTING QUANTITY (PPA * 0.03)	1301	PLANTS
GAMBUSIA AFFINIS (200 * (PPA/43560))	200	INDIVIDUAL FISH

NOTE: The above calculations were taken from the City of Austin Environmental Criteria Manual, Design Guidelines for Wet Ponds, revised Dec. 30, 2014

	REQUIRED VOLUME (CF)	PROVIDED VOLUME (CF)
PERMANENT POOL CAPACITY	187,947	195,741
EXTENDED DETENTION CAPACITY	156,622	160,683
WATER QUALITY ELEVATION CAPACITY	344,569	356,424

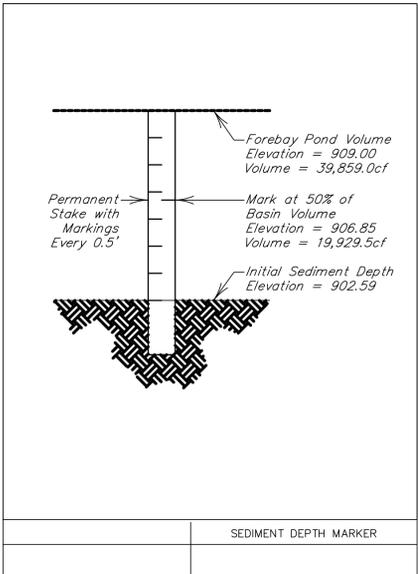


WET POND OUTFALL



GENERAL POND NOTES:

- UPON COMPLETION OF THE POND, THE FILL SHOULD BE PROMPTLY COVERED WITH EROSION CONTROL MATERIAL SUCH AS SEED IMPREGNATED JUTE MESH.
  - PROOF ROLLING MUST BE CONDUCTED AS NECESSARY TO DETERMINE THE SUITABILITY OF THE SUBGRADE. ANY SUSPECT AREAS MUST BE REWORKED AND RECOMPACTED OR THE WEAK SOILS REMOVED AND REPLACED WITH SUITABLE FILL MATERIAL.
  - POND BERM SHALL BE COMPACTED TO 95% OF TxDOT TEX-114-E
- MAINTENANCE SPECIFICATIONS:
- DURING SITE CONSTRUCTION THE SEDIMENT LOAD TO THE FOREBAY MUST BE CAREFULLY MONITORED AND THE SEDIMENT SHALL BE REMOVED WHEN 1/3 OF THE FOREBAY VOLUME IS LOST.
  - UPON COMPLETION OF THE SITE REVEGETATION, ANY SEDIMENT BUILDUP IN THE FOREBAY AREA EXCEEDING 5% LOSS OF AVAILABLE VOLUME SHALL BE REMOVED; AND IF SEDIMENT BUILDUP IN THE MAIN PORTION OF THE FACILITY EXCEEDS 10% OF THE AVAILABLE VOLUME, THE MAIN BODY OF THE FACILITY SHALL BE MAINTAINED FOR SEDIMENT REMOVAL.
  - EVERY 3 MONTHS FOR THE FIRST 2 YEARS, THE SEDIMENT BUILDUP IN THE FOREBAY SHALL BE CHECKED AND WHEN SEDIMENT BUILDUP EXCEEDS 15% OF THE AVAILABLE VOLUME, IT SHALL BE REMOVED.
  - EVERY 3 MONTHS: THE TURF AREAS (NOT NATIVE PLANTING) AROUND THE POND SHALL BE MOWED; ACCUMULATED PAPER, TRASH, AND DEBRIS SHALL BE REMOVED; CATTAILS, COTTONWOODS, AND WILLOWS SHALL NOT BE THINNED.
  - ANNUALLY, THE BASIN SHALL BE INSPECTED FOR SIDE SLOPE EROSION AND DETERIORATION OR DAMAGE TO STRUCTURAL ELEMENTS. ANY DAMAGE SHALL BE REPAIRED. LARGE AREAS WITH DEAD OR MISSING VEGETATION SHALL BE REPLANTED.
  - EVERY 3 YEARS, THE SEDIMENT BUILDUP IN THE FOREBAY SHALL BE CHECKED AND SEDIMENT REMOVED IF MORE THAN 1/3 OF THE FOREBAY VOLUME IS LOST.
  - EVERY 6 YEARS, THE SEDIMENT BUILDUP IN THE FOREBAY SHALL BE CHECKED AND SEDIMENT REMOVED IF MORE THAN 20% OF THE FOREBAY VOLUME IS LOST.
  - WET POND IS TO BE INSPECTED TWICE A YEAR AND AT LEAST ONCE DURING AND IMMEDIATELY FOLLOWING WET WEATHER FOR FUNCTIONALITY. INSPECTION SHALL INCLUDE CHECK FOR SUBSIDENCE, EROSION, LEAKAGE, CRACKING AND TREE GROWTH. OVERFLOW WEIR, INLET PIPES, AND OUTLET PIPES SHALL BE CHECKED FOR CLOGGING AND GENERAL CONDITION. WALLS SHALL BE CHECKED FOR STABILITY.
  - DEBRIS AND LITTER SHALL BE REMOVED FROM THE WET POND SURFACE AS PART OF ANY REGULAR MOWING OPERATIONS AND INSPECTIONS.
  - WET POND WALLS AND STRUCTURAL ELEMENTS SHALL BE REPAIRED IN THE EVENT OF ANY SHIFTING, SLUMPING, OR DAMAGE.
  - CONTROL OF INSECTS, WEEDS, ODORS AND ALGAE WILL BE IMPLEMENTED WHERE REQUIRED TO PREVENT PUBLIC NUISANCE CONCERNS. THE FACILITY SHALL BE EVALUATED SEMI-ANNUALLY FOR THESE ITEMS. ADEQUATE STOCK OF GAMBUSIA AFFINIS SHALL BE MAINTAINED FOR INSECT CONTROL AT AN INITIAL DENSITY OF 200 INDIVIDUALS PER SURFACE ACRE.
  - VEGETATION SHALL BE HARVESTED PERIODICALLY AND THE CLIPPINGS REMOVED TO PROVIDE EXPORT OF NUTRIENTS AND PREVENT THE BASIN FROM FILLING WITH DECAYING ORGANIC MATTER.
  - RECORD KEEPING: PROJECT SUPERINTENDENT SHALL HAVE A LOG FOR ENTERING SITE INSPECTIONS FOR ALL REGULAR AND RAINFALL EVENTS. RESULTS OF INSPECTIONS, INCLUDING DAMAGE AND ANY RECOMMENDED REMEDIAL ACTION, SHALL BE NOTED ALONG WITH INSPECTION PERSONNEL DATA AND DATE OF COMPLETION OF ANY ACTION. THE LOG SHALL BE MADE AVAILABLE FOR REVIEW BY TCEQ IF REQUESTED.
  - PROPER DISPOSAL OF ACCUMULATED SILT AND VEGETATIVE MATTER SHALL BE ACCOMPLISHED FOLLOWING TCEQ AND LOCAL AUTHORITY GUIDELINES AND SPECIFICATIONS.
  - THE ENGINEER MUST SPECIFY CRITERIA FOR ACCEPTANCE TESTING OF THE POND OVER A SPECIFIED PERIOD OF TIME, USING ACTUAL DAILY WATER LEVEL MEASUREMENTS, ACTUAL DAILY PRECIPITATION DATA, AND OTHER REQUIRED DATA TO DETERMINE WHETHER THE POND IS LOSING WATER IN EXCESS OF ANTICIPATED LOSSES.
  - MAKE-UP WATER FOR THE WET POND TO BE PROVIDED BY TRUCK TO ENSURE THE PERMANENT POOL LEVEL DOES DROP GREATER THAN 1 FOOT. AT THE TIME OF SITE PLAN, THE BUILDING MUST TIE THE AC CONDENSATE INTO THE STORM SYSTEM TO PROVIDE THE REQUIRED AMOUNT OF MAKEUP WATER FOR THE POND.



Wetland Plant List

Install Bulrush in clumps, with individual plants spaced approximately three to four feet on center. At least two of the following species should be used:

BULRUSH	WATER DEPTH	NOTES
Scirpus validus, Bulrush	1' - 3'	8' tall evergreen, resists cattail encroachment
Scirpus californicus, Bulrush	1' - 3'	8' tall evergreen, resists cattail encroachment
Scirpus americanus, Three-square bulrush	2' - 6"	2' to 4' tall, w/ 3 distinct edges

At least two species of the following marsh plants should be used (additional species are encouraged). Install in clumps in shallow water, with individual plants spaced at approximately three feet on center:

MARSH DIVERSITY	WATER DEPTH	NOTES
1. Cyperus ochraeus, Flatsedge	2" - 6"	1' to 2' tall, clump-forming, common to central Texas
2. Dichromena colorata, White-topped Sedge	2" - 6"	1' to 2' tall, white bracts during warm season
3. Echinodorus rostratus, Burhead	3' - 1'	1' to 2' tall, annual, heart-shaped leaves, flower similar to arrowhead
4. Eleocharis quadrangulata, Four-square Spikerush	6" - 1'	1' to 2' tall, colonizes, inhabits deeper water than other Spikerushes
5. Iris Pseudacorus, Yellow Flag Iris	1' - 2'	3' to 4' tall, can be invasive, dense growth, yellow flowers
6. Junctus effusus, Soft Rush	6" - 1'	3' to 4' tall, forms a tight clump, evergreen, very attractive
7. Justicia americana, Water willow	2" - 6"	2' to 3' tall, common, white flowers, herbaceous, colonizes
8. Marsilea macropoda, Water Clover	2" - 6"	Looks like floating four-leaf clover, endemic to Texas
9. Najas guadalupensis, Water-Naiad	1' - 4"	Submergent, valuable to fish and wildlife
10. Pontederia cordata, Pickerelweed	2" - 1'	3' tall, colonizes, cosmopolitan, purple flowers
11. Rhynchospora corniculata, Horned-rush	2" - 6"	2' to 2.5' tall, rhizomatous, flowers in May

Install spikerush at or near the water's edge, with individual plants spaced approximately three to six feet on center. At least two of the following species should be used:

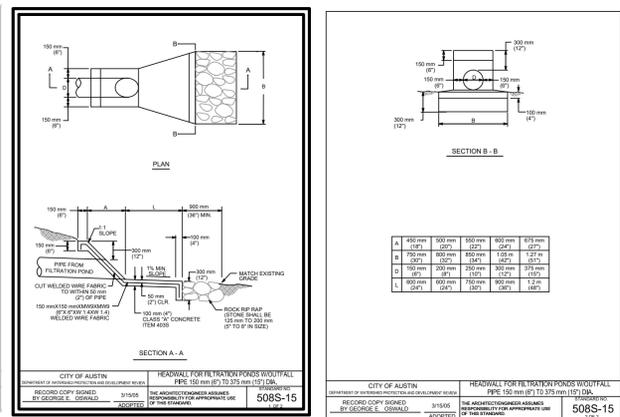
SPIKERUSH	WATER DEPTH	NOTES
Eleocharis montevidensis, Spikerush	0" - 6"	1' tall, rhizomatous, reduces erosion at the pond edge
Eleocharis macrostachys, Spikerush	0" - 6"	1' tall, rhizomatous, reduces erosion at the pond edge
Eleocharis quadrangulata, Spikerush	3" - 1'	1' to 2.5' tall, rhizomatous, can accommodate deeper water, 4-angled

Install Arrowhead in clumps in shallow water, with individual plants spaced approximately three feet on center.

ARROWHEAD	WATER DEPTH	NOTES
Sagittaria latifolia, Arrowhead	2" - 1'	2' height, wildlife value, white flowers, proven water quality performer

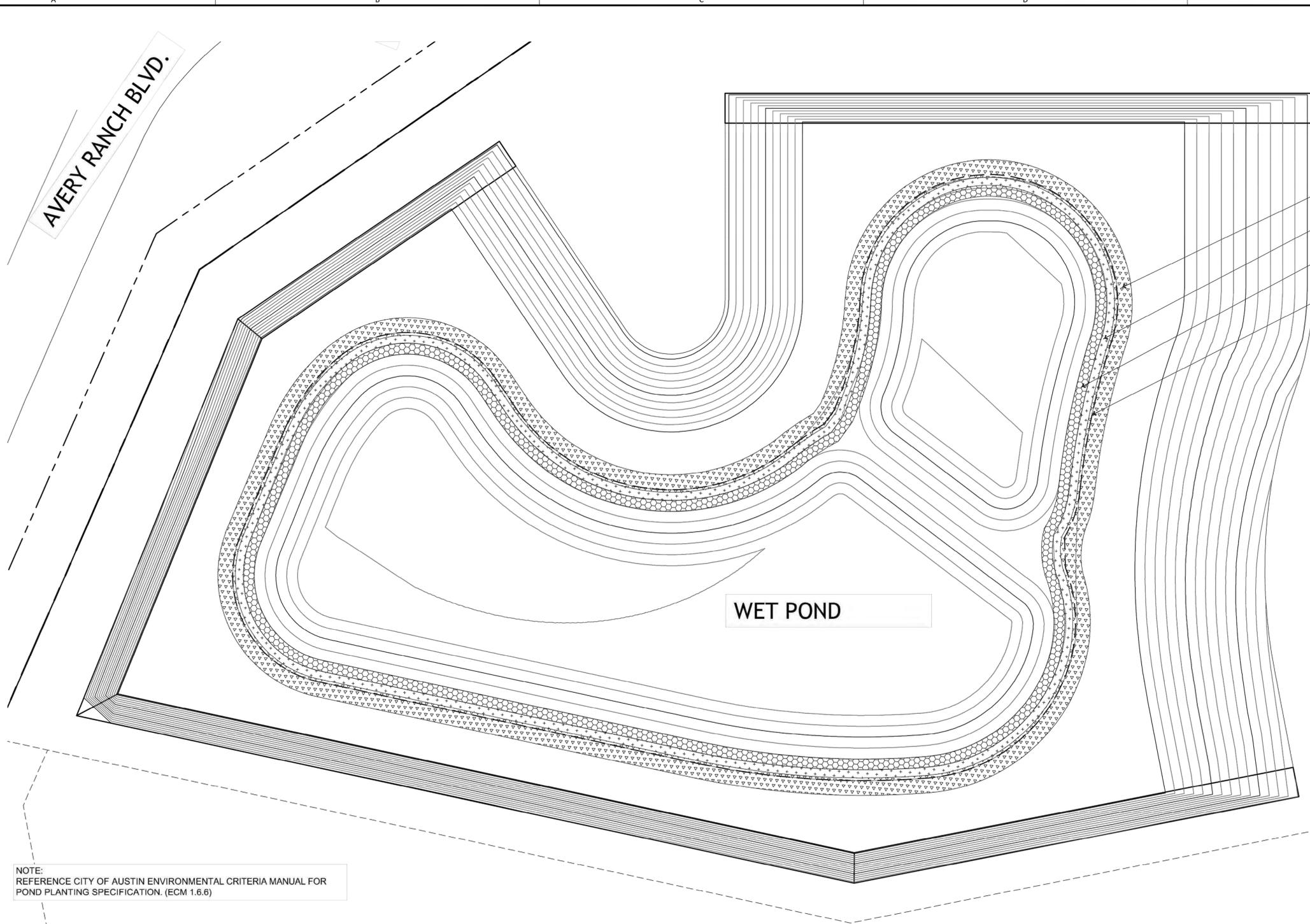
Floating-leaved aquatic plants are rooted in the sediment of the pond, and have leaves that float on the surface of the water. These leaves shade the water, which limits potential algae growth. At least two of the following species should be used and should be placed at random locations throughout the pond:

AQUATICS	WATER DEPTH	NOTES
1. Cabomba caroliniana, Fanwort	1' - 4'	Approximately 6' length underwater, submergent
2. Ceratophyllum spp., Coon-tail	1' - 4'	Maximum 8' length, tolerant of turbidity and water fluctuation, wildlife food
3. Nymphaea odorata, Fanwort	6" - 2'	A native, reliably hardy, floating-leaved aquatic, with white flowers
4. Potamogeton pectinatus, Sago Pondweed	8" - 3'	Colonizes quickly, valuable to fish and wildlife; floating-leaved aquatic



1  
2  
3

AVERY RANCH BLVD.



POND EDGE ZONE,  
597 PLANTS TOTAL, REF: POND  
PLANTING TABLE

MARSH ZONE,  
597 PLANTS TOTAL, REF: POND  
PLANTING TABLE

DEEP WATER ZONE,  
299 PLANTS TOTAL, REF: POND  
PLANTING TABLE

STATIC WATER LEVEL @ 909.00'

NOTE:  
REFERENCE CITY OF AUSTIN ENVIRONMENTAL CRITERIA MANUAL FOR  
POND PLANTING SPECIFICATION. (ECM 1.6.6)

- WETLAND POND PLANTING NOTES**
- PLANT SPECIES:** All plantings are to be native per the City of Austin Specifications and acquired within a range of within 200 miles of the project site. Wetland plants grown outside the state of Texas are not acceptable. Plants listed as invasive per the City of Austin ECM 1.6.6.E.1 are prohibited.
  - MICROBIAL INITIATION:** After the pond liner is in place, yet prior to allowing the pond to be filled, spread the plant litter (organic matter, straw, hay, leaf clippings, soil, and other non-woody material) evenly on the sides of the pond (below the permanent pool level). Treat the entire shallow water bench in this manner, and all pond slopes (ranging from 3:1 to 10:1). The minimum required amount of plant litter is 45 pounds per 1,000 square feet of slope. When using coastal hay, this requirement can be expressed as 1.5 bales at 30 lb./bale. Ensure that the plant litter will not float by attaching the litter to the slopes (with staples or other appropriate methods). Cover a minimum of 40% of the slope surface area.
  - INTEGRATED PEST MANAGEMENT:** The wet pond should be stocked with the local native fish species *Gambusia affinis* to serve as a biological control for mosquitoes. *Gambusia* should be stocked at the initial density of 200 individuals per surface acre.
  - WATER:** After the pond liner is completed, the basin must fill up with water within a reasonable time period, preferably within one week. Safety concerns and pond liner integrity concerns must be properly addressed during pond construction. A nearby source for make-up (supplemental) water is recommended as a way to maintain an adequate permanent pool level should the level drop to a severe drought. Potable and effluent water is not an acceptable make-up water source.

WETLAND POND PLANTING				
43,256 sf x 0.03 = 1,298 (1) gal. plants				
Plant	Size	Spacing	Quantity	1 Gallon Equivalent
<b>Pond Edge Zone (40%)</b>				
Big Muhly	2 gal	1.5' o.c.	65	130
Inland Sea Oats	2 gal	1.5' o.c.	65	130
Mistflower	2 gal	1.5' o.c.	65	130
Obedient Plant	2 gal	1.5' o.c.	65	130
<b>Marsh Zone (40%)</b>				
Arrowhead	2 gal	3' o.c.	65	130
Canna Lily	2 gal	3' o.c.	65	130
Iris Virginia	2 gal	3' o.c.	65	130
Texas Rush	2 gal	3' o.c.	65	130
<b>Deep Water Zone (20%)</b>				
Pondweed	2 gal	3' o.c.	43	86
Water Lily	2 gal	3' o.c.	43	86
Water Star Grass	2 gal	3' o.c.	43	86
			<b>Total</b>	<b>1298</b>

POND PLANTINGS				
65	▽▽▽	BIG MUHLY	<i>Muhlenbergia lindheimeri</i>	2 Gallon, Full to ground
65	▽▽▽	INLAND SEA OATS	<i>Chasmanthium latifolium</i>	2 Gallon, Full to ground
65	▽▽▽	MISTFLOWER	<i>Conoclinium coelestinum</i>	2 Gallon, Full to ground
65	▽▽▽	OBEDIENT PLANT	<i>Physostegia virginiana</i>	2 Gallon, Full to ground
65	▽▽▽	ARROWHEAD	<i>Syngonium podophyllum</i>	2 Gallon, Full to ground
65	▽▽▽	CANNA LILY	<i>Canna indica</i>	2 Gallon, Full to ground
65	▽▽▽	IRIS VIRGINIANA	<i>Tradescantia virginiana</i>	2 Gallon, Full to ground
65	▽▽▽	TEXAS RUSH	<i>Juncus texanus</i>	2 Gallon, Full to ground
43	▽▽▽	PONDWEED	<i>Potamogetonaceae</i>	2 Gallon
43	▽▽▽	WATER LILY	<i>Nymphaea</i>	2 Gallon
43	▽▽▽	WATER STAR GRASS	<i>Heteranthera dubia</i>	2 Gallon

As the landscape architect for this project I certify that this plan meets the requirements of Chapter 25-2 Article 9 of the Land Development Code.

*Patrick T. Dean*  
Patrick T. Dean  
09/06/19  
Date

**CDLA** carrillo DEAN  
Landscape Architecture  
7500 West Highway 71 • Suite 200  
Austin, Texas 78735 • Phone: 512-535-7303

REVISIONS

No.	Date	Description

JONES CARTER  
Texas Board of Professional Engineers Registration No. F-439  
3100 W. Duval Boulevard, Suite 150 • Austin, Texas 78741 • 512-441-8493

SCALE: AS SHOWN  
DATE: SEPTEMBER 2019  
JOB NO.: 04836-0009-00

DESIGNED BY: RA  
CHECKED BY: PD  
DRAWN BY: RA

REGISTERED LANDSCAPE ARCHITECT  
STATE OF TEXAS  
01/17/20

ISSUE FOR PERMIT

AVERY LAKELINE SUBDIVISION CONSTRUCTION PLANS  
14231 N. 183 HWY 59 RD NB  
AUSTIN, TEXAS 78717

POND A2 PLANTING PLAN

SHEET NO. 75  
OF 95

CB-2019-0041.1B

# Permanent Stormwater Section

## Texas Commission on Environmental Quality

for Regulated Activities on the Edwards Aquifer Recharge Zone and Relating to 30 TAC §213.5(b)(4)(C), (D)(li), (E), and (5), Effective June 1, 1999

**To ensure that the application is administratively complete, confirm that all fields in the form are complete, verify that all requested information is provided, consistently reference the same site and contact person in all forms in the application, and ensure forms are signed by the appropriate party.**

**Note: Including all the information requested in the form and attachments contributes to more streamlined technical reviews.**

### Signature

To the best of my knowledge, the responses to this form accurately reflect all information requested concerning the proposed regulated activities and methods to protect the Edwards Aquifer. This **Permanent Stormwater Section** is hereby submitted for TCEQ review and executive director approval. The application was prepared by:

Print Name of Customer/Agent: Candace Craig, PE

Date: 05/16/2023

Signature of Customer/Agent

  
\_\_\_\_\_

Regulated Entity Name: Avery Oaks Park

### Permanent Best Management Practices (BMPs)

**Permanent best management practices and measures that will be used during and after construction is completed.**

- Permanent BMPs and measures must be implemented to control the discharge of pollution from regulated activities after the completion of construction.  
 N/A
- These practices and measures have been designed, and will be constructed, operated, and maintained to insure that 80% of the incremental increase in the annual mass loading of total suspended solids (TSS) from the site caused by the regulated activity is removed. These quantities have been calculated in accordance with technical guidance prepared or accepted by the executive director.  
 The TCEQ Technical Guidance Manual (TGM) was used to design permanent BMPs and measures for this site.

A technical guidance other than the TCEQ TGM was used to design permanent BMPs and measures for this site. The complete citation for the technical guidance that was used is: \_\_\_\_\_

N/A

3.  Owners must insure that permanent BMPs and measures are constructed and function as designed. A Texas Licensed Professional Engineer must certify in writing that the permanent BMPs or measures were constructed as designed. The certification letter must be submitted to the appropriate regional office within 30 days of site completion.

N/A

4. Where a site is used for low density single-family residential development and has 20 % or less impervious cover, other permanent BMPs are not required. This exemption from permanent BMPs must be recorded in the county deed records, with a notice that if the percent impervious cover increases above 20% or land use changes, the exemption for the whole site as described in the property boundaries required by 30 TAC §213.4(g) (relating to Application Processing and Approval), may no longer apply and the property owner must notify the appropriate regional office of these changes.

The site will be used for low density single-family residential development and has 20% or less impervious cover.

The site will be used for low density single-family residential development but has more than 20% impervious cover.

The site will not be used for low density single-family residential development.

5. The executive director may waive the requirement for other permanent BMPs for multi-family residential developments, schools, or small business sites where 20% or less impervious cover is used at the site. This exemption from permanent BMPs must be recorded in the county deed records, with a notice that if the percent impervious cover increases above 20% or land use changes, the exemption for the whole site as described in the property boundaries required by 30 TAC §213.4(g) (relating to Application Processing and Approval), may no longer apply and the property owner must notify the appropriate regional office of these changes.

**Attachment A - 20% or Less Impervious Cover Waiver.** The site will be used for multi-family residential developments, schools, or small business sites and has 20% or less impervious cover. A request to waive the requirements for other permanent BMPs and measures is attached.

The site will be used for multi-family residential developments, schools, or small business sites but has more than 20% impervious cover.

The site will not be used for multi-family residential developments, schools, or small business sites.

6.  **Attachment B - BMPs for Upgradient Stormwater.**

- A description of the BMPs and measures that will be used to prevent pollution of surface water, groundwater, or stormwater that originates upgradient from the site and flows across the site is attached.
  - No surface water, groundwater or stormwater originates upgradient from the site and flows across the site, and an explanation is attached.
  - Permanent BMPs or measures are not required to prevent pollution of surface water, groundwater, or stormwater that originates upgradient from the site and flows across the site, and an explanation is attached.
7.  **Attachment C - BMPs for On-site Stormwater.**
- A description of the BMPs and measures that will be used to prevent pollution of surface water or groundwater that originates on-site or flows off the site, including pollution caused by contaminated stormwater runoff from the site is attached.
  - Permanent BMPs or measures are not required to prevent pollution of surface water or groundwater that originates on-site or flows off the site, including pollution caused by contaminated stormwater runoff, and an explanation is attached.
8.  **Attachment D - BMPs for Surface Streams.** A description of the BMPs and measures that prevent pollutants from entering surface streams, sensitive features, or the aquifer is attached. Each feature identified in the Geologic Assessment as sensitive has been addressed.
- N/A
9.  The applicant understands that to the extent practicable, BMPs and measures must maintain flow to naturally occurring sensitive features identified in either the geologic assessment, executive director review, or during excavation, blasting, or construction.
- The permanent sealing of or diversion of flow from a naturally-occurring sensitive feature that accepts recharge to the Edwards Aquifer as a permanent pollution abatement measure has not been proposed.
  - Attachment E - Request to Seal Features.** A request to seal a naturally-occurring sensitive feature, that includes, for each feature, a justification as to why no reasonable and practicable alternative exists, is attached.
10.  **Attachment F - Construction Plans.** All construction plans and design calculations for the proposed permanent BMP(s) and measures have been prepared by or under the direct supervision of a Texas Licensed Professional Engineer, and are signed, sealed, and dated. The plans are attached and, if applicable include:
- Design calculations (TSS removal calculations)
  - TCEQ construction notes
  - All geologic features
  - All proposed structural BMP(s) plans and specifications
- N/A

11.  **Attachment G - Inspection, Maintenance, Repair and Retrofit Plan.** A plan for the inspection, maintenance, repairs, and, if necessary, retrofit of the permanent BMPs and measures is attached. The plan includes all of the following:
- Prepared and certified by the engineer designing the permanent BMPs and measures
  - Signed by the owner or responsible party
  - Procedures for documenting inspections, maintenance, repairs, and, if necessary retrofit
  - A discussion of record keeping procedures
- N/A
12.  **Attachment H - Pilot-Scale Field Testing Plan.** Pilot studies for BMPs that are not recognized by the Executive Director require prior approval from the TCEQ. A plan for pilot-scale field testing is attached.
- N/A
13.  **Attachment I -Measures for Minimizing Surface Stream Contamination.** A description of the measures that will be used to avoid or minimize surface stream contamination and changes in the way in which water enters a stream as a result of the construction and development is attached. The measures address increased stream flashing, the creation of stronger flows and in-stream velocities, and other in-stream effects caused by the regulated activity, which increase erosion that results in water quality degradation.
- N/A

*Responsibility for Maintenance of Permanent BMP(s)*

**Responsibility for maintenance of best management practices and measures after construction is complete.**

14.  The applicant is responsible for maintaining the permanent BMPs after construction until such time as the maintenance obligation is either assumed in writing by another entity having ownership or control of the property (such as without limitation, an owner’s association, a new property owner or lessee, a district, or municipality) or the ownership of the property is transferred to the entity. Such entity shall then be responsible for maintenance until another entity assumes such obligations in writing or ownership is transferred.
- N/A
15.  A copy of the transfer of responsibility must be filed with the executive director at the appropriate regional office within 30 days of the transfer if the site is for use as a multiple single-family residential development, a multi-family residential development, or a non-residential development such as commercial, industrial, institutional, schools, and other sites where regulated activities occur.
- N/A

## PERMANENT STORMWATER SECTION ATTACHMENTS A - I

### ATTACHMENT A: 20% OR LESS IMPERVIOUS COVER WAIVER

Avery Oaks Park is a proposed park improvement project on a 7.05-acre lot. The site is currently undeveloped. Based on the City of Austin Land Development Code which exempts public sidewalks and public trails impervious coverage (5.34% /16,412 SF), the proposed impervious coverage is 0.0%. Since the project proposes only 5.34% of sidewalk/trail impervious cover which are also disconnected impervious cover, we respectfully request approval as an Exception.

### ATTACHMENT B - BMPS FOR UPGRADIENT STORMWATER

Not Applicable

### ATTACHMENT C - BMPS FOR ON-SITE STORMWATER

The stormwater from this site will be collected by storm inlets in the adjoining streets and routed to the existing wet basin.

The existing wet basin was designed with the Subdivision Construction Plans for Avery Lakeline (COA Permit No. C8-2019-0041.1.B(R1)). The Proposed Drainage Area Map (sheet 65 of 95) is attached as **Exhibit 1**, show the drainage areas flowing to the wet basin and has a summary table included with the impervious cover for each area. The wet pond calculations on sheet Pond A2 Details and Calcs (sheet 74 of 95) attached as **Exhibit 2**, show the drainage area to the wet pond is 60.25 acres with 67% impervious cover (40.37 acres).

The TSS calculation for the existing wet basin was provided on the Pond A2 Details and Calcs of the Subdivision Construction Plans for Avery Lakeline (sheet 74 of 95) attached as **Exhibit 4**. The required capacity at the water quality elevation of the wet basin is 344,569 cubic feet and 356,424 cubic feet are provided, thus confirms that the required capacity is less than the provided volume of the wet basin.

The onsite volume of stormwater for the 2-year, 10-year, 25-year and 100-year storm events are shown on Sheets DM0 and DM1. The stormwater in urbanized areas can include contaminants such as heavy metals, petroleum hydrocarbons, pesticides, and a variety of organic chemicals on paved and landscape areas. Routine site inspections and disposal of accumulated sediment and other material should be conducted to maintain the longevity and effectiveness of the stormwater management system and minimize negative water quality impacts to waterways downstream from the site. These materials are normally classified as special wastes when disposed of in municipal landfills. These pollutants will be treated by the existing wet pond servicing the site.

Based on the City of Austin Land Development Code which exempts public sidewalks and public trails impervious coverage (5.34% /16,412 SF), the proposed impervious coverage is 0.0%. Since the sidewalk/trail are disconnected impervious cover, we respectfully request approval as an Exception.

EXP06\_f-0600\_permanent\_stormwater\_Attachment A-I.docx

## **ATTACHMENT D - BMPS FOR SURFACE STREAMS**

Not Applicable

## **ATTACHMENT E - REQUEST TO SEAL FEATURES**

Not Applicable

## **ATTACHMENT F - CONSTRUCTION PLANS**

Construction plans are attached.

## **ATTACHMENT G - INSPECTION, MAINTENANCE, REPAIR AND RETROFIT PLAN**

The following are inspection, maintenance, repair and retrofit plans for stormwater BMPs existing and proposed for the site.

### **Wet Pond**

In accordance with the attached restrictive covenant (**Exhibit 3**, Declaration of Drainage easement and Unified Development Agreement with Maintenance of Drainage Facilities, Doc # 2020047336), the owner is jointly obligated to the easement purpose: "To install construct, operate, use maintain, repair, modify, upgrade, monitor, inspect, replace, make connections with, remove, and decommission the Facilities" listed in the restrictive covenant. The listed Facilities include multiple drainage facilities and water quality controls. Owners and their successors are responsible for proper function and maintenance of the listed facilities in perpetuity. The owner will cooperate with the other property owners responsible for the maintenance of the wet pond in accordance with the plan previously approved by TCEQ (attached as **Exhibit 4**). The Agent Authorization for the current owner of the Wet Pond property is attached as **Exhibit 5**.

## **ATTACHMENT H - PILOT-SCALE FIELD TESTING PLAN**

Not Applicable

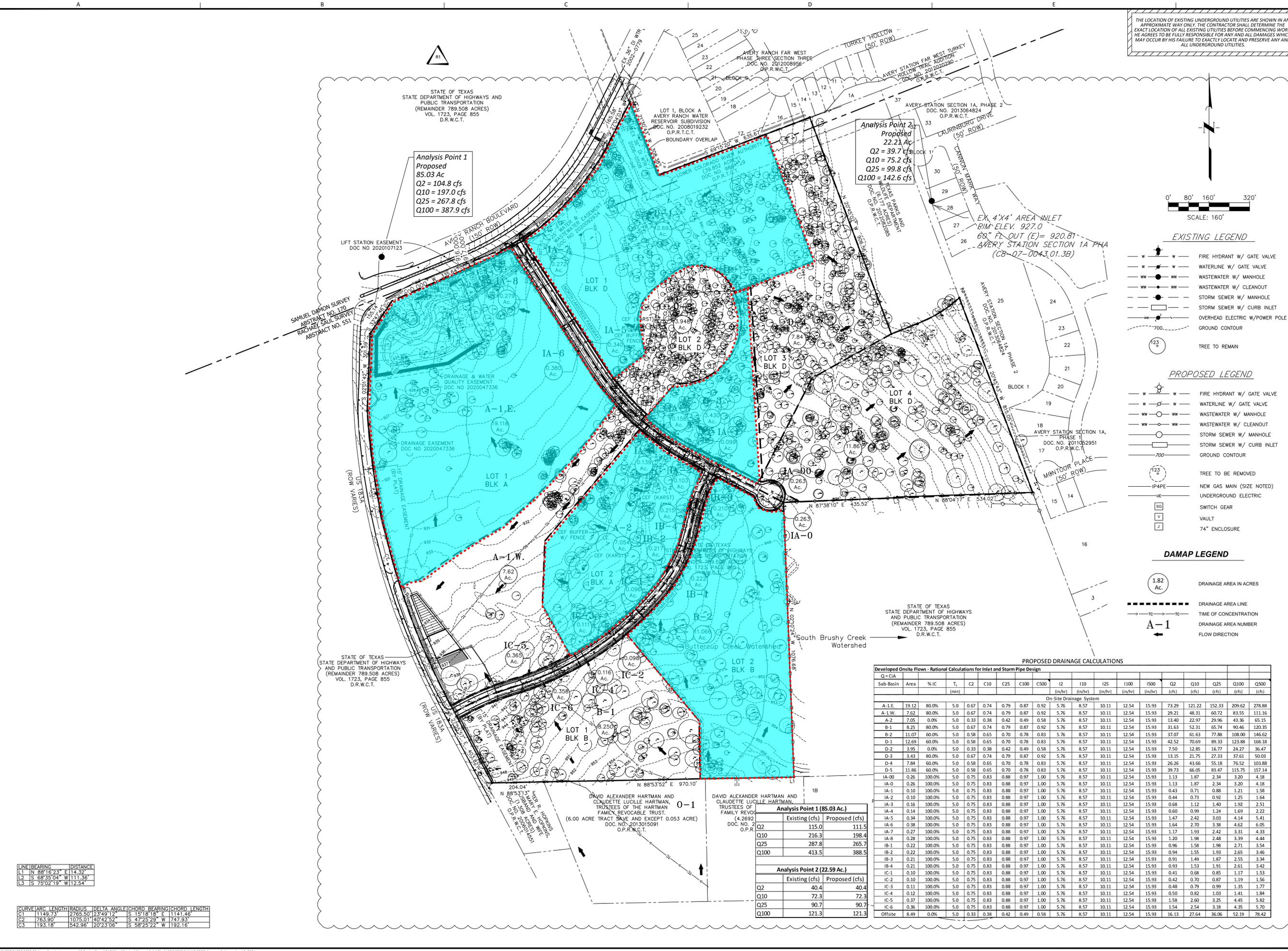
## **ATTACHMENT I - MEASURES FOR MINIMIZING SURFACE STREAM CONTAMINATION**

The stormwater from this site will be collected by storm inlets and routed to the existing wet pond located at the southeast corner of Avery Ranch Boulevard and US 183A designed and constructed for the subdivision.

### **EXHIBITS:**

1. Subdivision Construction Plans for Avery Lakeline (COA Permit No. C8-2019-0041.1.B(R1)) - Proposed Drainage Area Map
2. Subdivision Construction Plans for Avery Lakeline (COA Permit No. C8-2019-0041.1.B(R1)) - Wet Pond A2 Details and Calcs
3. Declaration of Drainage easement and Unified Development Agreement with Maintenance of Drainage Facilities, Doc # 2020047336
4. Approve Maintenance Plan for Wet Pond
5. Agent Authorization for Wet Pond Property

1  
2  
3  
4



THE LOCATION OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK. HE AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MAY OCCUR BY HIS FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.



SCALE: 160'

EXISTING LEGEND

- W — FIRE HYDRANT W/ GATE VALVE
- W — WATERLINE W/ GATE VALVE
- WW — WASTEWATER W/ MANHOLE
- WW — WASTEWATER W/ CLEANOUT
- S — STORM SEWER W/ MANHOLE
- S — STORM SEWER W/ CURB INLET
- P — OVERHEAD ELECTRIC W/ POWER POLE
- 700 — GROUND CONTOUR
- (123) TREE TO REMAIN

PROPOSED LEGEND

- W — FIRE HYDRANT W/ GATE VALVE
- W — WATERLINE W/ GATE VALVE
- WW — WASTEWATER W/ MANHOLE
- WW — WASTEWATER W/ CLEANOUT
- S — STORM SEWER W/ MANHOLE
- S — STORM SEWER W/ CURB INLET
- 700 — GROUND CONTOUR
- (123) TREE TO BE REMOVED
- IP4PE — NEW GAS MAIN (SIZE NOTED)
- UE — UNDERGROUND ELECTRIC
- SG — SWITCH GEAR
- V — VAULT
- E — 74" ENCLOSURE

DAMAP LEGEND

- (1.82 Ac) DRAINAGE AREA IN ACRES
- TC — DRAINAGE AREA LINE
- TC — TIME OF CONCENTRATION
- A-1 — DRAINAGE AREA NUMBER
- — FLOW DIRECTION

PROPOSED DRAINAGE CALCULATIONS

Developed Onsite Flows - Rational Calculations for Inlet and Storm Pipe Design																			
Q=CIA	Sub-Basin	Area	% IC	T <sub>c</sub>	C2	C10	C25	C100	C500	I2	I10	I25	I100	I500	Q2	Q10	Q25	Q100	Q500
				(min)						(in/hr)	(in/hr)	(in/hr)	(in/hr)	(in/hr)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)
On-Site Drainage System																			
	A-1.E	19.12	80.0%	5.0	0.67	0.74	0.79	0.87	0.92	5.76	8.57	10.11	12.54	15.93	73.29	121.22	152.33	209.62	278.88
	A-1.W	7.62	80.0%	5.0	0.67	0.74	0.79	0.87	0.92	5.76	8.57	10.11	12.54	15.93	29.21	48.31	60.72	83.55	111.16
	A-2	7.05	0.0%	5.0	0.33	0.38	0.42	0.49	0.58	5.76	8.57	10.11	12.54	15.93	13.40	22.97	29.96	43.36	65.15
	B-1	8.25	80.0%	5.0	0.67	0.74	0.79	0.87	0.92	5.76	8.57	10.11	12.54	15.93	31.63	52.31	65.74	90.46	120.35
	B-2	11.07	60.0%	5.0	0.58	0.65	0.70	0.78	0.83	5.76	8.57	10.11	12.54	15.93	37.07	61.63	77.88	108.00	146.62
	D-1	12.69	60.0%	5.0	0.58	0.65	0.70	0.78	0.83	5.76	8.57	10.11	12.54	15.93	42.52	70.69	89.33	123.88	168.18
	D-2	3.95	0.0%	5.0	0.33	0.38	0.42	0.49	0.58	5.76	8.57	10.11	12.54	15.93	7.50	12.85	16.77	24.27	36.47
	D-3	3.43	80.0%	5.0	0.67	0.74	0.79	0.87	0.92	5.76	8.57	10.11	12.54	15.93	13.15	21.75	27.33	37.61	50.03
	D-4	7.94	60.0%	5.0	0.58	0.65	0.70	0.78	0.83	5.76	8.57	10.11	12.54	15.93	26.26	43.66	55.18	76.52	103.88
	D-5	11.86	60.0%	5.0	0.58	0.65	0.70	0.78	0.83	5.76	8.57	10.11	12.54	15.93	39.73	66.05	83.47	115.75	157.14
	IA-00	0.26	100.0%	5.0	0.75	0.83	0.88	0.97	1.00	5.76	8.57	10.11	12.54	15.93	1.13	1.87	2.34	3.20	4.18
	IA-0	0.26	100.0%	5.0	0.75	0.83	0.88	0.97	1.00	5.76	8.57	10.11	12.54	15.93	1.13	1.87	2.34	3.20	4.18
	IA-1	0.10	100.0%	5.0	0.75	0.83	0.88	0.97	1.00	5.76	8.57	10.11	12.54	15.93	0.43	0.71	0.88	1.21	1.58
	IA-2	0.10	100.0%	5.0	0.75	0.83	0.88	0.97	1.00	5.76	8.57	10.11	12.54	15.93	0.44	0.73	0.92	1.25	1.64
	IA-3	0.16	100.0%	5.0	0.75	0.83	0.88	0.97	1.00	5.76	8.57	10.11	12.54	15.93	0.68	1.12	1.40	1.92	2.51
	IA-4	0.14	100.0%	5.0	0.75	0.83	0.88	0.97	1.00	5.76	8.57	10.11	12.54	15.93	0.60	0.99	1.24	1.69	2.22
	IA-5	0.34	100.0%	5.0	0.75	0.83	0.88	0.97	1.00	5.76	8.57	10.11	12.54	15.93	1.47	2.42	3.03	4.14	5.41
	IA-6	0.38	100.0%	5.0	0.75	0.83	0.88	0.97	1.00	5.76	8.57	10.11	12.54	15.93	1.64	2.70	3.38	4.62	6.05
	IA-7	0.27	100.0%	5.0	0.75	0.83	0.88	0.97	1.00	5.76	8.57	10.11	12.54	15.93	1.17	1.93	2.42	3.31	4.33
	IA-8	0.28	100.0%	5.0	0.75	0.83	0.88	0.97	1.00	5.76	8.57	10.11	12.54	15.93	1.20	1.98	2.48	3.39	4.44
	IB-1	0.22	100.0%	5.0	0.75	0.83	0.88	0.97	1.00	5.76	8.57	10.11	12.54	15.93	0.96	1.58	1.98	2.71	3.54
	IB-2	0.22	100.0%	5.0	0.75	0.83	0.88	0.97	1.00	5.76	8.57	10.11	12.54	15.93	0.94	1.55	1.93	2.65	3.46
	IB-3	0.21	100.0%	5.0	0.75	0.83	0.88	0.97	1.00	5.76	8.57	10.11	12.54	15.93	0.91	1.49	1.87	2.55	3.34
	IB-4	0.21	100.0%	5.0	0.75	0.83	0.88	0.97	1.00	5.76	8.57	10.11	12.54	15.93	0.93	1.53	1.91	2.61	3.42
	IC-1	0.10	100.0%	5.0	0.75	0.83	0.88	0.97	1.00	5.76	8.57	10.11	12.54	15.93	0.41	0.68	0.85	1.17	1.53
	IC-2	0.10	100.0%	5.0	0.75	0.83	0.88	0.97	1.00	5.76	8.57	10.11	12.54	15.93	0.42	0.70	0.87	1.19	1.56
	IC-3	0.11	100.0%	5.0	0.75	0.83	0.88	0.97	1.00	5.76	8.57	10.11	12.54	15.93	0.48	0.79	0.99	1.35	1.77
	IC-4	0.12	100.0%	5.0	0.75	0.83	0.88	0.97	1.00	5.76	8.57	10.11	12.54	15.93	0.50	0.82	1.03	1.41	1.84
	IC-5	0.37	100.0%	5.0	0.75	0.83	0.88	0.97	1.00	5.76	8.57	10.11	12.54	15.93	1.58	2.60	3.25	4.45	5.82
	IC-6	0.36	100.0%	5.0	0.75	0.83	0.88	0.97	1.00	5.76	8.57	10.11	12.54	15.93	1.54	2.54	3.18	4.35	5.70
	Offsite	8.49	0.0%	5.0	0.33	0.38	0.42	0.49	0.58	5.76	8.57	10.11	12.54	15.93	16.13	27.64	36.06	52.19	78.42

LINE	BEARING	DISTANCE
L1	N 88°18'23" E	114.32
L2	S 68°35'04" W	111.36
L3	S 75°02'19" W	112.54

CURVE	ARC LENGTH	RADIUS	DELTA ANGLE	CHORD BEARING	CHORD LENGTH
C1	1149.73	2765.50	23°49'12"	S 15°18'18" E	1141.46
C2	763.90	1075.01	40°42'52"	S 47°25'29" W	747.93
C3	193.18	542.96	120°23'06"	S 58°25'22" W	192.16

REVISIONS

DATE: 11/09/2020  
 NO. R1  
 DRAWN BY: SH  
 CHECKED BY: GMR  
 DESIGNED BY: JAA  
 AS SHOWN

SCALE: 160'

DATE: OCTOBER 28, 2020  
 JOB NO.: 04836-008

JONES CARTER  
 Texas Board of Professional Engineers Registration No. F-439  
 3100 Ann Deane Boulevard, Suite 150 • Austin, Texas 78741 • 512-441-9493

JOHN A. ALVAREZ II  
 LICENSED PROFESSIONAL ENGINEER  
 127206  
 10/28/2020

STATE OF TEXAS  
 JOHN A. ALVAREZ II  
 LICENSED PROFESSIONAL ENGINEER  
 127206  
 10/28/2020

AVERY LAKELINE

PROPOSED DRAINAGE AREA MAP

SHEET NO. 65 OF 95

APP. CHANGE TO HEMA DR. CHANGES TO DRAINAGE AREAS

APPENDIX R-4  
WETPOND CALCULATIONS  
FOR AVERY LAKELINE PHASE 1 CONSTRUCTION PLANS

Additional information is provided for cells with a red triangle in the upper right corner. Place the cursor over the cell. Text shown in blue indicate location of instructions in the Technical Guidance Manual - RG-348. Characters shown in red are data entry fields. Characters shown in black (Bold) are calculated fields. Changes to these fields will remove the equations used in the spreadsheet.

1. The Required Load Reduction for the total project: Calculations from RG-348 Pages 3-27 to 3-30

Page 3-29 Equation 3.3:  $L_{wR} = 27.2(A_{N1} \times P)$

where:  $L_{wR}$  REQUIRED = Required TSS removal resulting from the proposed development = 80% of increased load  
 $A_{N1}$  = Net increase in impervious area for the project  
 $P$  = Average annual precipitation, inches

Site Data: Determine Required Load Removal Based on the Entire Project

County = Williamson	Overall ALS Area = 97.21 acres
Total project area included in plan = 97.21 acres	Overall proposed IC + decal line = 46.90 acres
Predevelopment impervious area within the limits of the plan = 0.00 acres	Overall proposed IC + decal line = 46.90 acres
Total post-development impervious area within the limits of the plan = 46.90 acres	Overall proposed IC + decal line = 46.90 acres
Total post-development impervious cover fraction = 0.48	
$P = 32$ inches	

$L_{wR}$  TOTAL PROJECT = 40735 lbs. \*THIS IS OVERALL REQUIRED TSS REMOVAL FOR PROJECT SITE (WET POND + BIOTRETMENT)

\*The values entered in these fields should be for the total project area.

Number of drainage basins / outfalls areas leaving the plan area = 2

2. Drainage Basin Parameters (This information should be provided for each basin):

Drainage Basin/Outfall Area No. = 2

Total drainage basin/outfall area = 60.25 acres	*ALS On-Site Drainage Area Drain to Pond = 0.00 acres
Predevelopment impervious area within drainage basin/outfall area = 0.00 acres	Overall Prop. IC Proposed on ALS Site = 40.39 acres
Post-development impervious area within drainage basin/outfall area = 40.39 acres	
Post-development impervious fraction within drainage basin/outfall area = 0.67	
$L_{wR}$ THIS BASIN = 35165 lbs.	

3. Indicate the proposed BMP Code for this basin.

Proposed BMP = Wet Basin \*The proposed Wet Pond is designed to capture runoff from ALS site.

4. Calculate Maximum TSS Load Removed ( $L_{wR}$ ) for this Drainage Basin by the selected BMP Type.

RG-348 Page 3-33 Equation 3.7:  $L_{wR} = (BMP \text{ efficiency}) \times P \times (A_1 \times 34.6 + A_2 \times 0.54)$

where:  $A_1$  = Total On-Site drainage area in the BMP catchment area  
 $A_2$  = Impervious area proposed in the BMP catchment area  
 $A_3$  = Previous area remaining in the BMP catchment area  
 $L_{wR}$  = TSS Load removed from this catchment area by the proposed BMP

$A_1$ = 60.25 acres	*Overall Drainage Area Treated by Wet Pond = 60.25 acres
$A_2$ = 40.39 acres	*Overall IC Treated by Wet Pond = 40.39 acres
$A_3$ = 19.86 acres	
$L_{wR}$ = 41909 lbs	

5. Calculate Fraction of Annual Runoff to Treat the drainage basin / outfall area

Desired  $L_{wR}$  THIS BASIN = 35913 lbs. \*5% Additional

$F = 0.88$

6. Calculate Capture Volume required by the BMP Type for this drainage basin / outfall area. Calculations from RG-348 Pages 3-34 to 3-36

Rainfall Depth = 1.50 inches  
Post Development Runoff Coefficient = 0.48  
On-site Water Quality Volume = 156622 cubic feet

Calculations from RG-348 Pages 3-36 to 3-37

Off-site area draining to BMP = 0.00 acres	Off-site area draining to BMP = 0.00 acres
Off-site impervious cover draining to BMP = 0.00 acres	Off-site impervious cover draining to BMP = 0.00 acres
Off-site runoff coefficient = 0.00	Off-site runoff coefficient = 0.00
Off-site water quality volume = 0 cubic feet	Off-site water quality volume = 0 cubic feet

Storage for Sediment = 31324  
Total Capture Volume (required water quality volume(s) x 1.20) = 187947 cubic feet

The following sections are used to calculate the required water quality volume(s) for the selected BMP. The values for BMP Types not selected in cell C45 will show NA.

11. Wet Basins

Required capacity of Permanent Pool = 187947 cubic feet  
Required capacity at WQV Elevation = 344569 cubic feet

Permanent Pool Capacity is 1.20 times the WQV  
Total Capacity should be the Permanent Pool Capacity plus a second WQV.

Detention Pond Summary Table

Storm Event (YR)	Elevation (FT)	Existing Flows (CFS)	Analysis Point A (CFS)	Proposed Pond Outflows (CFS)
2	915.5	109.5	59.7	59.7
10	917.3	211.3	124.8	124.8
25	918.5	282.6	175.1	175.1
100	920.1	402.8	267.1	267.1

Note: All Storm Events were modeled in HEC-HMS based on Atlas 14 rainfall data provided by NOAA.

Detention Pond Elevation - Area Table

Elevation (FT)	Area (AC)	Storage (AC-FT)	Total Storage (AC-FT)
912	1.721	0	0.00
913	1.799	1.76	1.76
914	1.87	1.8345	3.59
915	1.908	1.904	5.50
916	2.002	1.97	7.47
917	2.061	2.0315	9.50
918	2.118	2.0895	11.59
919	2.175	2.1465	13.74
920	2.223	2.199	15.94

DRAINAGE AREA DATA

DRAINAGE AREA TO CONTROL (DA)	60.25 ACRES
DRAINAGE AREA IMPERVIOUS COVER (IC)	67% PERCENT
OVER RECHARGE ZONE (YES OR NO)	YES
RAINFALL DEPTH	1.50 INCHES
LINER TYPE (CLAY OR GEOMEMBRANE)	CLAY LINER
DEPTH OF CLAY LINER	MIN 12 IN

WATER QUALITY CONTROL CALCULATIONS

	REQUIRED	PROVIDED
PERMANENT POOL VOLUME (PPV=0.162*RD*DA)	187947 CF	195,741 CF
PERMANENT POOL AREA (PPA)	21789 SF	43358 SF
PERMANENT POOL ELEVATION	909 FT MSL	909 FT MSL
FOREBAY VOLUME (15%-25% OF PPV)	Min 29361 CF	39859 CF
	Max 48935 CF	
ELEVATION OF FOREBAY SEPARATION WALL (PPE-2 FT)		907.0 FT MSL
MAIN POOL VOLUME	146806 CF	156882 CF

BIOLOGICAL ELEMENTS

	REQUIRED	PROVIDED
AREA OF VEGETATIVE BENCH (5 TO 15% OF PPA)	2167.9	6503.7 SF
WETLAND PLANTING QUANTITY (PPA * 0.03)	1301.0	1301.0 PLANTS
GAMBUSIA AFFINIS (200 * (PPA/43560))	200.0	200.0 INDIVIDUALS

EXTENDED DETENTION CALCULATIONS

STAGE (ft msl)	AREA (sf)	STORAGE (cf)	TOT. STORAGE (cf)
902.62	0	0	0
903	1145	218	218
904	4,285	2,715	2,933
905	5,435	4,860	7,793
906	6,631	6,033	13,826
907	7,921	7,276	21,102
908	9,354	8,638	29,739
909	10,896	10,120	39,859

WATER QUALITY ELEVATION CAPACITY = 909

EXTENDED DETENTION

STAGE (ft msl)	AREA (sf)	STORAGE (cf)	TOT. STORAGE (cf)
909	43,358	0	0
909.5	66,429	27,447	27,447
910.5	72,179	86,653	86,653
911.5	75,862	74,030	160,683

WATER QUALITY ELEVATION CAPACITY = PERMANENT POOL VOL + EXTENDED DETENTION CAPACITY = 356,424 CF

\*12" PVC Water Quality Outflow Pipe Elevation set at 909.00

ORIFICE SIZING FOR EXTENDED DETENTION

WQ VOLUME = 160683 CF  
MINIMUM DRAWDOWN TIME = 72 HR = 259200 SECONDS  
 $160683 \text{ CF} / 259200 \text{ SECONDS} = 0.62 \text{ CFS}$   
HEAD =  $909 + 911.52 - 909 = 1.25 \text{ FT}$   
 $A = 0.62 \text{ CFS} / (60 * (64.4 * 1.25)^{0.5}) = 0.115 \text{ SF}$   
 $R = (A / (3.14)^{0.5}) * 2 = 0.19 \text{ FT}$   
 $D (\text{in.}) = 2R * 12 = 4.60 \text{ INCH ORIFICE}$   
 $Q = 0.115 * 60 * (64.4 * 1.8)^{0.5} = 0.620 \text{ CFS}$   
DRAWDOWN TIME =  $160683 \text{ CF} / 0.620 \text{ CFS} = 259200 \text{ SEC} = 72 \text{ HRS}$   
THEREFORE, POND WILL DRAWDOWN WITHIN 72 HRS

ELEMENTS CALCULATIONS

PERMANENT POOL AREA	43358	SF
AREA OF VEGETATIVE BENCH (MINIMUM 5% OF PPA)	2168	SF
WETLAND PLANTING QUANTITY (PPA * 0.03)	1301	PLANTS
GAMBUSIA AFFINIS (200 * (PPA/43560))	200	INDIVIDUAL FISH

NOTE: The above calculations were taken from the City of Austin Environmental Criteria Manual, Design Guidelines for Wet Ponds, revised Dec. 30, 2014

	REQUIRED VOLUME (CF)	PROVIDED VOLUME (CF)
PERMANENT POOL CAPACITY	187,947	195,741
EXTENDED DETENTION CAPACITY	156,622	160,683
WATER QUALITY ELEVATION CAPACITY	344,569	356,424

GENERAL POND NOTES:

- UPON COMPLETION OF THE POND, THE FILL SHOULD BE PROMPTLY COVERED WITH EROSION CONTROL MATERIAL SUCH AS SEED IMPREGNATED JUTE MESH.
  - PROOF ROLLING MUST BE CONDUCTED AS NECESSARY TO DETERMINE THE SUITABILITY OF THE SUBGRADE. ANY SUSPECT AREAS MUST BE REWORKED AND RECOMPACTED OR THE WEAK SOILS REMOVED AND REPLACED WITH SUITABLE FILL MATERIAL.
  - POND BERM SHALL BE COMPACTED TO 95% OF TXDOT TEX-114-E
- MAINTENANCE SPECIFICATIONS:
- DURING SITE CONSTRUCTION THE SEDIMENT LOAD TO THE FOREBAY MUST BE CAREFULLY MONITORED AND THE SEDIMENT SHALL BE REMOVED WHEN 1/3 OF THE FOREBAY VOLUME IS LOST.
  - UPON COMPLETION OF THE SITE REVEGETATION, ANY SEDIMENT BUILDUP IN THE FOREBAY AREA EXCEEDING 5% LOSS OF AVAILABLE VOLUME SHALL BE REMOVED; AND IF SEDIMENT BUILDUP IN THE MAIN PORTION OF THE FACILITY EXCEEDS 10% OF THE AVAILABLE VOLUME, THE MAIN BODY OF THE FACILITY SHALL BE MAINTAINED FOR SEDIMENT REMOVAL.
  - EVERY 3 MONTHS FOR THE FIRST 2 YEARS, THE SEDIMENT BUILDUP IN THE FOREBAY SHALL BE CHECKED AND WHEN SEDIMENT BUILDUP EXCEEDS 15% OF THE AVAILABLE VOLUME, IT SHALL BE REMOVED.
  - EVERY 3 MONTHS, THE TURF AREAS (NOT NATIVE PLANTING) AROUND THE POND SHALL BE MOWED; ACCUMULATED PAPER, TRASH, AND DEBRIS SHALL BE REMOVED; CATTAILS, COTTONWOODS, AND WILLOWS SHALL NOT BE THINNED.
  - ANNUALLY, THE BASIN SHALL BE INSPECTED FOR SIDE SLOPE EROSION AND DETERIORATION OR DAMAGE TO STRUCTURAL ELEMENTS. ANY DAMAGE SHALL BE REPAIRED. LARGE AREAS WITH DEAD OR MISSING VEGETATION SHALL BE REPLANTED.
  - EVERY 3 YEARS, THE SEDIMENT BUILDUP IN THE FOREBAY SHALL BE CHECKED AND SEDIMENT REMOVED IF MORE THAN 1/3 OF THE FOREBAY VOLUME IS LOST.
  - EVERY 6 YEARS, THE SEDIMENT BUILDUP IN THE FOREBAY SHALL BE CHECKED AND SEDIMENT REMOVED IF MORE THAN 20% OF THE FOREBAY VOLUME IS LOST.
  - WET POND IS TO BE INSPECTED TWICE A YEAR AND AT LEAST ONCE DURING AND IMMEDIATELY FOLLOWING WET WEATHER FOR FUNCTIONALITY. INSPECTION SHALL INCLUDE CHECK FOR SUBSIDENCE, EROSION, LEAKAGE, CRACKING AND TREE GROWTH. OVERFLOW WEIR, INLET PIPES, AND OUTLET PIPES SHALL BE CHECKED FOR CLOGGING AND GENERAL CONDITION. WALLS SHALL BE CHECKED FOR STABILITY.
  - DEBRIS AND LITTER SHALL BE REMOVED FROM THE WET POND SURFACE AS PART OF ANY REGULAR MOWING OPERATIONS AND INSPECTIONS.
  - WET POND WALLS AND STRUCTURAL ELEMENTS SHALL BE REPAIRED IN THE EVENT OF ANY SHIFTING, SLUMPING, OR DAMAGE.
  - CONTROL OF INSECTS, WEEDS, ODORS AND ALGAE WILL BE IMPLEMENTED WHERE REQUIRED TO PREVENT PUBLIC NUISANCE CONCERNS. THE FACILITY SHALL BE EVALUATED SEMI-ANNUALLY FOR THESE ITEMS. ADEQUATE STOCK OF GAMBUSIA AFFINIS SHALL BE MAINTAINED FOR INSECT CONTROL AT AN INITIAL DENSITY OF 200 INDIVIDUALS PER SURFACE ACRE.
  - VEGETATION SHALL BE HARVESTED PERIODICALLY AND THE CLIPPINGS REMOVED TO PROVIDE EXPORT OF NUTRIENTS AND PREVENT THE BASIN FROM FILLING WITH DECAYING ORGANIC MATTER.
  - RECORD KEEPING: PROJECT SUPERINTENDENT SHALL HAVE A LOG FOR ENTERING SITE INSPECTIONS FOR ALL REGULAR AND RAINFALL EVENTS. RESULTS OF INSPECTIONS, INCLUDING DAMAGE AND ANY RECOMMENDED REMEDIAL ACTION, SHALL BE NOTED ALONG WITH INSPECTION PERSONNEL DATA AND DATE OF COMPLETION OF ANY ACTION. THE LOG SHALL BE MADE AVAILABLE FOR REVIEW BY TCEQ IF REQUESTED.
  - PROPER DISPOSAL OF ACCUMULATED SILT AND VEGETATIVE MATTER SHALL BE ACCOMPLISHED FOLLOWING TCEQ AND LOCAL AUTHORITY GUIDELINES AND SPECIFICATIONS.
  - THE ENGINEER MUST SPECIFY CRITERIA FOR ACCEPTANCE TESTING OF THE POND OVER A SPECIFIED PERIOD OF TIME, USING ACTUAL DAILY WATER LEVEL MEASUREMENTS, ACTUAL DAILY PRECIPITATION DATA, AND OTHER REQUIRED DATA TO DETERMINE WHETHER THE POND IS LOSING WATER IN EXCESS OF ANTICIPATED LOSSES.
  - MAKE-UP WATER FOR THE WET POND TO BE PROVIDED BY TRUCK TO ENSURE THE PERMANENT POOL LEVEL DOES DROP GREATER THAN 1 FOOT. AT THE TIME OF SITE PLAN, THE BUILDING MUST TIE THE AC CONDENSATE INTO THE STORM SYSTEM TO PROVIDE THE REQUIRED AMOUNT OF MAKEUP WATER FOR THE POND.

Wetland Plant List

Install Bulrush in clumps, with individual plants spaced approximately three to four feet on center. At least two of the following species should be used:

BULRUSH	WATER DEPTH	NOTES
Scirpus validus, Bulrush	1' - 3'	8' tall evergreen, resists cattail encroachment
Scirpus californicus, Bulrush	1' - 3'	8' tall evergreen, resists cattail encroachment
Scirpus americanus, Three-square bulrush	2' - 6"	2' to 4' tall, w/ 3 distinct edges

At least two species of the following marsh plants should be used (additional species are encouraged). Install in clumps in shallow water, with individual plants spaced at approximately three feet on center:

MARSH DIVERSITY	WATER DEPTH	NOTES
1. Cyperus ochraeus, Flatsedge	2" - 6"	1' to 2' tall, clump-forming, common to central Texas
2. Dichromena colorata, White-topped Sedge	2" - 6"	1' to 2' tall, white bracts during warm season
3. Echinodorus rostratus, Burhead	3' - 1'	1' to 2' tall, annual, heart-shaped leaves, flower similar to arrowhead
4. Eleocharis quadrangulata, Four-square Spikerush	6" - 1'	1' to 2' tall, colonizes, inhabits deeper water than other Spikerushes
5. Iris Pseudacorus, Yellow Flag Iris	1' - 2'	3' to 4' tall, can be invasive, dense growth, yellow flowers
6. Junctus effusus, Soft Rush	6" - 1'	3' to 4' tall, forms a tight clump, evergreen, very attractive
7. Justicia americana, Water willow	2" - 6"	2' to 3' tall, common, white flowers, herbaceous, colonizes
8. Marsilea macropoda, Water Clover	2" - 6"	Looks like floating four-leaf clover, endemic to Texas
9. Najas guadalupensis, Water-Naiad	1' - 4"	Submergent, valuable to fish and wildlife
10. Pontederia cordata, Pickerelweed	2" - 1'	3' tall, colonizes, cosmopolitan, purple flowers
11. Rhynchospora corniculata, Horned-rush	2" - 6"	2' to 2.5' tall, rhizomatous, flowers in May

Install spikerush at or near the water's edge, with individual plants spaced approximately three to six feet on center. At least two of the following species should be used:

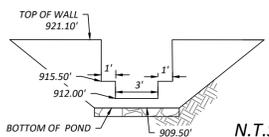
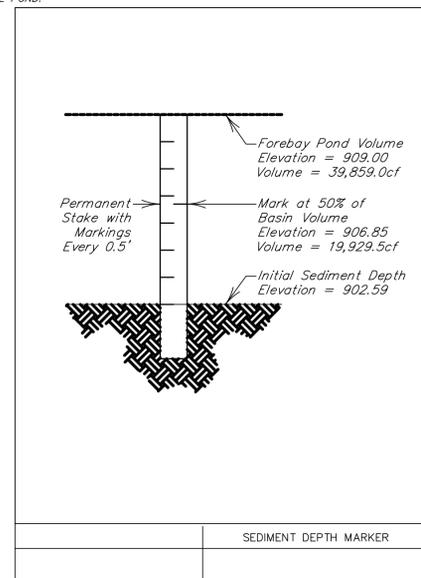
SPIKERUSH	WATER DEPTH	NOTES
Eleocharis montevidensis, Spikerush	0" - 6"	1' tall, rhizomatous, reduces erosion at the pond edge
Eleocharis macrostachys, Spikerush	0" - 6"	1' tall, rhizomatous, reduces erosion at the pond edge
Eleocharis quadrangulata, Spikerush	3" - 1'	1' to 2.5' tall, rhizomatous, can accommodate deeper water, 4-angled

Install Arrowhead in clumps in shallow water, with individual plants spaced approximately three feet on center.

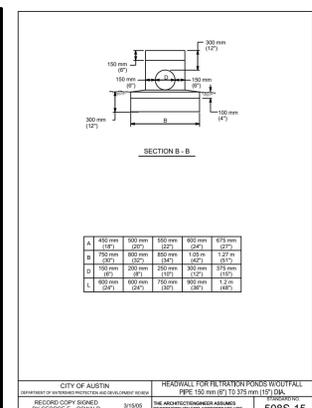
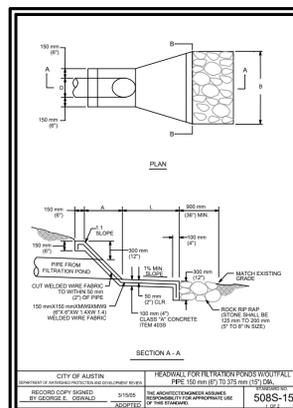
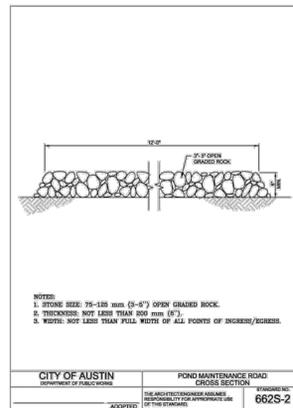
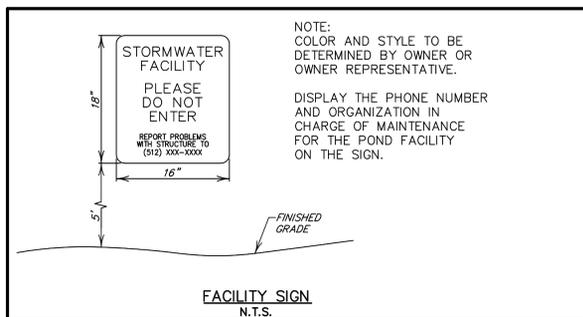
ARROWHEAD	WATER DEPTH	NOTES
Sagittaria latifolia, Arrowhead	2" - 1'	2' height, wildlife value, white flowers, proven water quality performer

Floating-leaved aquatic plants are rooted in the sediment of the pond, and have leaves that float on the surface of the water. These leaves shade the water, which limits potential algae growth. At least two of the following species should be used and should be placed at random locations throughout the pond:

AQUATICS	WATER DEPTH	NOTES
1. Cabomba caroliniana, Fanwort	1' - 4'	Approximately 6' length underwater, submergent
2. Ceratophyllum spp., Coon-tail	1' - 4'	Maximum 8' length, tolerant of turbidity and water fluctuation, wildlife food
3. Nymphaea odorata, Fanwort	6" - 2'	A native, reliably hardy, floating-leaved aquatic, with white flowers
4. Potamogeton pectinatus, Sago Pondweed	8" - 3'	Colonizes quickly, valuable to fish and wildlife; floating-leaved aquatic



WET POND OUTFALL



REVISIONS

No.	Date	Description

JONES CARTER  
Texas Board of Professional Engineers Registration No. F-439  
3100 Avon Avenue, Houston, Texas 77041 • 512.441.8493

DESIGNED BY: JAA  
CHECKED BY: GMR  
DRAWN BY: SH

SCALE: AS SHOWN  
DATE: OCTOBER 28, 2020  
JOB NO.: 04836-0008

STATE OF TEXAS  
JOHN A. ALVAREZ II  
127206  
10/28/2020

AVERY LAKELINE  
POND A2 DETAILS & CALCS  
SHEET NO. 74  
OF 95

## Leia Novosad

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**From:** Roberto Castro <Roberto.Castro@tceq.texas.gov>  
**Sent:** Thursday, February 23, 2023 4:08 PM  
**To:** John A. Alvarez II  
**Cc:** Justin C. Morris  
**Subject:** RE: Avery Oaks Apartments Phase 3 WPAP and SCS

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Hello John

Yes, the information you have provided has demonstrated to me that the wet pond will have sufficient capacity to treat the proposed IC for the current Phase 3 project.

*Bob Castro, P.E.*

Environmental Engineer  
Texas Commission on Environmental Quality  
Region 11 - Austin, Edwards Aquifer Protection Program  
Phone: 512.239.7045

---

**From:** John A. Alvarez II <jalvarez@quiddity.com>  
**Sent:** Thursday, February 23, 2023 3:21 PM  
**To:** Roberto Castro <Roberto.Castro@tceq.texas.gov>  
**Cc:** Justin C. Morris <jmorris@quiddity.com>  
**Subject:** RE: Avery Oaks Apartments Phase 3 WPAP and SCS

Bob,

Yes, Pond A2 (Basin 2 of Avery Lakeline TSS Calculations) will ultimately only receive 35.69 acres of impervious cover (which includes the additional 0.242 from the IC transfer to Lot 2, Block B). Ultimately, when we went through the original design of the pond, there were a lot of unknowns regarding the future uses of the lots and therefore conservative approaches were taken regarding impervious cover (original TSS/COA pond sizing calculations assumed 67%). This has led to an approx. 15% factor of safety on the pond sizing to what is currently going to it.

We have rerun the TSS calculations with the numbers included of what is ultimately going to the pond and have found that the pond is oversized and provides a sufficient amount of storage in the Permanent Pool (164,968cf required vs. 195,741cf provided) and the required capacity at the WQV Elevation (302,441cf required vs. 356,424cf provided). Attached are the updated TCEQ TSS calculations.

We understand that Nora Engineering will need to provide updated TSS calculations to address comment 3, but if you agree with the above, will providing this email chain in the NOD update suffice to clear comments 1 and 2?

Thanks,



**John Alvarez, P.E.**

*Project Manager*

Email: [jalvarez@quiddity.com](mailto:jalvarez@quiddity.com)

T: (512) 441-9493

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**From:** Roberto Castro <[Roberto.Castro@tceq.texas.gov](mailto:Roberto.Castro@tceq.texas.gov)>  
**Sent:** Thursday, February 16, 2023 5:54 PM  
**To:** Justin C. Morris <[jmorris@quiddity.com](mailto:jmorris@quiddity.com)>  
**Cc:** John A. Alvarez II <[jalvarez@quiddity.com](mailto:jalvarez@quiddity.com)>  
**Subject:** RE: Avery Oaks Apartments Phase 3 WPAP and SCS

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Hello John

Please explain why the drainage area summary does not match the original TSS Calculations.

Based on the table you provided, the total area of 60.47 acres and Total IC of 35.46 acres, but the Original TSS Calculations indicate that the pond was sized for a total area of 60.25 acres and Total IC of 40.39 acres.

Ultimately if the basin will only receive 35.69 acres (new total IC Value), and the existing basin was built to receive 40.39 acres of IC, that would clear comments 1 and 2 (I would still want to have understanding of the basis for the original calculations).

They still need to address comment 3 for the new total IC of their project 6.88 acres.

*Bob Castro, P.E.*

Environmental Engineer

Texas Commission on Environmental Quality

Region 11 - Austin, Edwards Aquifer Protection Program

Phone: 512.239.7045

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**From:** Justin C. Morris <[jmorris@quiddity.com](mailto:jmorris@quiddity.com)>  
**Sent:** Thursday, February 16, 2023 8:54 AM  
**To:** Roberto Castro <[Roberto.Castro@tceq.texas.gov](mailto:Roberto.Castro@tceq.texas.gov)>  
**Cc:** John A. Alvarez II <[jalvarez@quiddity.com](mailto:jalvarez@quiddity.com)>  
**Subject:** Avery Oaks Apartments Phase 3 WPAP and SCS

Good Morning Roberto,

Regarding the Avery Oaks Apartments Phase 3 WPAP and SCS Applications that Nora Engineering is currently processing through TCEQ with you, we understand that there are some comments related to Pond A2 and the IC/TSS calculations associated with the pond. For some background, Quiddity (formerly Jones Carter) is the one who designed/permitted

the Avery Subdivision plans which includes the Pond A2 that Nora is tying into. I just wanted to reach out about the following comments that they were given to explain the situation and find a path forward for clearing the comments:

1. *Proposed Drainage area Map (Sheet 65): Please identify the drainage areas that flow to Pond A2.*
2. *Proposed Drainage area Map (Sheet 65): The project area is area Drainage area B-2 included 60% IC which is 6.64 Acres IC. The proposed 6.88 acres of IC for the 11.07 acre project site is more IC than what was originally planned in the original TSS Calculations (provided by the Jones Carter Consulting firm). Please be sure to update the TSS Calculations to reflect the new value of IC for drainage area B-2. The TSS Calculations should confirm that the provided volume of the wet basin is greater than the calculated required volume. The TSS Calculations must be signed sealed and dated by a Professional Engineer.*
3. *Step 1 of the TSS Calculations: Please provide a screen shot from the TCEQ TSS Calculator of Step 1 of the TSS Calculations for the project. Step 1 of the TSS Calculations calculates the Required Load Reduction for the total project. The Total IC For the Project is 6.88 acres. The step 1 of the TSS Calculations must be signed sealed and dated by a Professional Engineer.*

In our plans, as seen on the attached Sheet 65, we have the following drainage areas going to the pond in the table below. This shows that the pond has 60.47ac. going to at 58.6% impervious cover. Saying that, the pond calculations and TSS calculations were sized for 67% impervious cover as seen on the attached Sheet 74.

Pond A-2		
Drainage Area	Area	IC %
A-1, E	19.12	80%
A-2	7.05	0%
B-2	11.07	60%
D-1	12.69	60%
D-2	3.95	0%
D-3	3.43	80%
Roads*	3.16	100%
<b>Total</b>	<b>60.47</b>	<b>58.6%</b>
*Roads include IB-(1-4), IA-(00-8)		

With the Avery Oaks Apartments site, there was a restrictive covenant that transferred 0.242 acres of IC from DA A-2 to their project site (DA B-2). This allows the site to propose 6.88 acres of IC that they currently are. The restrictive covenant occurred after the Avery Subdivision plans were permitted so therefore the drainage area calculations do not reflect the restrictive covenant numbers. The table below is updated to reflect the IC transfer:

Pond A-2 (With RC)		
Drainage Area	Area	IC %
A-1, E	19.12	80%
A-2	7.05	0%
B-2	11.07	62.15%
D-1	12.69	60%
D-2	3.95	0%
D-3	3.43	80%
Roads*	3.16	100%
<b>Total</b>	<b>60.47</b>	<b>59.0%</b>
*Roads include IB-(1-4), IA-(00-8)		

As seen, the IC increase is fairly negligible to the total impervious cover going to the pond and still falls below the 67% IC used in the TSS and Pond calculations. Please let me know if this is sufficient to clear the comments above in the next submittal.

I would be happy to discuss over the phone/meeting if you have any questions!

Thanks!

**Justin C. Morris**

*Design Engineer*



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✉ jmorris@quiddity.com

☎ (512) 445-4648

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[www.quiddity.com](http://www.quiddity.com)



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Additional information is provided for cells with a red triangle in the upper right corner. Place the cursor over the cell.

Text shown in blue indicate location of instructions in the Technical Guidance Manual - RG-348.

Characters shown in red are data entry fields.

Characters shown in black (Bold) are calculated fields. Changes to these fields will remove the equations used in the spreadsheet.

**1. The Required Load Reduction for the total project:**

Calculations from RG-348

Pages 3-27 to 3-30

Page 3-29 Equation 3.3:  $L_M = 27.2(A_N \times P)$

where:  $L_{M \text{ TOTAL PROJECT}}$  = Required TSS removal resulting from the proposed development = 80% of increased load  
 $A_N$  = Net increase in impervious area for the project  
 $P$  = Average annual precipitation, inches

Site Data: Determine Required Load Removal Based on the Entire Project

County =	<b>Williamson</b>	
Total project area included in plan *	<b>97.21</b>	acres *Overall ALS Area
Predevelopment impervious area within the limits of the plan *	<b>0.00</b>	acres
Total post-development impervious area within the limits of the plan *	<b>42.45</b>	acres * Overall proposed IC + decel lane
Total post-development impervious cover fraction *	<b>0.44</b>	
P =	<b>32</b>	inches

$L_{M \text{ TOTAL PROJECT}} = 36948$  lbs. \*THIS IS OVERALL REQUIRED TSS REMOVAL FOR PROJECT SITE (WET POND + BIORETENTION)

\* The values entered in these fields should be for the total project area.

Number of drainage basins / outfalls areas leaving the plan area = **2**

**2. Drainage Basin Parameters (This information should be provided for each basin):**

Drainage Basin/Outfall Area No. =	<b>2</b>	
Total drainage basin/outfall area =	<b>60.83</b>	acres *ALS On-Site Drainage Area Drain to Pond
Predevelopment impervious area within drainage basin/outfall area =	<b>0.00</b>	acres
Post-development impervious area within drainage basin/outfall area =	<b>36.05</b>	acres *Overall Prop. IC Proposed on ALS Site
Post-development impervious fraction within drainage basin/outfall area =	<b>0.59</b>	
$L_{M \text{ THIS BASIN}}$ =	<b>31378</b>	lbs.

**3. Indicate the proposed BMP Code for this basin.**

Proposed BMP = **Wet Basin** \*The proposed Wet Pond is designed to capture runoffs from ALS only.  
 Removal efficiency = **93** percent

**4. Calculate Maximum TSS Load Removed ( $L_R$ ) for this Drainage Basin by the selected BMP Type.**

RG-348 Page 3-33 Equation 3.7:  $L_R = (\text{BMP efficiency}) \times P \times (A_I \times 34.6 + A_P \times 0.54)$

where:  $A_C$  = Total On-Site drainage area in the BMP catchment area  
 $A_I$  = Impervious area proposed in the BMP catchment area  
 $A_P$  = Pervious area remaining in the BMP catchment area  
 $L_R$  = TSS Load removed from this catchment area by the proposed BMP

$A_C$ =	<b>60.83</b>	acres	*Overall Drainage Area Treated by Wet Pond
$A_I$ =	<b>36.05</b>	acres	*Overall IC Treated by Wet Pond
$A_P$ =	<b>24.78</b>	acres	
$L_R$ =	<b>37519</b>	lbs	



**NOTICE OF CONFIDENTIALITY RIGHTS:** If you are a natural person, you may remove or strike any or all of the following information from any instrument that transfers an interest in real property before it is filed for record in the public records: your Social Security number or your driver's license number.

**DECLARATION OF DRAINAGE EASEMENT AND UNIFIED DEVELOPMENT AGREEMENT WITH MAINTENANCE OF DRAINAGE FACILITIES**

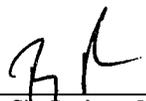
This Declaration of Drainage Easement and Unified Development Agreement with Maintenance of Drainage Facilities Restrictive Covenant (the "**Restrictive Covenant**") for **Avery Lakeline**, is executed effective the Date, by **Lakeline Avery Partners,LP, a Texas limited partnership** ("**Declarant**") and is as follows:

**DEFINITIONS**

- Owners:** Declarant and all future owners of the fee interest or any portion of the Property (whether such fee interest is obtained through a purchase from Declarant or through a purchase at a foreclosure sale or trustee's sale or through a deed in lieu of foreclosure) and their successors and assigns; individually, the "**Owner**"
- City:** **CITY OF AUSTIN, TEXAS**, a Texas home-rule municipal corporation situated in the counties of Hays, Travis, and Williamson
- Property:** Tract One, Tract Two, Tract Three, Tract Four, Tract Five, and Tract Six; collectively, the "**Tracts**," individually, a "**Tract**"
- Tract One:** All that parcel of land described as Lot 1, Block A of the Avery Lakeline Subdivision according to the plat recorded as Document No. 2020023739 of the Official Public Records of Williamson County, Texas
- Tract Two:** All that parcel of land described as Lot 2, Block C of the Avery Lakeline Subdivision according to the plat recorded as Document No. 2020023739 of the Official Public Records of Williamson County, Texas

  
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- Tract Three:** All that parcel of land described as Lot 3, Block C of the Avery Lakeline Subdivision according to the plat recorded as Document No. 2020023739 of the Official Public Records of Williamson County, Texas
- Tract Four:** All that parcel of land described as Lot 1, Block D of the Avery Lakeline Subdivision according to the plat recorded as Document No. 2020023739 of the Official Public Records of Williamson County, Texas
- Tract Five:** All that parcel of land described as Lot 2, Block D of the Avery Lakeline Subdivision according to the plat recorded as Document No. 2020023739 of the Official Public Records of Williamson County, Texas
- Tract Six:** All that parcel of land described as Lot 3, Block D of the Avery Lakeline Subdivision according to the plat recorded as Document No. 2020023739 of the Official Public Records of Williamson County, Texas
- City Permit:** The approved and released City of Austin Subdivision Plan No. C8-2019-0041.1B as the site plan is amended, revised, or corrected from time to time
- Easement Tract:** All that parcel of land situated in Williamson County, Texas, described in the attached **Exhibit A**
- Easement Duration:** Perpetual
- Easement Purpose:** To install, construct, operate, use, maintain, repair, modify, upgrade, monitor, inspect, replace, make connections with, remove, and decommission the Facilities
- Facilities:** Drainage channels, drainage conveyance structures, and detention and water quality controls with all associated roads, gates, bridges, culverts, erosion control structures, and other appurtenances
- Non-Permitted Activity:** Installation, construction, operation, use, maintenance, repair, modification, upgrade, and replacement of any structure, building, retaining wall, or other similar improvement in the Easement Tract

  
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**Permitted Encumbrances:** Any easements, liens, encumbrances, and other matters not subordinated to the Easement Tract and of record in the Real Property Records of the Texas county in which the Easement Tract is located that are valid, existing, and affect the Easement Tract as of the Date

### RECITALS

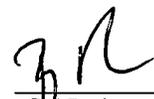
Declarant has agreed to impose upon the Property these covenants and conditions for the benefit of the Property.

NOW, THEREFORE, Declarant declares that the Property is subject to the following covenants, conditions and restrictions, which run with the Property and bind all parties having right, title, or interest in or to such portion of the Property or any part, their respective heirs, successors, and assigns, and which inure to the benefit of each Owner. Each contract, deed or conveyance of any kind conveying all or a portion of the Property will conclusively be held to have been executed, delivered, and accepted subject to the following covenants, conditions and restrictions, regardless of whether or not they are set out in full or by reference in said contract, deed or conveyance.

### SPECIFIC AGREEMENTS AND RESTRICTIONS:

1. Recitals and Definitions Incorporated. The above Recitals, Definitions, and all terms defined therein are incorporated into this Restrictive Covenant for all purposes.
2. Unified Development. For purposes of site plan review, modification, or approval by the City, the Property will be constructed as a unified development/single site. Any proposed modifications to any of the Tracts or any portion of any Tract will be construed as a modification to a single site, requiring review of all the Property in accordance with the provisions of the Austin City Code. This section applies to, but is not limited to, the extent of impervious coverage, parking, and landscaping of the Property.
3. Easement to the Owners.

Declarant hereby grants and conveys and by these presents does GRANT AND CONVEY unto the Owners, a non-exclusive easement to install, construct, operate, use, maintain, repair, modify, upgrade, monitor, inspect, replace, make connections with, remove, and decommission, as applicable, the Facilities in, upon and across the Easement Tract.

  
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**TO HAVE AND TO HOLD** the same perpetually to the Owners and its successors and assigns, together with the privilege at any and all times to enter the Easement Tract for the purpose to install, construct, operate, use, maintain, repair, modify, upgrade, monitor, inspect, replace, make connections with, remove, and decommission as applicable, the Facilities. This easement is made and accepted subject to all easements, covenants, restrictions, liens, and other encumbrances of record in Travis County, Texas affecting the Easement Tract.

4. Easement to the City.

Declarant, for **TEN AND NO/100 DOLLARS (\$10.00)** and other good and valuable consideration paid to Declarant, the receipt and sufficiency of which is acknowledged by Declarant, **GRANTS, SELLS, AND CONVEYS** to the City a non-exclusive easement in, over, under, on, and across the Easement Tract for the Easement Purpose as may be necessary or desirable subject to the Permitted Encumbrances, together with (i) the right of free and uninterrupted ingress and egress at all times over, on, and across the Easement Tract for use of the Easement Tract for the Easement Purpose, (ii) the right to eliminate any encroachments in the Easement Tract that interfere in any material way or are inconsistent with the rights granted the City under this instrument for the Easement Purpose as determined by the City in its reasonable discretion, and (iii) any and all rights and appurtenances pertaining to use of the Easement Tract (collectively, the "**Easement**").

**TO HAVE AND TO HOLD** the Easement to the City and City's successors and assigns for the Easement Duration and Easement Purpose; provided, however, Owners reserves the right to enter upon and use any portion of the Easement Tract, but in no event shall Owners enter upon or use any portion of the Easement Tract for any Non-Permitted Activity or in any other manner that interferes in any material way or is inconsistent with the rights granted the City under this Easement for the Easement Purpose as determined by City in its reasonable discretion. Declarant binds Declarant and Owners, and Declarant's and Owners' heirs, successors, and assigns to **WARRANT AND FOREVER DEFEND** the title to the Easement, subject to the Permitted Encumbrances, to the City against every person whomsoever lawfully claiming or to claim the Easement Tract or any part of the Easement Tract when the claim is by, through, or under Declarant, but not otherwise.

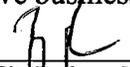
5. Maintenance. The Owners shall continuously maintain the Facilities in accordance with the requirements of the City and in a good and functioning condition. **Each Owner is jointly and severally liable to the City for the maintenance of the Facilities in the Easement Tract. The Owner (i) shall be obligated to maintain to a good and functioning condition in accordance with**

  
City Reviewer Initial

- the requirements of the City as determined by the City in its reasonable discretion the Facilities in the Easement Tract, (ii) is liable to the City for such maintenance obligations, and (iii) in the event Owners do not perform the required maintenance obligations, agrees to indemnify the City for all City costs necessary to maintain the Facilities.** Owners may enter into an agreement with a third party regarding any of the maintenance obligations, but in no such event shall the agreement with the third party release Owners from the maintenance obligations to City under this Easement.
6. Joint Access. Intentionally Deleted
  7. Parking. Intentionally Deleted
  8. Breach Does Not Permit Termination. Notwithstanding anything to the contrary contained herein, no breach of this Restrictive Covenant entitles the Owners to cancel, rescind or otherwise terminate this Restrictive Covenant, but such limitations do not affect in any manner any other rights or remedies which the Owners may have hereunder by reason of any breach of this Restrictive Covenant.
  9. Excusable Delays. Whenever performance is required of the Owners, the Owners shall use all due diligence to perform and take all reasonable and necessary measures in good faith to perform within a reasonable time; provided, however, that if completion of performance is delayed at any time by reasons of acts of God, war, civil commotion, riots, strikes, picketing, or other labor disputes, unavailability of labor or material, damage to work in progress by reason of fire or other casualty, or any other cause beyond the reasonable control of the Owner (financial inability, imprudent management or negligence excepted), then the time for performance as herein specified will be extended by the amount of delay actually so caused.
  10. General Provisions.
    - A. Inurement. This Restrictive Covenant and the restrictions created hereby inure to the benefit of and bind Owners, and their successors and assigns. When an Owner conveys all or any portion of the Property, that former Owner will thereupon be released and discharged from any and all further obligations, if any, under this Restrictive Covenant that it had in connection with the Property conveyed by it from and after the date of recording of such conveyance, but no such sale releases that former Owner from any liabilities, if any, actual or contingent, existing as of the time of such conveyance.

  
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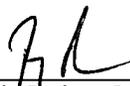
- B. Duration. Unless modified, amended, or terminated in accordance with Paragraph 10.K., this Restrictive Covenant and the Easement remain in effect in perpetuity.
- C. Non-Merger. This Restrictive Covenant will not be subject to the doctrine of merger, even though the underlying fee ownership of the Property, or any parts thereof, is vested in one party or entity.
- D. Severability. The provisions of this Restrictive Covenant must be deemed to be independent and severable, and the invalidity or partial invalidity of any provision or portion hereof does not affect the validity or enforceability of any other provision.
- E. Entire Agreement. This Restrictive Covenant, and the exhibits attached hereto contain all the representations and the entire agreement between the parties to this Restrictive Covenant with respect to the subject matter hereof. Any prior correspondence, memoranda or agreements are superseded in total by this Restrictive Covenant and the exhibits attached hereto. The provisions of this Restrictive Covenant will be construed as a whole according to their common meaning and not strictly for or against any Owner.
- F. Captions. The captions preceding the text of each section and subsection hereof are included only for convenience of reference and will be disregarded in the construction and interpretation of this Restrictive Covenant.
- G. Governing Law; Place of Performance. This Restrictive Covenant and all rights and obligations created hereby will be governed by the laws of the State of Texas. This Restrictive Covenant is performable only in the Texas county in which the Property is located.
- H. Notices. Any Notice to the Owners or the City must be in writing and given by delivering the same to such party in person, by expedited, private carrier services (such as Federal Express) or by sending the same by certified mail, return receipt requested, with postage prepaid to the intended recipient's last known mailing address. All notices under this Restrictive Covenant will be deemed given, received, made or communicated on the date personal delivery is effected or, if mailed, on the delivery date or attempted delivery date shown on the return receipt.
- I. Negation of Partnership. None of the terms or provisions of this Restrictive Covenant will be deemed to create a partnership between or among the Declarant, any Owner, or the City in their respective businesses

  
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or otherwise; nor will it cause them to be considered joint ventures or members of any joint enterprise.

- J. Enforcement. If any person, persons, corporation, or entity of any other character, violates or attempts to violate this Restrictive Covenant, it will be lawful for the City, its successors and assigns, to prosecute proceedings at law, or in equity, against the person or entity violating or attempting to violate these Restrictive Covenant and to prevent said person or entity from violating or attempting to violate such covenant. The failure at any time to enforce this Restrictive Covenant by the City, its successors and assigns, whether any violations hereof are known or not, does not constitute a waiver or estoppel of the right to do so.
- K. Modification and Amendment. This Restrictive Covenant may only be modified, amended or terminated upon the filing of a written modification, amendment or termination document in the Real Property Records of the Texas county in which the Property is located, executed, acknowledged and approved by (a) the Director of the Development Services Department of the City or successor department; (b) all of the Owners of the Property at the time of the modification, amendment, or termination; and (c) any mortgagees holding first lien security interests on any portion of the Property.

*(Remainder of page intentionally left blank)*

  
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Executed to be effective on Feb 4<sup>th</sup>, 2020.

**DECLARANT:**

**LAKELINE AVERY PARTNERS, LP,  
A TEXAS LIMITED PARTNERSHIP**

**BY: LAKELINE AVERY PARTNERS GP,  
LLC, A TEXAS LIMITED LIABILITY  
COMPANY, ITS GENERAL  
PARTNER**

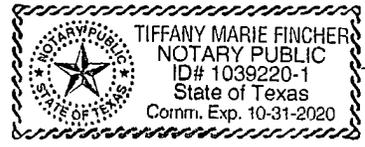
By: [Signature]  
Name: Sam Kumar  
Title: Manager

STATE OF TEXAS §  
COUNTY OF TRAVIS §

Before me, the undersigned notary, on this day personally appeared Sam Kumar, Manager of Lakeline Avery Partners GP, LLC, a Texas limited liability company, the General Partner of Lakeline Avery Partners, LP, a Texas limited partnership, known to me through valid identification to be the person whose name is subscribed to the preceding instrument and acknowledged to me that the person executed the instrument in the person's official capacity for the purposes and consideration expressed in the instrument.

Given under my hand and seal of office on February 4, 2020.

[Seal]



[Signature]  
Notary Public, State of Texas

**APPROVED AS TO FORM:  
CITY OF AUSTIN, TEXAS  
LAW DEPARTMENT**

By: [Signature]  
Name: Deborah Thomas  
Title: Assistant City Attorney

**REVIEWED:  
CITY OF AUSTIN, TEXAS  
DEVELOPMENT SERVICES DEPARTMENT**

By: [Signature]  
Name: Beth Robinson  
Title: engineer

[Signature]  
City Reviewer Initial



10090 W Highway 29 | Liberty Hill, Texas 78642

TBPELS Firm No. 10001800 | 512-238-7901 office

EXHIBIT " A "

METES AND BOUNDS DESCRIPTION FOR EASEMENT NO. 3

BEING 3.01 ACRES OF LAND, SURVEYED BY LANDESIGN SERVICES, INC., SITUATED IN THE RACHAEL SAUL SURVEY, ABSTRACT NO. 551, IN WILLIAMSON COUNTY, TEXAS AND BEING A PORTION OF LOT 1, BLOCK A, AVERY LAKELINE, RECORDED IN DOCUMENT NO. 2020023739, OF THE OFFICIAL PUBLIC RECORDS OF WILLIAMSON COUNTY, TEXAS (O.P.R.W.C.T.), AND BEING MORE PARTICULARLY DESCRIBED BY METES AND BOUNDS AS FOLLOWS:

**BEGINNING** at a Texas Department of Transportation (TxDOT) Type II Concrete Monument found in the common line of said Lot 1, Block A and of a remainder of a called 789.508 acre tract of land described in deed to State of Texas State Department of Highways and Public Transportation, recorded in Volume 1723, Page 855, of the Deed Records of Williamson County, Texas (D.R.W.C.T.), from which a TxDOT Type II Concrete monument found at the intersection of the existing Easterly right-of-way line of U.S. Highway 183A (R.O.W. Varies) and the existing Southerly right-of-way line of Avery Ranch Boulevard (150-foot R.O.W., of record in Document No. 2005102680, said O.P.R.W.C.T.), bears South 67°47'02" West a distance of 35.78 feet;

THENCE **North 67°47'02" East** with the common line of said Lot 1, Block A and said existing Southerly right-of-way of Avery Ranch Boulevard, a distance of **299.61** feet to a Calculated Point, from which an Aluminum cap stamped "TEXAS DEPT OF TRAN" found, bears North 67°47'02" East a distance of 36.03 feet;

THENCE over and across said Lot 1, Block A, the following six (6) courses and distances:

1. **South 21°45'51" East** a distance of **96.13** feet to a Calculated Point,
2. Along curve to the **Right** having a radius of **125.00** feet, an arc length of **42.79** feet, a delta angle of **19°36'53"**, and a chord which bears **South 11°57'24" East** a distance of **42.58** feet to a Calculated Point,
3. Along curve to the **Left** having a radius of **185.00** feet, an arc length of **98.73** feet, a delta angle of **30°34'41"**, and a chord which bears **South 17°26'17" East** a distance of **97.56** feet to a Calculated Point,
4. **South 32°43'38" East** a distance of **62.05** feet to a Calculated Point,

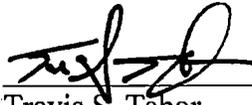
5. **South 57°16'22" West** a distance of **185.84** feet to a Calculated Point, and
6. **South 80°20'18" West** a distance of **325.90** feet to a Calculated Point in the common line of said Lot 1, Block A and said State of Texas remainder tract, from which a TxDOT Type II Concrete Monument found bears **South 02°01'42" West** a distance of 112.30 feet;

THENCE with the common line of said Lot 1, Block A and said State of Texas remainder tract, the following two (2) courses and distances:

1. **North 02°01'42" East** a distance of **189.30** feet to a TxDOT Type II Concrete Monument found, and
2. **North 33°47'46" East** a distance of **155.14** feet to the **POINT OF BEGINNING** and containing 3.01 acres of land, more or less.

This project is referenced for all bearing and coordinate basis to the Texas State Plane Coordinate System, North American Datum of 1983 (NAD83 – 2011 Adjustment), Central Zone (4203). All distances shown hereon are surface values represented in U.S. Survey Feet based on a grid-to-surface combined adjustment factor of 1.000077918.

This property description was prepared from an on-the-ground survey performed under my supervision and is accompanied by a separate plat of even date. The field work was completed in January 2019.

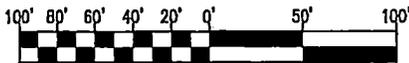
  
 Travis S. Tabor  
 Registered Professional Land Surveyor  
 State of Texas No. 6428

04/14/2020



Job Number: 19-002

Attachments: CAD Drawing: L:\19002 - 97 ac Avery Ranch\CAD\DWGs\Avery Esmts\AL Esmt No 3



GRAPHIC SCALE

SAMUEL DAMON SURVEY  
ABSTRACT NO. 170

AVERY RANCH BOULEVARD  
(150' R.O.W.)  
DOC. NO. 2005102680  
O.P.R.W.C.T.

POINT OF BEGINNING

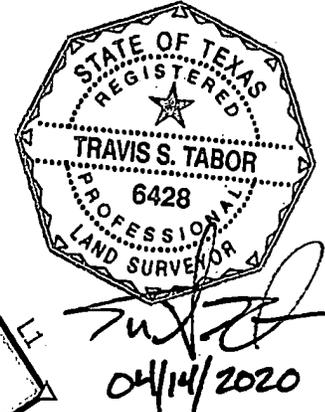
APPROXIMATE SURVEY LINE

RACHAEL SAUL SURVEY  
ABSTRACT NO. 551  
U.S. HIGHWAY 183A  
(R.O.W. VARIES)

EASEMENT NO. 3  
3.01 ACRES

Curve Table					
Curve #	Radius	Length	Delta	Chord Bearing	Chord
C1	125.00'	42.79'	19°36'53"	S11° 57' 24"E	42.58'
C2	185.00'	98.73'	30°34'41"	S17° 26' 17"E	97.56'

Line Table		
Line #	Direction	Length
L1	S32° 43' 38"E	62.05'
L2	S67° 47' 02"W	35.78'
L3	N67° 47' 02"E	36.03'
L4	S02° 01' 42"W	112.30'



LOT 1, BLOCK A  
AVERY LAKELINE  
DOC. NO. 2020023739  
O.P.R.W.C.T.

GENERAL NOTES:

THIS PROJECT IS REFERENCED FOR ALL BEARING AND COORDINATE BASIS TO THE TEXAS STATE PLANE COORDINATE SYSTEM, NORTH AMERICAN DATUM OF 1983 (NAD83 - 2011 ADJUSTMENT), CENTRAL ZONE (4203).

DISTANCES AND AREAS SHOWN HEREON ARE SURFACE VALUES REPRESENTED IN U.S. SURVEY FEET BASED ON A GRID-TO-SURFACE COMBINED ADJUSTMENT FACTOR OF 1.000077918.

THE FIELD WORK WAS COMPLETED IN JANUARY 2019.

LEGEND

- ALUMINUM CAP STAMPED "TEXAS DEPT OF TRAN" FOUND
  - TXDOT TYPE II CONCRETE MONUMENT FOUND
  - 1/2" REBAR FOUND (OR AS NOTED)
  - 1/2" REBAR WITH CAP STAMPED "LSI SURVEY" FOUND (OR AS NOTED)
  - △ CALCULATED POINT NOT SET
- O.P.R.W.C.T. OFFICIAL PUBLIC RECORDS OF WILLIAMSON COUNTY, TEXAS  
D.R.W.C.T. DEED RECORDS OF WILLIAMSON COUNTY, TEXAS

JOB NUMBER: 19-002	DATE: 01/27/2020
PROJECT NAME: 94 AC AVERY RANCH	
DRAWING NAME: AL ESMT NO 3.DWG	
DRAWING FILE PATH: L:\19002 - 97 AC AVERY RANCH\CAD\DWGS\AVERY ESMTS	
METES AND BOUNDS FILE PATH: L:\19002 - 97 AC AVERY RANCH\DESCRIPTIONS\AL ESMTS\AL ESMT NO. 3	
RPLS: TST	TECH: HAS
PARTY CHIEF: AO	CHK BY: TST
SHEET 03 of 03	SCALE: 1" = 100'



10090 W HIGHWAY 29, LIBERTY HILL, TEXAS 78642  
TBPELS FIRM NO. 10001800  
512-238-7901

**LIEN HOLDER CONSENT**

**Date:** February 6, 2020

**Lien Holder:** Commerce National Bank, a branch of Amarillo National Bank

**Lien Holder Notice Address:** 1927 Lohmans Crossing Road, Suite 101  
Austin, Travis County, Texas 78734-5241

**Liens:** Deed of Trust dated November 13, 2019, from Grantor to Dennis Zulkowski, Trustee, securing the payment of one promissory note of even date in the original principal amount of \$10,000,000, payable to Lien Holder, of record in Document Number 2019109407, of the Official Public Records of Travis County, Texas and all other liens against the Property held by Lien Holder regardless of how created or evidenced.

**Grant Document:** The document to which this Lien Holder Consent is attached, and consented to.

**Property:** The tract of land described in the Grant Document that is the subject of the grant to City under the Grant Document.

In consideration of \$10 and other good and valuable consideration, the receipt and sufficiency of which is acknowledged, Lien Holder, as the holder of the Liens against the Property, and its successors and assigns:

1. consent to the Grant Document, its contents and recording;
2. agrees that any monetary rights of City for performance of any Grantor obligations under the Grant Document will remain in place and unaffected by the Liens regardless of the frequency or manner of renewal, extension, change, or alteration of the Liens or the note or notes secured by the Liens and will remain the obligation of any subsequent owner of the Property so long as the City provides written notice of any claim or default to Lien Holder at least thirty calendar days prior to incurring any expense claimed as a monetary right of the City;
3. agree that foreclosure of any of the Liens, or other sale of the Property under judicial or non-judicial proceedings, will be sold subject to the Grant Document and will not extinguish the rights and interests of City in the Grant Document or the Property and that the Grant Document shall remain in effect and shall be fully enforceable; and
4. affirm that the undersigned has the authority to bind the Lien Holder, and that all acts necessary to bind Lien Holder have been taken.

As used in this consent the capitalized terms defined in the Grant Document have the same meanings assigned to each term.

Executed effective the date first above stated.

COMMERCE NATIONAL BANK,  
a branch of Amarillo National Bank

By: *Mark E. Kalish*  
Name: Mark E. Kalish  
Title: Senior Vice President, Lending

STATE OF TEXAS §  
COUNTY OF TRAVIS §

Before me, the undersigned notary, on this day personally appeared Mark E. Kalish, Senior Vice President, Lending, of Commerce National Bank, a branch of Amarillo National Bank, known to me through valid identification to be the person whose name is subscribed to the preceding instrument and acknowledged to me that the person executed the instrument in the person's official capacity for the purposes and consideration expressed in the instrument.

Given under my hand and seal of office on *February 7*, 2020.

[Seal]



*Stephanie Ann Powitzky*  
Notary Public, State of Texas

**AFTER RECORDING, PLEASE RETURN TO:**

Attn: Loren Doyen  
City of Austin  
Law Department  
P.O. Box 1088  
Austin, Texas 78767

**PROJECT INFORMATION:**

Project Name: Avery Lakeline Subdivision Construction Plans  
Project Case Manager: Kyle Virr  
Site Plan No.: C8-2019-0041.1B

**FILED AND RECORDED**  
OFFICIAL PUBLIC RECORDS 2020047336

ESMT Fee: \$73.00  
05/07/2020 02:19 PM JDISHER



*Nancy E. Rister*  
Nancy E. Rister, County Clerk  
Williamson County, Texas

⑤ John Alvarez  
3100 Alvin Devane Blvd  
Suite 150  
Austin TX 78741

## WPAP - ATTACHMENT G

### Inspection, Maintenance, Repair, and Retrofit Plan

Project: Avery Lakeline Construction Plans  
Address: N 183A HWY & Avery Ranch Blvd  
City, State, Zip: Austin TX, 78717

#### General Site Maintenance

The following guidelines should be used as an inspection and maintenance plan that should be performed at least twice annually:

- (1) Identify, replant, and restore eroded areas. Add a level spreader, energy dissipation, or other repairs as required to ensure that erosion is not repeated.
- (2) Identify areas that do not have acceptable vegetated covers (80% or higher for most BMPs). Reseed, add soil, and irrigate as required to ensure that coverage requirements are met.
- (3) Mow sites twice annually and as required to keep grass height under 18 inches. Additional mowing may be performed for site aesthetics. Export clippings from site to prevent release of nutrients from decaying plant matter. Remove any woody growth, especially from embankments, berms, and swales. For swales, grass should not be regularly mowed below four inches.
- (4) Use non-chemical methods for maintaining health of vegetation. Pesticides, herbicides, or fertilizers should only be used as a last option, and then as minimally as possible. Fertilizer should rarely be required because runoff will typically contain sufficient nutrient loads.
- (5) Irrigation may be required in order to maintain acceptable levels of vegetated coverage, especially for engineered vegetated strips.
- (6) Never deposit grass clippings, brush, or other debris in BMPs or buffers.
- (7) Prevent over-compaction of BMP components that rely partially or wholly on infiltration (vegetation strips, bioretention bed, infiltration trenches and basins). Mowing and other maintenance should be performed with hand equipment or a light-weight lawn tractor.
- (8) Remove any built-up sediment and debris, especially along uphill edges, berms, swales, and level spreaders; and around BMP inlets and outlets
- (9) Identify any other problems. A detailed inspection may be required.

## Wet Basins

A clear requirement for wet basins is that a firm commitment be made to carry out both routine and non-routine maintenance tasks. The nature of the maintenance requirements are outlined below, along with design tips that can help to reduce the maintenance burden (modified from Young et al., 1996).

### Routine Maintenance.

- *Mowing.* The side-slopes, embankment, and emergency spillway of the basin should be mowed at least twice a year to prevent woody growth and control weeds.
- *Inspections.* Wet basins should be inspected at least twice a year (once during or immediately following wet weather) to evaluate facility operation. When possible, inspections should be conducted during wet weather to determine if the basin is functioning properly. There are many functions and characteristics of these BMPs that should be inspected. The embankment should be checked for subsidence, erosion, leakage, cracking, and tree growth. The condition of the emergency spillway should be checked. The inlet, barrel, and outlet should be inspected for clogging. The adequacy of upstream and downstream channel erosion protection measures should be checked. Stability of the side slopes should be checked. Modifications to the basin structure and contributing watershed should be evaluated. During semi-annual inspections, replace any dead or displaced vegetation. Replanting of various species of wetland vegetation may be required at first, until a viable mix of species is established. Cracks, voids and undermining should be patched/filled to prevent additional structural damage. Trees and root systems should be removed to prevent growth in cracks and joints that can cause structural damage. The inspections should be carried out with as-built pond plans in hand.
- *Debris and Litter Removal.* As part of periodic mowing operations and inspections, debris and litter should be removed from the surface of the basin. Particular attention should be paid to floatable debris around the riser, and the outlet should be checked for possible clogging.
- *Erosion Control.* The basin side slopes, emergency spillway, and embankment all may periodically suffer from slumping and erosion. Corrective measures such as regrading and revegetation may be necessary. Similarly, the riprap protecting the channel near the outlet may need to be repaired or replaced.

- *Nuisance Control.* Most public agencies surveyed indicate that control of insects, weeds, odors, and algae may be needed in some ponds. Nuisance control is probably the most frequent maintenance item demanded by local residents. If the ponds are properly sized and vegetated, these problems should be rare in wet ponds except under extremely dry weather conditions. Twice a year, the facility should be evaluated in terms of nuisance control (insects, weeds, odors, algae, etc.). Biological control of algae and mosquitoes using fish such as fathead minnows is preferable to chemical applications.

#### Non-routine maintenance.

- *Structural Repairs and Replacement.* Eventually, the various inlet/outlet and riser works in the wet basin will deteriorate and must be replaced. Some public works experts have estimated that corrugated metal pipe (CMP) has a useful life of about 25 yr, while concrete barrels and risers may last from 50 to 75 yr. The actual life depends on the type of soil, pH of runoff, and other factors. Polyvinyl chloride (PVC) pipe is a corrosion resistant alternative to metal and concrete pipes. Local experience typically determines which materials are best suited to the site conditions. Leakage or seepage of water through the embankment can be avoided if the embankment has been constructed of impermeable material, has been compacted, and if anti-seep collars are used around the barrel. Correction of any of these design flaws is difficult.
- *Sediment Removal.* Wet ponds will eventually accumulate enough sediment to significantly reduce storage capacity of the permanent pool. As might be expected, the accumulated sediment can reduce both the appearance and pollutant removal performance of the pond. Sediment accumulated in the sediment forebay area should be removed from the facility every two years to prevent accumulation in the permanent pool. Dredging of the permanent pool should occur at least every 20 years, or when accumulation of sediment impairs functioning of the outlet structure.
- *Harvesting.* If vegetation is present on the fringes or in the pond, it can be periodically harvested and the clippings removed to provide export of nutrients and to prevent the basin from filling with decaying organic matter.

#### BioRetention

The primary maintenance requirement for bioretention areas is that of inspection and repair or replacement of the treatment area's components. Generally, this involves nothing more than the routine periodic maintenance that is required of any landscaped area. Plants that are appropriate for the site, climatic, and watering conditions should be selected for use in the bioretention cell. Appropriately selected plants will aid in reducing fertilizer, pesticide, water, and overall maintenance requirements. Bioretention system components should blend over time through plant and root growth, organic decomposition, and the development of a natural soil horizon. These biologic and physical processes over time will lengthen the facility's life span and reduce the need for extensive maintenance.

Routine maintenance should include a semi-annual health evaluation of the trees and shrubs and subsequent removal of any dead or diseased vegetation. Diseased vegetation should be treated as needed using preventative and low-toxic measures to the extent possible. BMPs have the potential to

create very attractive habitats for mosquitoes and other vectors because of highly organic, often heavily vegetated areas mixed with shallow water. Routine inspections for areas of standing water within the BMP and corrective measures to restore proper infiltration rates are necessary to prevent creating mosquito and other vector habitat. In addition, bioretention BMPs are susceptible to invasion by aggressive plant species such as cattails, which increase the chances of standing water and subsequent vector production if not routinely maintained.

In order to maintain the treatment area's appearance it may be necessary to prune and weed. Furthermore, mulch replacement is suggested when erosion is evident or when the site begins to look unattractive. Specifically, the entire area may require mulch replacement every two to three years, although spot mulching may be sufficient when there are random void areas.

New Jersey's Department of Environmental Protection states in their bioretention systems standards that accumulated sediment and debris removal (especially at the inflow point) will normally be the primary maintenance function. Other potential tasks include replacement of dead vegetation, soil pH regulation, erosion repair at inflow points, mulch replenishment, unclogging the underdrain, and repairing overflow structures.

Other recommended maintenance guidelines include:

- Inspections. BMP facilities should be inspected at least twice a year (once during or immediately following wet weather) to evaluate facility operation. During each inspection, erosion areas inside and downstream of the BMP must be identified and repaired or revegetated immediately. 3-95
- Sediment Removal. Remove sediment from the facility when sediment depth reaches 3 inches or when the sediment interferes with the health of vegetation or ability of the facility to meet required drawdown times. Sediment removal should be performed at least every 2 years.
- Drain Time. When the drain time exceeds 72 hours as observed in the observation well, the filter media should be removed and replaced with more permeable material.
- Vegetation. All dead and diseased vegetation considered beyond treatment shall be removed and replaced during semi-annual inspections. Diseased trees and shrubs should be treated during inspections. Remulch any bare areas by hand whenever needed. Replace mulch annually in the spring, or more frequently if needed, in landscaped areas of the basin where grass or groundcover is not planted. Grass areas in and around bioretention facilities must be mowed at least twice annually to limit vegetation height to 18 inches. More frequent mowing to maintain aesthetic appeal may be necessary in landscaped areas.
- Debris and Litter Removal. Debris and litter will accumulate in the facility and should be removed during regular mowing operations and inspections.
- Filter Underdrain. Clean underdrain piping network to remove any sediment buildup every 5 years, or as needed to maintain design drawdown time.

The applicant is responsible for maintaining the permanent VMPs after construction until such time as the maintenance obligation is either assumed in writing by another's entity having ownership or control of the property (such as without limitation, an owner's association, new property owner or lessee, a district, or municipality) or the ownership of the property is transferred to the entity assumes such obligation in writing or ownership is transferred.

An amended copy of this document will be provided to the TCEQ within thirty days of any changes in the following information

Responsible Party for Maintenance: Journeyman Residential, LLC.  
Address: 1000 N Lamar Blvd  
Suite 400  
Austin, TX 78703

Owner Contact: Alex Clarke, Development Project Manager  
Telephone Number: (512) 374-2905

Signature of Responsible Party: \_\_\_\_\_



1/7/2017

**Agent Authorization Form**  
For Required Signature  
Edwards Aquifer Protection Program  
Relating to 30 TAC Chapter 213  
Effective June 1, 1999

I SCOTT Herndon  
Print Name  
Chief Financial Officer  
Title - Owner/President/Other  
of Ascension Seton  
Corporation/Partnership/Entity Name  
have authorized Candace Craig, PE  
Print Name of Agent/Engineer  
of Nora Engineering & Planning LLC  
Print Name of Firm

to represent and act on the behalf of the above named Corporation, Partnership, or Entity for the purpose of preparing and submitting this plan application to the Texas Commission on Environmental Quality (TCEQ) for the review and approval consideration of regulated activities.

I also understand that:

1. The applicant is responsible for compliance with 30 Texas Administrative Code Chapter 213 and any condition of the TCEQ's approval letter. The TCEQ is authorized to assess administrative penalties of up to \$10,000 per day per violation.
2. For those submitting an application who are not the property owner, but who have the right to control and possess the property, additional authorization is required from the owner.
3. Application fees are due and payable at the time the application is submitted. The application fee must be sent to the TCEQ cashier or to the appropriate regional office. The application will not be considered until the correct fee is received by the commission.
4. A notarized copy of the Agent Authorization Form must be provided for the person preparing the application, and this form must accompany the completed application.
5. No person shall commence any regulated activity on the Edwards Aquifer Recharge Zone, Contributing Zone or Transition Zone until the appropriate application for the activity has been filed with and approved by the Executive Director.

SIGNATURE PAGE:

[Signature]  
Applicant's Signature

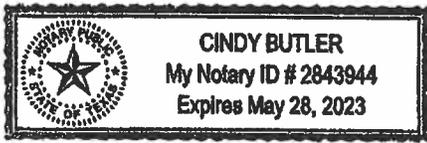
7/14/2022  
Date

THE STATE OF TEXAS §

County of Travis §

BEFORE ME, the undersigned authority, on this day personally appeared Scott Herndon known to me to be the person whose name is subscribed to the foregoing instrument, and acknowledged to me that (s)he executed same for the purpose and consideration therein expressed.

GIVEN under my hand and seal of office on this 4<sup>th</sup> day of July, 2022



[Signature]  
NOTARY PUBLIC

Cindy Butler  
Typed or Printed Name of Notary

MY COMMISSION EXPIRES: 5/28/2023

**5. Calculate Fraction of Annual Runoff to Treat the drainage basin / outfall area**

Desired  $L_M$  THIS BASIN = **32947** lbs. **\*5% Additional**

F = **0.88**

**6. Calculate Capture Volume required by the BMP Type for this drainage basin / outfall area.**

Calculations from RG-348

Pages 3-34 to 3-36

Rainfall Depth = **1.50** inches  
Post Development Runoff Coefficient = **0.42**  
On-site Water Quality Volume = **137473** cubic feet

Calculations from RG-348 Pages 3-36 to 3-37

Off-site area draining to BMP = **0.00** acres  
Off-site Impervious cover draining to BMP = **0.00** acres  
Impervious fraction of off-site area = **0**  
Off-site Runoff Coefficient = **0.00**  
Off-site Water Quality Volume = **0** cubic feet

Storage for Sediment = **27495**

**Total Capture Volume (required water quality volume(s) x 1.20) = 164968** cubic feet

**The following sections are used to calculate the required water quality volume(s) for the selected BMP.  
The values for BMP Types not selected in cell C45 will show NA.**

**11. Wet Basins**

Designed as Required in RG-348

Pages 3-66 to 3-71

Required capacity of Permanent Pool = **164968** cubic feet  
Required capacity at WQV Elevation = **302441** cubic feet

**Permanent Pool Capacity is 1.20 times the WQV  
Total Capacity should be the Permanent Pool Capacity  
plus a second WQV.**



**AMERICANS WITH DISABILITIES ACT**

THE CITY OF AUSTIN HAS REVIEWED THIS PLAN FOR COMPLIANCE WITH CITY DEVELOPMENT REGULATIONS ONLY. THE APPLICANT, PROPERTY OWNER, AND OCCUPANT OF THE PREMISES ARE RESPONSIBLE FOR DETERMINING WHETHER THE CITY OF AUSTIN (NON-CONSOLIDATED SITE PLAN APPLICATION INSTRUCTIONS 7/9/20) PAGE 30 OF 34 PLAN COMPLIES WITH ALL OTHER LAWS, REGULATIONS, AND RESTRICTIONS WHICH MAY BE APPLICABLE TO THE PROPERTY AND ITS USE.

**ADA NOTES**

- THE MINIMUM CLEAR WIDTH OF AN ACCESSIBLE ROUTE IS 36 IN. IF THE ACCESSIBLE ROUTE IS LESS THAN 60 IN. WIDE AND LONGER THAN 200 FT., PASSING SPACES AT LEAST 60 IN. BY 60 IN. MUST BE LOCATED EVERY 200 FT.
- SLOPES ON ACCESSIBLE ROUTES MAY NOT EXCEED 1:20 (5.0%) UNLESS DESIGNED AS A RAMP.
- ACCESSIBLE PARKING SPACES MUST BE LOCATED ON A SURFACE WITH A SLOPE NOT EXCEEDING 1:50 (2.0%) IN ALL DIRECTIONS.
- ACCESSIBLE ROUTES MUST HAVE A CROSS-SLOPE NO GREATER THAN 1:50 (2.0%).
- ACCESSIBLE PARKING SPACES MUST BE LOCATED ON A SURFACE WITH A SLOPE NOT EXCEEDING 1:50 (2.0%).
- THE CITY OF AUSTIN HAS REVIEWED THIS PLAN FOR COMPLIANCE WITH CITY DEVELOPMENT REGULATIONS ONLY. THE APPLICANT, PROPERTY OWNER, AND OCCUPANT OF THE PREMISES ARE RESPONSIBLE FOR DETERMINING WHETHER THE PLAN COMPLIES WITH ALL OTHER LAWS, REGULATIONS, AND RESTRICTIONS WHICH MAY BE APPLICABLE TO THE PROPERTY AND ITS USE.

**ACCESSIBILITY**

- APPROVAL OF THESE PLANS BY THE CITY OF AUSTIN INDICATES COMPLIANCE WITH APPLICABLE CITY REGULATIONS ONLY. COMPLIANCE WITH ACCESSIBILITY STANDARDS SUCH AS THE 2010 STANDARDS FOR ACCESSIBLE DESIGN OR THE 2012 TEXAS ACCESSIBILITY STANDARDS WAS NOT VERIFIED. THE APPLICANT IS RESPONSIBLE FOR COMPLIANCE WITH ALL APPLICABLE ACCESSIBILITY STANDARDS.
- ACCESSIBLE ROUTES MUST HAVE A CROSS-SLOPE NO GREATER THAN 1:50. [ANSI 403.3]
- ACCESSIBLE PARKING SPACES MUST BE LOCATED ON A SURFACE WITH A SLOPE NOT EXCEEDING 1:50. [ANSI 502.5]
- SLOPES ON ACCESSIBLE ROUTES MAY NOT EXCEED 1:20 UNLESS DESIGNED AS A RAMP. [ANSI 403.3]
- THE MAXIMUM SLOPE OF A RAMP IN NEW CONSTRUCTION IS 1:12. THE MAXIMUM RISE FOR ANY RAMP RUN IS 30 IN. THE MAXIMUM HORIZONTAL PROJECTION IS 30 FEET FOR A RAMP WITH A SLOPE BETWEEN 1:12 AND 1:15, AND 40 FEET FOR A RAMP WITH A SLOPE

**APPENDIX P-4: - STANDARD SEQUENCE OF CONSTRUCTION**

The following sequence of construction shall be used for all development. The applicant is encouraged to provide any additional details appropriate for the particular development.

- Temporary erosion and sedimentation controls are to be installed as indicated on the approved site plan or subdivision construction plan and in accordance with the Erosion Sedimentation Control Plan (ESC) and Storm Water Pollution Prevention Plan (SWPPP) that is required to be posted on the site. Install tree protection, initiate tree mitigation measures and conduct "Pre - Construction" tree fertilization (if applicable).
- The Environmental Project Manager or Site Supervisor must contact the Development Services Department, Environmental Inspection, at 512-974-2278, 72 hours prior to the scheduled date of the required on-site preconstruction meeting.
- The Environmental Project Manager, and/or Site Supervisor, and/or Designated Responsible Party, and the General Contractor will follow the Erosion Sedimentation Control Plan (ESC) and Storm Water Pollution Prevention Plan (SWPPP) posted on the site. Temporary erosion and sedimentation controls will be revised, if needed, to comply with City Inspectors' directives, and revised construction schedule relative to the water quality plan requirements and the erosion plan.
- Rough grade the pond(s) at 100% proposed capacity. Either the permanent outlet structure or a temporary outlet must be constructed prior to development of embankment or excavation that leads to ponding conditions. The outlet system must consist of a sump pit outlet and an emergency spillway meeting the requirements of the Drainage Criteria Manual and/or the Environmental Criteria Manual, as required. The outlet system shall be protected from erosion and shall be maintained throughout the course of construction until installation of the permanent water quality ponds).
- Temporary erosion and sedimentation controls will be inspected and maintained in accordance with the Erosion Sedimentation Control Plan (ESC) and Storm Water Pollution Prevention Plan (SWPPP) posted on the site.
- Begin site clearing/construction (or demolition) activities.
- In the Barton Springs Zone, the Environmental Project Manager or Site Supervisor will schedule a mid-construction conference to coordinate changes in the construction schedule and evaluate effectiveness of the erosion control plan after possible construction alterations to the site. Participants shall include the City Inspector, Project Engineer, General Contractor and Environmental Project Manager or Site Supervisor. The anticipated completion date and final construction sequence and inspection schedule will be coordinated with the appropriate City Inspector.
- Permanent water quality ponds or controls will be cleaned out and filter media will be installed prior to/concurrently with revegetation of site.
- Complete construction and start revegetation of the site and installation of landscaping.
- Upon completion of the site construction and revegetation of a project site, the design engineer shall submit an engineer's letter of concurrence bearing the engineer's seal, signature, and date to the Development Services Department indicating that construction, including revegetation, is complete and in substantial compliance with the approved plans. After receiving this letter, a final inspection will be scheduled by the appropriate City inspector.
- Upon completion of landscape installation of a project site, the Landscape Architect shall submit a letter of concurrence to the Development Services Department indicating that the required landscaping is complete and in substantial conformity with the approved plans. After receiving this letter, a final inspection will be scheduled by the appropriate City inspector.
- After a final inspection has been conducted by the City inspector and with approval from the City inspector, remove the temporary erosion and sedimentation controls and complete any necessary final revegetation resulting from removal of the controls. Conduct any maintenance and rehabilitation of the water quality ponds or controls.

Source: Rule No. [R161-17.03](#), 3-2-2017.

**ORDINANCE REQUIREMENTS**

- ALL IMPROVEMENTS SHALL BE MADE IN ACCORDANCE WITH THE RELEASED SITE PLAN. ANY ADDITIONAL IMPROVEMENTS WILL REQUIRE A
- APPROVAL OF THIS SITE PLAN DOES NOT INCLUDE BUILDING CODE APPROVAL; FIRE CODE APPROVAL; OR BUILDING, DEMOLITION, OR
- RELOCATION PERMITS APPROVAL. A CITY DEMOLITION OR RELOCATION PERMIT CAN ONLY BE ISSUED ONCE THE HISTORIC REVIEW PROCESS IS COMPLETED.
- ALL SIGNS MUST COMPLY WITH THE REQUIREMENTS OF THE LAND DEVELOPMENT CODE.
- THE OWNER IS RESPONSIBLE FOR ALL COSTS OF RELOCATION OF, OR DAMAGE TO, UTILITIES.
- ADDITIONAL ELECTRIC EASEMENTS MAY BE REQUIRED AT A LATER DATE.
- A DEVELOPMENT PERMIT MUST BE ISSUED PRIOR TO AN APPLICATION FOR BUILDING PERMIT FOR NON-CONSOLIDATED OR COMMISSION
- APPROVED SITE PLANS.
- WATER AND WASTEWATER SERVICE WILL BE PROVIDED BY THE CITY OF AUSTIN.
- NO CERTIFICATE OF OCCUPANCY MAY BE ISSUED FOR THE PROPOSED RESIDENTIAL CONDOMINIUM PROJECT UNTIL THE OTHER OWNERS OF THE PROPERTY HAVE COMPLIED WITH CHAPTER 81 AND 82 OF THE PROPERTY CODE OF THE STATE OF TEXAS OR ANY OTHER STATUTES ENACTED BY THE STATE CONCERNING CONDOMINIUMS.
- FOR CONSTRUCTION WITHIN THE RIGHT-OF-WAY, A ROW EXCAVATION PERMIT IS REQUIRED.
- COMPLIANCE WITH THE COMMERCIAL AND MULTI-FAMILY RECYCLING ORDINANCE IS MANDATORY FOR MULTI-FAMILY COMPLEXES AND BUSINESSES AND OFFICE BUILDINGS.

**COMPATIBILITY (IF APPLICABLE)**

- HIGHLY REFLECTIVE MATERIALS WILL NOT BE USED. MATERIALS MAY NOT EXCEED 20% REFLECTIVITY. THIS REQUIREMENT SHALL NOT APPLY TO SOLAR PANELS OR TO COPPER OR PAINTED METAL ROOFS. THE NOISE LEVEL OF MECHANICAL EQUIPMENT WILL NOT EXCEED TO D.B.A. AT THE PROPERTY LINE ADJACENT TO RESIDENTIAL USES. ALL EXTERIOR LIGHTING SHALL BE HOODED OR SHIELDED FROM THE VIEW OF ADJACENT RESIDENTIAL USES, OR PROPERTY ZONED RESIDENTIAL. EXTERIOR LIGHTING ABOVE THE SECOND FLOOR IS PROHIBITED WHEN ADJACENT TO RESIDENTIAL PROPERTY. ALL DUMPSTERS AND ANY PERMANENTLY PLACED REFUSE RECEPTACLES WILL BE LOCATED AT A MINIMUM OF TWENTY (20) FEET FROM A PROPERTY USED OR ZONED AS SF-5 OR MORE RESTRICTIVE.

**DEPARTMENT**

THE AUSTIN FIRE DEPARTMENT REQUIRES ASPHALT OR CONCRETE PAVEMENT PRIOR TO CONSTRUCTION AS AN "ALL-WEATHER DRIVING SURFACE." HYDRANTS MUST BE INSTALLED WITH THE CENTER OF THE FOUR-INCH OPENING AT LEAST 18 INCHES ABOVE FINISHED GRADE. THE FOUR-INCH OPENING MUST FACE THE DRIVEWAY OR STREET WITH THREE-TO SIX-FOOT SETBACKS FROM THE CURBLINE(S). NO OBSTRUCTION IS ALLOWED WITHIN THREE FEET OF ANY HYDRANT AND THE FOUR-INCH OPENING MUST BE TOTALLY UNOBSTRUCTED FROM THE STREET. TIMING OF INSTALLATION: WHEN FIRE PROTECTION FACILITIES ARE INSTALLED BY THE DEVELOPER, SUCH FACILITIES SHALL INCLUDE ALL SURFACE ACCESS ROADS WHICH SHALL BE INSTALLED AND MADE SERVICEABLE PRIOR TO AND DURING THE TIME OF CONSTRUCTION, WHERE ALTERNATIVE METHODS OF PROTECTION, AS APPROVED BY THE FIRE CHIEF, ARE PROVIDED, THE ABOVE MAY BE MODIFIED OR WAIVED. ALL PERVIOUS/DECORATIVE PAVING SHALL BE ENGINEERED AND INSTALLED FOR 80,000 LB. LIVE-VEHICLE LOADS. ANY PERVIOUS/DECORATIVE PAVING WITHIN 100 FEET OF ANY BUILDING MUST BE APPROVED BY THE FIRE DEPARTMENT. COMMERCIAL DUMPSTERS AND CONTAINERS WITH AN INDIVIDUAL CAPACITY OF 1.5 CUBIC YARDS OR GREATER SHALL NOT BE STORED OR PLACED WITHIN TEN FEET OF OPENINGS, COMBUSTIBLE WALLS, OR COMBUSTIBLE EALE LINES.

**OF AUSTIN | NON-CONSOLIDATED SITE PLAN APPLICATION INSTRUCTIONS 7/9/20 | PAGE 29 OF 34**

FIRE LANES DESIGNATED ON SITE PLAN SHALL BE REGISTERED WITH CITY OF AUSTIN FIRE MARSHAL'S OFFICE AND INSPECTED FOR FINAL APPROVAL. VERTICAL CLEARANCE REQUIRED FOR FIRE APPARATUS IS 14 FEET FOR FULL WIDTH OF ACCESS DRIVE.

**FINAL CONSTRUCTION NOTES**

ALL RESPONSIBILITY FOR THE ADEQUACY OF THESE PLANS REMAINS WITH THE ENGINEER WHO PREPARED THEM. IN REVIEWING THESE PLANS, THE CITY OF AUSTIN MUST RELY ON THE ADEQUACY OF THE WORK OF THE DESIGN ENGINEER. CONTRACTOR SHALL CALL TEXAS 811 (811 OR 1-800-344-4377) FOR UTILITY LOCATIONS PRIOR TO ANY WORK IN CITY EASEMENTS OR STREET R.O.W. CONTRACTOR SHALL NOTIFY THE CITY OF AUSTIN - SITE & SUBDIVISION DIVISION TO SUBMIT REQUIRED DOCUMENTATION, PAY CONSTRUCTION INSPECTION FEES, AND TO SCHEDULE THE REQUIRED SITE AND SUBDIVISION PRE-CONSTRUCTION MEETING. THIS MEETING MUST BE HELD PRIOR TO ANY CONSTRUCTION ACTIVITIES WITHIN THE R.O.W. OR PUBLIC EASEMENTS. PLEASE VISIT [HTTP://AUSTINTEXAS.GOV/PAGE/COMMERCIAL-SITE-AND-SUBDIVISION-INSPECTIONS](http://austintexas.gov/page/commercial-site-and-subdivision-inspections) FOR A LIST OF SUBMITTAL REQUIREMENTS, INFORMATION CONCERNING FEES, AND CONTACT INFORMATION. FOR SLOPES OR TRENCHES GREATER THAN FIVE FEET IN DEPTH, A NOTE MUST BE ADDED STATING: "ALL CONSTRUCTION OPERATIONS SHALL BE ACCOMPLISHED IN ACCORDANCE WITH APPLICABLE REGULATIONS OF THE U.S. OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION." (OSHA STANDARDS MAY BE PURCHASED FROM THE GOVERNMENT PRINTING OFFICE; INFORMATION AND RELATED REFERENCE MATERIALS MAY BE PURCHASED FROM OSHA, 611 EAST 6TH STREET, AUSTIN TEXAS.) ALL SITE WORK MUST ALSO COMPLY WITH ENVIRONMENTAL REQUIREMENTS. UPON COMPLETION OF THE PROPOSED SITE IMPROVEMENTS AND PRIOR TO THE FOLLOWING, THE ENGINEER SHALL CERTIFY IN WRITING THAT THE PROPOSED DRAINAGE, FILTRATION AND DETENTION FACILITIES WERE CONSTRUCTED IN CONFORMANCE WITH THE APPROVED PLANS:

- RELEASE OF THE CERTIFICATE OF OCCUPANCY BY THE DEVELOPMENT SERVICES DEPARTMENT (INSIDE THE CITY LIMITS); OR
- INSTALLATION OF AN ELECTRIC OR WATER METER (IN THE FIVE-MILE ETC.)

**LANDSCAPING**

UCT SITE CLEARING OPERATIONS TO THE EXTENT SHOWN ON THE DRAWINGS, INCLUDING BUT NOT LIMITED TO: REMOVAL OF TREES AND R VEGETATION, TOPSOIL STRIPPING, CLEARING AND GRUBBING, AND REMOVAL ALL IMPROVEMENTS ABOVE OR BELOW GRADE. REFER TO EOTECHNICAL REPORT FOR THIS PROJECT FOR ADDITIONAL SITE PREPARATION REQUIREMENTS.

**JTION**

SITE CLEARING OPERATIONS SHALL NOT DAMAGE OR INTERFERE WITH THE PUBLIC USE OF ROADS, WALKS, ADJACENT LAND OR FACILITIES AND EXISTING IMPROVEMENTS INTENDED TO REMAIN. EXISTING TREES TO REMAIN SHALL BE PROTECTED IN COMPLIANCE WITH - LANDSCAPE PLANS. CONTRACTOR SHALL REMOVE TREES, SHRUBS, GRASS AND OTHER VEGETATION, IMPROVEMENTS OR OBSTRUCTIONS INTERFERING WITH THE INSTALLATION OF NEW CONSTRUCTION OR AS SHOWN ON PLANS. CLEARING OPERATIONS SHALL INCLUDE REMOVAL OF STUMPS AND ROOTS. CONTRACTOR SHALL STRIP TOPSOIL IN A MANNER APPROPRIATE TO SEGREGATE FROM UNDERLYING SUBSOIL. TOPSOIL STRIPPING NEAR TREES INTENDED TO REMAIN SHALL BE COMPLETED IN COMPLIANCE LANDSCAPE PLANS. CONTRACTOR SHALL STRIP TOPSOIL IN A MANNER APPROPRIATE TO SEGREGATE FROM UNDERLYING SUBSOIL. TOPSOIL STRIPPING NEAR TREES INTENDED TO REMAIN SHALL BE COMPLETED IN COMPLIANCE LANDSCAPE PLANS. SPOIL SHALL BE STORED ONLY IN AREAS SHOWN ON THE PLANS AND SHALL BE MAINTAINED IN ACCORDANCE WITH APPLICABLE POLLUTION PREVENTION PLANS OR PERMITS. WASTE MATERIAL OR EXCESS TOPSOIL GENERATED AS A RESULT OF CLEARING AND GRADING OPERATIONS SHALL BECOME THE PROPERTY OF THE CONTRACTOR. APPROPRIATE DISPOSAL OF ALL SPOIL MATERIAL SHALL BE AT THE CONTRACTOR'S EXPENSE. BURNING ON THE OWNERS PROPERTY IS NOT PERMITTED.

**DEMOLITION NOTES**

- EXPLOSIVES: THE USE OF EXPLOSIVES WILL NOT BE PERMITTED.
- TRAFFIC: CONDUCT DEMOLITION OPERATIONS AND THE REMOVAL OF DEBRIS TO ENSURE MINIMUM INTERFERENCE WITH ROADS, STREETS, WALKS, AND ADJACENT OCCUPIED OR USED FACILITIES.
- PROTECTION: ENSURE THE SAFE PASSAGE OF PERSONS AROUND THE AREA OF DEMOLITION. CONDUCT OPERATIONS TO PREVENT INJURY TO ADJACENT BUILDINGS, STRUCTURES, FACILITIES, AND PERSONS.
- DAMAGES: PROMPTLY REPAIR DAMAGES CAUSED TO ADJACENT FACILITIES BY DEMOLITION OPERATIONS AT NO COST TO OWNER.
- UTILITY SERVICES: THE CONTRACTOR WILL DISCONNECT AND SEAL THE UTILITIES SERVING STRUCTURE(S) TO BE DEMOLISHED, PRIOR TO START OF DEMOLITION WORK.
- REMOVE FROM THE SITE DEBRIS, RUBBISH AND MATERIALS RESULTING FROM DEMOLITION OPERATIONS.
- BURNING ON-SITE WILL ONLY BE ALLOWED IF APPROVED BY THE EPA AND LOCAL AUTHORITIES HAVING JURISDICTION. OTHERWISE, MATERIAL SHALL BE REMOVED FROM THE SITE AND DISPOSED OF IN AN APPROPRIATE MANNER MEETING LOCAL, STATE, AND FEDERAL

**GUIDELINES**

- ALL REMOVED MATERIALS SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE DISPOSED OF IN A LEGAL, ENVIRONMENTALLY SAFE MANNER; RECYCLING OR SALVAGE OF MATERIALS IS STRONGLY RECOMMENDED AND ENCOURAGED - SEE

**MATERIAL SALVAGE NOTES**

- POLLUTION CONTROLS: USE WATER SPRINKLING AND TEMPORARY ENCLOSURES TO LIMIT THE AMOUNT OF DUST AND DIRT RISING IN THE AIR TO THE LOWEST PRACTICAL LEVEL. DO NOT USE WATER WHEN IT MAY CREATE HAZARDOUS CONDITIONS, ICE, FLOODING, OR POLLUTION.
- CLEAN ADJACENT STRUCTURES AND IMPROVEMENTS OF DUST, DIRT, AND DEBRIS CAUSED BY DEMOLITION OPERATIONS. RETURN ADJACENT AREAS TO CONDITION EXISTING PRIOR TO THE START OF THE WORK.
- ITEMS OF SALVAGEABLE VALUE AND NOT USABLE FOR SITE INFRASTRUCTURE MAY BE REMOVED FROM THE STRUCTURE AND/OR SITE AND WILL BECOME THE PROPERTY OF THE CONTRACTOR. SALVAGEABLE ITEMS MUST BE REMOVED FROM THE STRUCTURE AND/OR SITE AS THE WORK PROGRESSES. STORAGE OR SALVAGE OF REMOVED ITEMS ON THE SITE WILL NOT BE PERMITTED.
- OWNER SHALL RECEIVE CREDIT FOR ITEMS OF SALVAGEABLE VALUE AND USABLE FOR SITE INFRASTRUCTURE.

**EROSION CONTROL NOTES**

- THE CONTRACTOR SHALL INSTALL EROSION/SEDIMENTATION CONTROLS, TREE/NATURAL AREA PROTECTIVE FENCING, AND CONDUCT "PRE-CONSTRUCTION" TREE FERTILIZATION (IF APPLICABLE) PRIOR TO ANY SITE PREPARATION WORK (CLEARING, GRUBBING OR EXCAVATION).
- THE PLACEMENT OF EROSION/SEDIMENTATION CONTROLS SHALL BE IN ACCORDANCE WITH THE ENVIRONMENTAL CRITERIA MANUAL AND THE APPROVED EROSION AND SEDIMENTATION CONTROL PLAN. THE COA ESC PLAN SHALL BE CONSULTED AND USED AS THE BASIS FOR A TPDES REQUIRED SWPPP. IF A SWPPP IS REQUIRED, IT SHALL BE AVAILABLE FOR REVIEW BY THE CITY OF AUSTIN ENVIRONMENTAL INSPECTOR AT ALL TIMES DURING CONSTRUCTION, INCLUDING AT THE PRE-CONSTRUCTION MEETING. THE CHECKLIST BELOW CONTAINS THE BASIC ELEMENTS THAT SHALL BE REVIEWED FOR PERMIT APPROVAL BY COA EV PLAN REVIEWERS AS WELL AS COA EV INSPECTORS.

**PLAN SHEETS SUBMITTED TO THE CITY OF AUSTIN MUST SHOW THE FOLLOWING:**

- DIRECTION OF FLOW DURING GRADING OPERATIONS.
- LOCATION, DESCRIPTION, AND CALCULATIONS FOR OFF-SITE FLOW DIVERSION STRUCTURES.
- AREAS THAT WILL NOT BE DISTURBED; NATURAL FEATURES TO BE PRESERVED.
- DELINEATION OF CONTRIBUTING DRAINAGE AREA TO EACH PROPOSED BMP (E.G., SILT FENCE, SEDIMENT BASIN, ETC.)
- LOCATION AND TYPE OF E&S BMPS FOR EACH PHASE OF DISTURBANCE.
- CALCULATIONS FOR BMPS AS REQUIRED.
- LOCATION AND DESCRIPTION OF TEMPORARY STABILIZATION MEASURES.
- LOCATION OF ON-SITE SPOILS, DESCRIPTION OF HANDLING AND DISPOSAL OF BORROW MATERIALS, AND DESCRIPTION OF ON-SITE PERMANENT SPOILS DISPOSAL AREAS, INCLUDING SIZE, DEPTH OF FILL AND REVEGETATION PROCEDURES.

**DESCRIBE SEQUENCE OF CONSTRUCTION AS IT PERTAINS TO ESC INCLUDING THE FOLLOWING ELEMENTS:**

- INSTALLATION SEQUENCE OF CONTROLS (E.G. PERIMETER CONTROLS, THEN SEDIMENT BASINS, THEN TEMPORARY STABILIZATION, THEN PERMITMENT, ETC.)
  - PROJECT PHASING (IF REQUIRED) (LOC GREATER THAN 25 ACRES)
  - SEQUENCE OF GRADING OPERATIONS AND NOTATION OF TEMPORARY STABILIZATION MEASURES TO BE USED
  - SCHEDULE FOR CONVERTING TEMPORARY BASINS TO PERMANENT WQ CONTROLS
  - SCHEDULE FOR REMOVAL OF TEMPORARY CONTROLS
  - ANTICIPATED MAINTENANCE SCHEDULE FOR TEMPORARY CONTROLS
- CATEGORIZE EACH BMP UNDER ONE OF THE FOLLOWING AREAS OF BMP ACTIVITY AS DESCRIBED BELOW:
- MINIMIZE DISTURBED AREA AND PROTECT NATURAL FEATURES AND SOIL
  - CONTROL STORMWATER FLOWING ONTO AND THROUGH THE PROJECT
  - STABILIZE SOILS
  - PROTECT SLOPES
  - PROTECT STORM DRAIN INLETS
  - ESTABLISH PERIMETER CONTROLS AND SEDIMENT BARRIERS
  - RETAIN SEDIMENT ON-SITE AND CONTROL DEWATERING PRACTICES
  - ESTABLISH STABILIZED CONSTRUCTION EXITS
  - ANY ADDITIONAL BMPS

- NOTE THE LOCATION OF EACH BMP ON YOUR SITE MAP(S).
- FOR ANY STRUCTURAL BMPS, YOU SHOULD PROVIDE DESIGN SPECIFICATIONS AND DETAILS AND REFER TO THEM.
- FOR MORE INFORMATION, SEE CITY OF AUSTIN ENVIRONMENTAL CRITERIA MANUAL 1.4.

- THE PLACEMENT OF TREE/NATURAL AREA PROTECTIVE FENCING SHALL BE IN ACCORDANCE WITH THE CITY OF AUSTIN STANDARD NOTES FOR TREE AND NATURAL AREA PROTECTION AND THE APPROVED GRADING/TREE AND NATURAL AREA PLAN.
- A PRE-CONSTRUCTION CONFERENCE SHALL BE HELD ON-SITE WITH THE CONTRACTOR, DESIGN ENGINEER/PERMIT APPLICANT AND ENVIRONMENTAL INSPECTOR AFTER INSTALLATION OF THE EROSION/SEDIMENTATION CONTROLS, TREE/NATURAL AREA PROTECTION MEASURES AND "PRE-CONSTRUCTION" TREE FERTILIZATION (IF APPLICABLE) PRIOR TO BEGINNING ANY SITE PREPARATION WORK. THE OWNER OR OWNER'S REPRESENTATIVE SHALL NOTIFY THE DEVELOPMENT SERVICES DEPARTMENT, 512-974-2278 OR BY EMAIL AT [ENVIRONMENTAL.INSPECTIONS@AUSTINTEXAS.GOV](mailto:ENVIRONMENTAL.INSPECTIONS@AUSTINTEXAS.GOV), AT LEAST THREE DAYS PRIOR TO THE MEETING DATE. COA APPROVED ESC PLAN AND TPDES SWPPP (IF REQUIRED) SHOULD BE REVIEWED BY COA EV INSPECTOR AT THIS TIME.
- ANY MAJOR VARIATION IN MATERIALS OR LOCATIONS OF CONTROLS OR FENCES FROM THOSE SHOWN ON THE APPROVED PLANS WILL REQUIRE A REVISION AND MUST BE APPROVED BY THE REVIEWING ENGINEER, ENVIRONMENTAL SPECIALIST OR CITY ARBORIST AS APPROPRIATE. MAJOR REVISIONS MUST BE APPROVED BY AUTHORIZED COA STAFF. MINOR CHANGES TO BE MADE AS FIELD REVISIONS TO THE EROSION AND SEDIMENTATION CONTROL PLAN MAY BE REQUIRED BY THE ENVIRONMENTAL INSPECTOR DURING THE COURSE OF CONSTRUCTION TO CORRECT CONTROL INADEQUACIES.

- THE CONTRACTOR IS REQUIRED TO PROVIDE A CERTIFIED INSPECTOR THAT IS EITHER A LICENSED ENGINEER (OR PERSON DIRECTLY SUPERVISED BY THE LICENSED ENGINEER) OR CERTIFIED PROFESSIONAL IN EROSION AND SEDIMENT CONTROL (CPESC OR CPESC - IT), CERTIFIED EROSION, SEDIMENT AND STORMWATER - INSPECTOR (CESSWI OR CESSWI - IT) OR CERTIFIED INSPECTOR OF SEDIMENTATION AND EROSION CONTROLS (CISEC OR CISEC - IT) CERTIFICATION TO INSPECT THE CONTROLS AND FENCES AT WEEKLY OR BI-WEEKLY INTERVALS AND AFTER ONE-HALF (½) INCH OR GREATER RAINFALL EVENTS TO INSURE THAT THEY ARE FUNCTIONING PROPERLY. THE PERSON(S) RESPONSIBLE FOR MAINTENANCE OF CONTROLS AND FENCES SHALL IMMEDIATELY MAKE ANY NECESSARY REPAIRS TO DAMAGED AREAS. SILT ACCUMULATION AT CONTROLS MUST BE REMOVED WHEN THE DEPTH REACHES SIX (6) INCHES OR ONE-THIRD (⅓) OF THE INSTALLED HEIGHT OF THE CONTROL WHICHEVER IS LESS.

- PRIOR TO FINAL ACCEPTANCE BY THE CITY, HALL ROADS AND WATERWAY CROSSINGS CONSTRUCTED FOR TEMPORARY CONTRACTOR ACCESS MUST BE REMOVED, ACCUMULATED SEDIMENT REMOVED FROM THE WATERWAY AND THE AREA RESTORED TO THE ORIGINAL GRADE AND REVEGETATED. ALL LAND CLEARING DEBRIS SHALL BE DISPOSED OF IN APPROVED SPOIL DISPOSAL SITES.

- ALL WORK MUST STOP IF A VOID IN THE ROCK SUBSTRATE IS DISCOVERED WHICH IS; ONE SQUARE FOOT IN TOTAL AREA; BLOWS AIR FROM WITHIN THE SUBSTRATE AND/OR CONSISTENTLY RECEIVES WATER DURING ANY RAIN EVENT. AT THIS TIME IT IS THE RESPONSIBILITY OF THE PROJECT MANAGER TO IMMEDIATELY CONTACT A CITY OF AUSTIN ENVIRONMENTAL INSPECTOR FOR FURTHER INVESTIGATION. IN ADDITION, IF THE PROJECT SITE IS LOCATED WITHIN THE EDWARDS AQUIFER, THE PROJECT MANAGER MUST NOTIFY THE TRAVIS COUNTY BALCONES CANYONLANDS CONSERVATION PRESERVE (BCCP) BY EMAIL AT [bccp@traviscountytx.gov](mailto:bccp@traviscountytx.gov). CONSTRUCTION ACTIVITIES WITHIN 50 FEET OF THE VOID MUST STOP.

- TEMPORARY AND PERMANENT EROSION CONTROL: ALL DISTURBED AREAS SHALL BE RESTORED AS NOTED BELOW:

- ALL DISTURBED AREAS TO BE REVEGETATED ARE REQUIRED TO PLACE A MINIMUM OF SIX (6) INCHES OF TOPSOIL [SEE STANDARD SPECIFICATION ITEM NO. 601S.3(A)]. DO NOT ADD TOPSOIL WITHIN THE CRITICAL ROOT ZONE OF EXISTING TREES.
  - TOPSOIL SALVAGED FROM THE EXISTING SITE IS ENCOURAGED FOR USE, BUT IT SHOULD MEET THE STANDARDS SET FORTH IN 601S.

AN OWNER/ENGINEER MAY PROPOSE USE OF ONSITE SALVAGED TOPSOIL WHICH DOES NOT MEET THE CRITERIA OF STANDARD SPECIFICATION 601S BY PROVIDING A SOIL ANALYSIS AND A WRITTEN STATEMENT FROM A QUALIFIED PROFESSIONAL IN SOILS, LANDSCAPE ARCHITECTURE, OR AGRONOMY INDICATING THE ONSITE TOPSOIL WILL PROVIDE AN EQUIVALENT GROWTH MEDIA AND SPECIFYING WHAT, IF ANY, SOIL AMENDMENTS ARE REQUIRED.

  - SOIL AMENDMENTS SHALL BE WORKED INTO THE EXISTING ONSITE TOPSOIL WITH A DISC OR TILLER TO CREATE A WELL-BLENDED MATERIAL.

THE VEGETATIVE STABILIZATION OF AREAS DISTURBED BY CONSTRUCTION SHALL BE AS FOLLOWS:

**TEMPORARY VEGETATIVE STABILIZATION:**

- FROM SEPTEMBER 15 TO MARCH 1, SEEDING SHALL BE WITH OR INCLUDE A COOL SEASON COVER CROP; (WESTERN WHEATGRASS ( *PASCOPYRUM SMITHII*) AT 5.5 POUNDS PER ACRE, OATS ( *AVENA SATIVA*) AT 4.0 POUNDS PER ACRE, CEREAL RYE GRAIN ( *SECALE CEREALE*) AT 45 POUNDS PER ACRE. CONTRACTOR MUST ENSURE THAT ANY SEED APPLICATION REQUIRING A COOL SEASON COVER CROP DOES NOT UTILIZE ANNUAL RYEGRASS ( *LOLIUM MULTIFLORUM*) OR PERENNIAL RYEGRASS ( *LOLIUM PERENNE*). COOL SEASON COVER CROPS ARE NOT PERMANENT EROSION CONTROL.
- FROM MARCH 2 TO SEPTEMBER 14, SEEDING SHALL BE WITH HULLED BERMUUDA AT A RATE OF 45 POUNDS PER ACRE OR A NATIVE PLANT SEED MIX CONFORMING TO ITEM 604S OR 609S.
  - FERTILIZER SHALL BE APPLIED ONLY IF WARRANTED BY A SOIL TEST AND SHALL CONFORM TO ITEM NO. 606S, FERTILIZER. FERTILIZATION SHOULD NOT OCCUR WHEN RAINFALL IS EXPECTED OR DURING SLOW PLANT GROWTH OR DORMANCY. CHEMICAL FERTILIZER MAY NOT BE APPLIED IN THE CRITICAL WATER QUALITY ZONE.
  - HYDROMULCH SHALL COMPLY WITH TABLE 1, BELOW.
  - TEMPORARY EROSION CONTROL SHALL BE ACCEPTABLE WHEN THE GRASS HAS GROWN AT LEAST 1½ INCHES HIGH WITH A MINIMUM OF 95% TOTAL COVERAGE SO THAT ALL AREAS OF A SITE THAT RELY ON VEGETATION FOR TEMPORARY STABILIZATION ARE UNIFORMLY VEGETATED, AND PROVIDED THERE ARE NO BARE SPOTS LARGER THAN 10 SQUARE FEET.
  - WHEN REQUIRED, NATIVE PLANT SEEDING SHALL COMPLY WITH REQUIREMENTS OF THE CITY OF AUSTIN ENVIRONMENTAL CRITERIA MANUAL, AND STANDARD SPECIFICATION 604S OR 609S.

TABLE 1: HYDROMULCHING FOR TEMPORARY VEGETATIVE STABILIZATION

MATERIAL	DESCRIPTION	LONGEVITY	TYPICAL APPLICATION	APPLICATION RATES
100% OR ANY BLEND OF WOOD, CELLULOSE, STRAW, AND/OR COTTON PLANT MATERIAL (EXCEPT NO MULCH SHALL EXCEED 30% PAPER)	70% OR GREATER WOOD/STRAW 30% OR LESS PAPER OR NATURAL FIBERS	0-3 MONTHS	MODERATE SLOPES; FROM FLAT TO 3:1 CONDITIONS	1500 TO 2000 LBS PER ACRE(S)

**PERMANENT VEGETATIVE STABILIZATION:**

- FROM SEPTEMBER 15 TO MARCH 1, SEEDING IS CONSIDERED TO BE TEMPORARY STABILIZATION ONLY. IF COOL SEASON COVER CROPS EXIST WHERE PERMANENT VEGETATIVE STABILIZATION IS DESIRED, THE GRASSES SHALL BE MOWED TO A HEIGHT OF LESS THAN ONE-HALF (½) INCH AND THE AREA SHALL BE RE-SEEDED IN ACCORDANCE WITH TABLE 2 BELOW. ALTERNATIVELY, THE COOL SEASON COVER CROP CAN BE MIXED WITH BERMUUDA GRASS OR NATIVE SEED AND INSTALLED TOGETHER, UNDERSTANDING THAT GERMINATION OF WARM-SEASON SEED TYPICALLY REQUIRES SOIL TEMPERATURES OF 60 TO 70 DEGREES.
- FROM MARCH 2 TO SEPTEMBER 14, SEEDING SHALL BE WITH HULLED BERMUUDA AT A RATE OF 45 POUNDS PER ACRE WITH A PURITY OF 95% AND A MINIMUM PURE LIVE SEED (PLS) OF 0.83. BERMUUDA GRASS IS A WARM SEASON GRASS AND IS CONSIDERED PERMANENT EROSION CONTROL. PERMANENT VEGETATIVE STABILIZATION CAN ALSO BE ACCOMPLISHED WITH A NATIVE PLANT SEED MIX CONFORMING TO ITEM 604S OR 609S.
  - FERTILIZER USE SHALL FOLLOW THE RECOMMENDATION OF A SOIL TEST. SEE ITEM 606S, FERTILIZER. APPLICATIONS OF FERTILIZER (AND PESTICIDE) ON CITY-OWNED AND MANAGED PROPERTY REQUIRES THE YEARLY SUBMITTAL OF A PESTICIDE AND FERTILIZER APPLICATION RECORD, ALONG WITH A CURRENT COPY OF THE APPLICATOR'S LICENSE. FOR CURRENT COPY OF THE RECORD TEMPLATE CONTACT THE CITY OF AUSTIN'S IPM COORDINATOR.
  - HYDROMULCH SHALL COMPLY WITH TABLE 2, BELOW.
  - WATER THE SEEDED AREAS IMMEDIATELY AFTER INSTALLATION TO ACHIEVE GERMINATION AND A HEALTHY STAND OF PLANTS THAT CAN ULTIMATELY SURVIVE WITHOUT SUPPLEMENTAL WATER. APPLY THE WATER UNIFORMLY TO THE PLANTED AREAS WITHOUT CAUSING DISPLACEMENT OR EROSION OF THE MATERIALS OR SOIL. MAINTAIN THE SEEDED IN A MOIST CONDITION FAVORABLE FOR PLANT GROWTH. ALL WATERING SHALL COMPLY WITH CITY CODE CHAPTER 6-4 (WATER CONSERVATION), AT RATES AND FREQUENCIES DETERMINED BY A LICENSED IRRIGATOR OR OTHER QUALIFIED PROFESSIONAL, AND AS ALLOWED BY THE AUSTIN WATER UTILITY AND CURRENT WATER RESTRICTIONS AND WATER CONSERVATION INITIATIVES.
  - PERMANENT EROSION CONTROL SHALL BE ACCEPTABLE WHEN THE GRASS HAS GROWN AT LEAST 1½ INCHES HIGH WITH A MINIMUM OF 95 PERCENT FOR THE NON-NATIVE MIX, AND 95 PERCENT COVERAGE FOR THE NATIVE MIX SO THAT ALL AREAS OF A SITE THAT RELY ON VEGETATION FOR STABILITY MUST BE UNIFORMLY VEGETATED, AND PROVIDED THERE ARE NO BARE SPOTS LARGER THAN 10 SQUARE FEET.
  - WHEN REQUIRED, NATIVE PLANT SEEDING SHALL COMPLY WITH REQUIREMENTS OF THE CITY OF AUSTIN ENVIRONMENTAL CRITERIA MANUAL, ITEMS 604S AND 609S.

TABLE 2: HYDROMULCHING FOR PERMANENT VEGETATIVE STABILIZATION

MATERIAL	DESCRIPTION	LONGEVITY	TYPICAL APPLICATION	APPLICATION RATES
BONDED FIBER MATRIX (BFM)	80% ORGANIC DEFIBRATED FIBERS			
10% TACKIFIER		6 MONTHS	ON SLOPES UP TO 2:1 AND EROISVE SOIL CONDITIONS	2,500 TO 4,000 LBS PER ACRE (SEE MANUFACTURER SPECIFICATION)
FIBER REINFORCED MATRIX (FRM)	65% ORGANIC DEFIBRATED FIBERS 25% REINFORCING FIBERS OR LESS 10% TACKIFIER	UP TO 12 MONTHS	ON SLOPES UP TO 1:1 AND EROISVE SOIL CONDITIONS	3000 TO 4500 LBS PER ACRE (SEE MANUFACTURERS RECOMMENDATIONS)

- DEVELOPER INFORMATION:  
OWNER: JOURNEYMAN GROUP  
ADDRESS: 1000 N. LAMAR B;VD, SUITE 400, AUSTIN, TEXAS 78703  
  
OWNER'S REPRESENTATIVE RESPONSIBLE FOR PLAN ALTERATIONS:  
LANDSCAPE ARCHITECT:  
BLU FISH COLLABORATIVE INC.  
3607 S. LAMAR BLVD, SUITE 104  
AUSTIN, TX 78704  
(512)-388-4115

PERSON OR FIRM RESPONSIBLE FOR EROSION/SEDIMENTATION CONTROL MAINTENANCE:

TBD \_\_\_\_\_ PHONE # \_\_\_\_\_

PERSON OR FIRM RESPONSIBLE FOR TREE/NATURAL AREA PROTECTION MAINTENANCE:

TBD \_\_\_\_\_ PHONE # \_\_\_\_\_

- THE CONTRACTOR SHALL NOT DISPOSE OF SURPLUS EXCAVATED MATERIAL FROM THE SITE WITHOUT NOTIFYING THE DEVELOPMENT SERVICES DEPARTMENT AT (512) 974-2278 AT LEAST 48 HOURS PRIOR WITH THE LOCATION AND A COPY OF THE PERMIT ISSUED TO RECEIVE THE MATERIAL.

**AVERY OAKS PARK**

**AVERY LAND INVESTORS LP**

9204 NORTH LAKE CREEK PKWY  
AUSTIN, TX, 78613



James R. McCann  
04/21/2023

COA PERMIT #: SP-2022-0441C

046-22-02  
05/12/2022

**GENERAL CONSTRUCTION NOTES**

SHEET NO.:

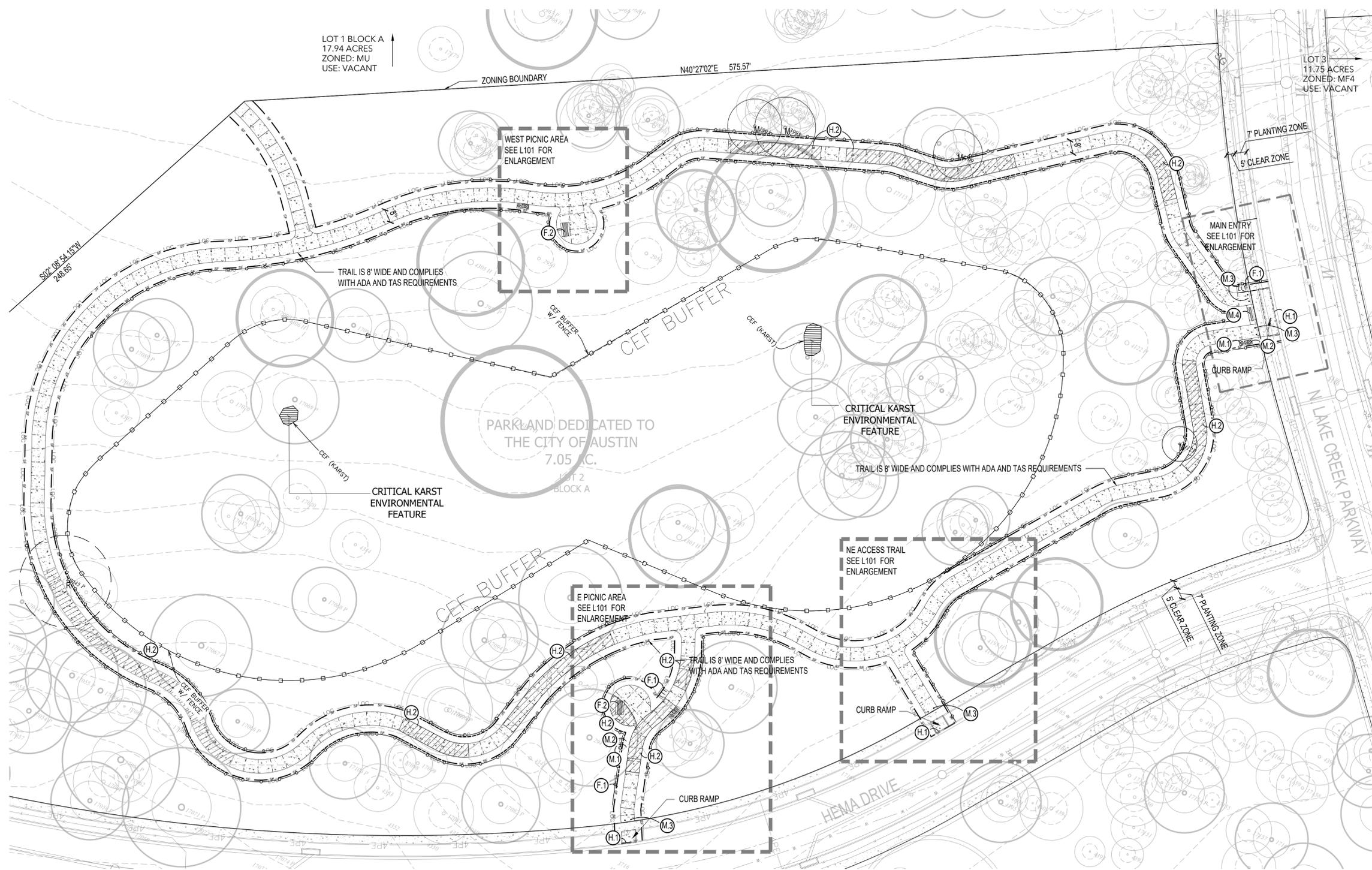
SITE PLAN RELEASE		Sheet	2 of 24
FILE NUMBER:	SP-2022-0441C	EXPIRATION DATE:	
CASE MANAGER:	JENNIFER BENNETT	APPLICATION DATE:	08/21/2022
APPROVED ADMINISTRATIVELY ON:			
APPROVED BY PLANNING COMMISSION ON:			
APPROVED BY CITY COUNCIL ON:			
Under Section 112 _____ of Chapter 255 _____ of the Austin City Code.			
Signing For Director, Development Services Department			
DATE OF RELEASE:	_____	ZONING:	MF-4
Rev. 1	_____	Correction 1	_____
Rev. 2	_____	Correction 2	_____
Rev. 3	_____	Correction 3	_____
RELEASE OF THIS APPLICATION DOES NOT CONSTITUTE A VERIFICATION OF ALL DATA, INFORMATION AND CALCULATIONS SUPPLIED BY THE APPLICANT. THE ENGINEER OF RECORD IS SOLELY RESPONSIBLE FOR THE COMPLETENESS, ACCURACY AND ADEQUACY OF HIS/HER SUBMITTAL, WHETHER OR NOT THE APPLICATION IS REVIEWED FOR CODE COMPLIANCE BY CITY ENGINEERS.			





LOT 1 BLOCK A  
17.94 ACRES  
ZONED: MU  
USE: VACANT

LOT 3  
11.75 ACRES  
ZONED: MF4  
USE: VACANT



**GENERAL CONSTRUCTION NOTES:**

- CONTRACTOR SHALL BE FAMILIAR WITH ALL EXISTING SITE CONDITIONS INCLUDING UNDERGROUND UTILITIES, PIPES, AND STRUCTURES.
- CONTRACTOR SHALL BE RESPONSIBLE FOR BODILY INJURY AND/OR ANY COST INCURRED DUE TO DAMAGE OF OWNER'S PROPERTY OR UTILITIES.
- CONTRACTOR IS RESPONSIBLE FOR CONTACTING ALL UTILITY COMPANIES PRIOR TO ANY EXCAVATION TO ENSURE UTILITIES ARE NOT DISTURBED. REFER TO CIVIL DRAWINGS FOR ALL SITE UTILITIES.
- ANY CONFLICTING INFORMATION SHALL BE BROUGHT TO THE ATTENTION OF THE LANDSCAPE ARCHITECT OR IT SHALL BE ASSUMED THAT THE CONTRACTOR CAN IMPLEMENT THE PLANS AS DRAWN AND SPECIFIED.
- EXISTING CONDITIONS ARE SHOWN SHADED BACK TO ALLOW ALL PROPOSED IMPROVEMENTS TO STAND OUT. EXISTING BASE INFORMATION HAS BEEN IMPORTED FROM CIVIL AND ARCHITECTURAL DRAWINGS. REFER TO THESE DRAWINGS FOR SUPPLEMENTAL INFORMATION.
- THE CONTRACTORS (GENERAL AND SUBCONTRACTORS) SHALL PROVIDE UNIT COSTS FOR ALL SOFTSCAPE AND HARDSCAPE MATERIAL SPECIFIED ON THE DRAWINGS AND SPECIFICATIONS. UNIT COSTS SHALL BE PROVIDED FOR MATERIALS AND INSTALLATION SEPARATELY. UNIT COSTS SHALL BE: 'EACH' FOR PLANT MATERIAL, 'SQ. FOOT' OR 'SQ. YARD' FOR PAVEMENTS, LINEAR FOOT FOR WALL AND FENCE, 'EACH' FOR SITE FURNISHINGS AND SITE AMENITIES, 'CUBIC YARD' OR 'CUBIC FOOT' FOR SOIL, MULCH AND OTHER BULK PRODUCTS AND 'EACH' OR 'LUMP SUM' FOR MISCELLANEOUS ITEMS. THE UNIT COST SHALL BE FORMATTED TO HAVE COLUMNS FOR: ITEMS, UNIT, UNIT COST, TOTAL ITEM COST.

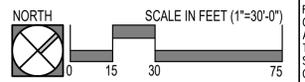
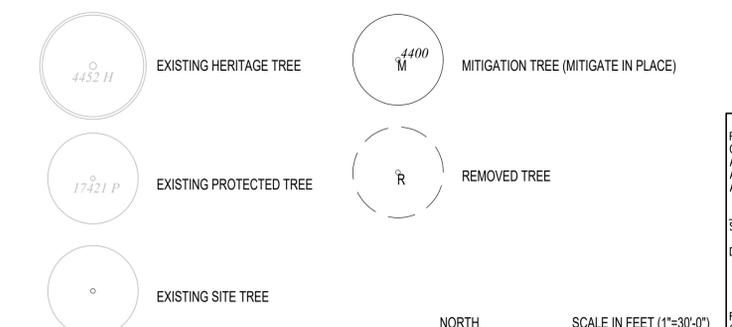
**KEY NOTES:**

- LOC — LIMITS OF CONSTRUCTION
  - ▨ HARDSCAPE - CONCRETE WALK REF. DET. 2/L300
  - +— CONSTRUCTION JOINT
  - +— EXPANSION JOINT
- \* REFER TO SHEET L300 FOR FULL MATERIALS SCHEDULE AND DETAIL SPECIFICATIONS.
- (H.1) CURB RAMP - SAW CUT AND REMOVE CURB SEE DETAIL 4/L301
  - (H.2) ROOTBRIDGE - SEE DETAIL 6/L301
  - (F.1) BICYCLE RACK, 6 SHORT-TERM SPACES EACH - SEE DETAIL 3/L302, 4/L302
  - (F.2) PICNIC TABLE AND BENCH - SEE DETAIL 1/L302
  - (M.1) PET STATION - SEE DETAIL 6/L302
  - (M.2) WASTE RECEPTACLES - SEE DETAILS 7/L302
  - (M.3) REMOVABLE BOLLARD - SEE DETAIL 2/L302
  - (M.4) PARK SIGNAGE - SEE DETAIL 5/L301

**SITE DATA TABLE**  
 TOTAL SITE AREA 7.05 ACRES  
 ZONING: MF-4  
 LAND USE: COMMUNITY RECREATION (PUBLIC)  
 TOTAL AREA WITHIN THE LIMITS OF CONSTRUCTION: .88 ACRES (38,187 SF)  
 IMPERVIOUS COVER EXISTING 0 ACRES  
 IMPERVIOUS COVER PROPOSED .04 ACRES

NOTE: NO BUILDINGS EXIST ON ADJOINING LOTS WITHIN 50 FEET OF THE SITE.

**TREE LEGEND KEY:**



BLU FISH COLLABORATIVE, INC.  
 P.O. BOX 40792, Austin, TX 78704  
 Phone: (512)388-4115



DATE SEALED: 06/06/2023  
 PROJECT NAME:  
**AVERY RANCH PARK**

OWNER:  
**AVERY LAND INVESTORS LP**

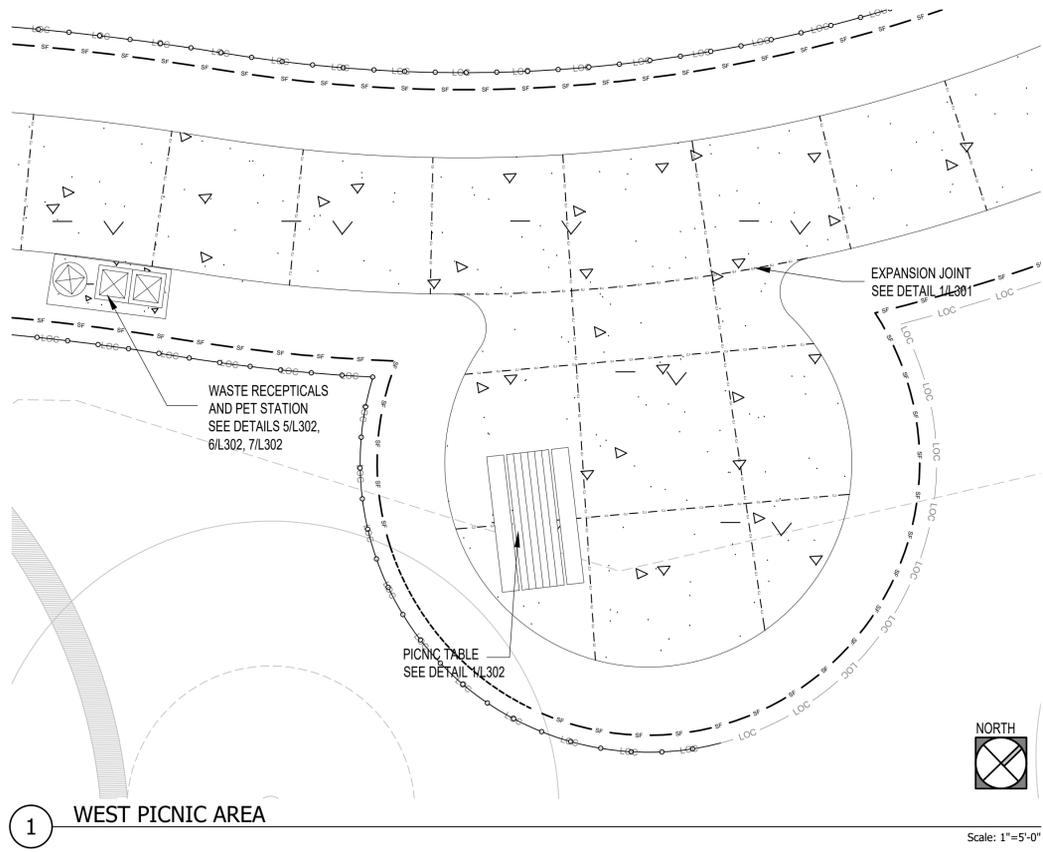
PROJECT LOCATION:  
**9204 NORTH LAKE CREEK PKWY  
 AUSTIN, TX, 78613**



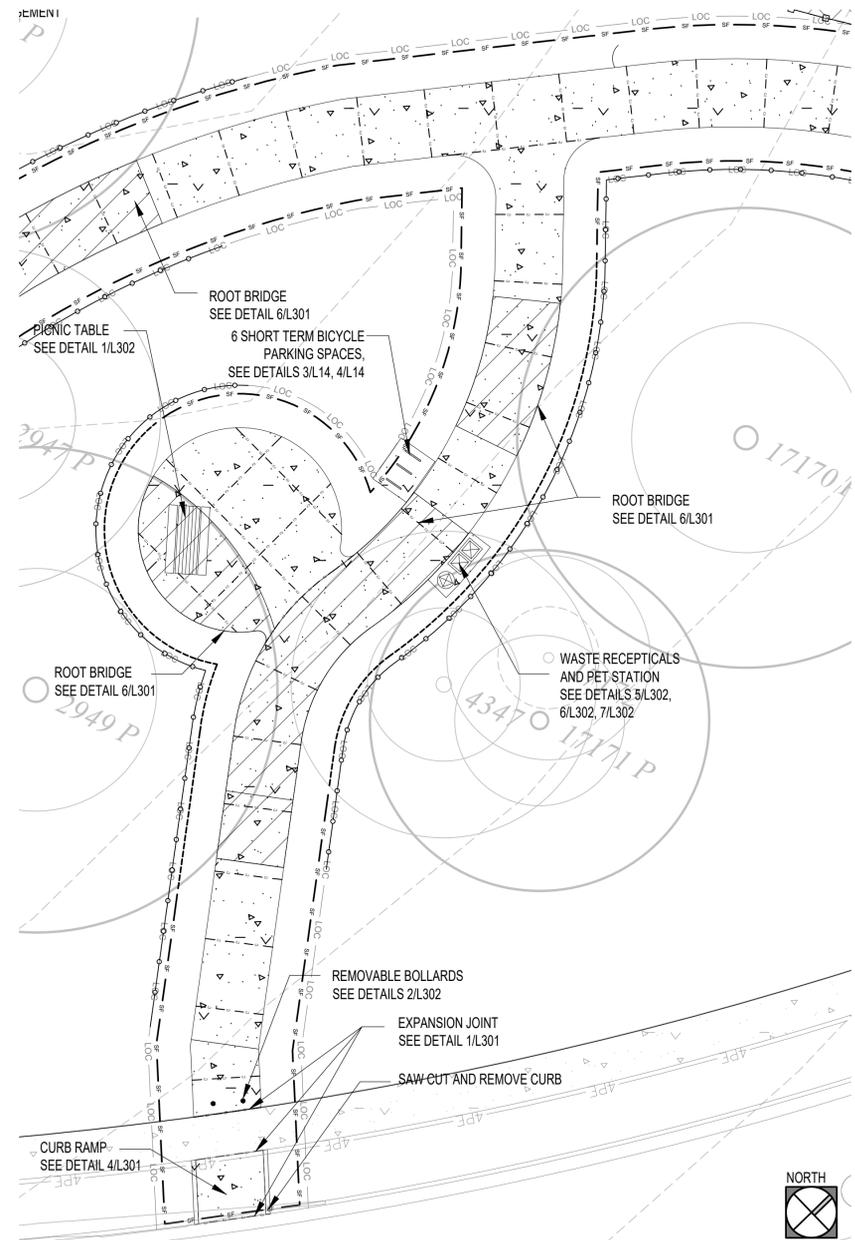
James R. McCann  
 04/21/2023

FILE NUMBER: SP-2022-0441C	SITE PLAN RELEASE	Sheet 5 of 24
CASE MANAGER: JENNIFER BENNETT	EXPIRATION DATE: 09/21/2022	
APPROVED BY PLANNING COMMISSION ON: _____		
APPROVED BY CITY COUNCIL ON: _____		
of Chapter 25-5 of the Austin City Code.		
Signing For Director, Development Services Department		
DATE OF RELEASE: _____	ZONING: MF-4	
	Correction 1	
	Correction 2	
	Correction 3	
RELEASE OF THIS APPLICATION DOES NOT CONSTITUTE A VERIFICATION OF ALL DATA. INFORMATION AND CALCULATIONS SUPPLIED BY THE APPLICANT. THE ENGINEER OF RECORD IS SOLELY RESPONSIBLE FOR THE COMPLETENESS, ACCURACY AND ADEQUACY OF HIS/HER SUBMITTAL, WHETHER OR NOT THE APPLICATION IS REVIEWED FOR CODE COMPLIANCE BY CITY ENGINEERS.		

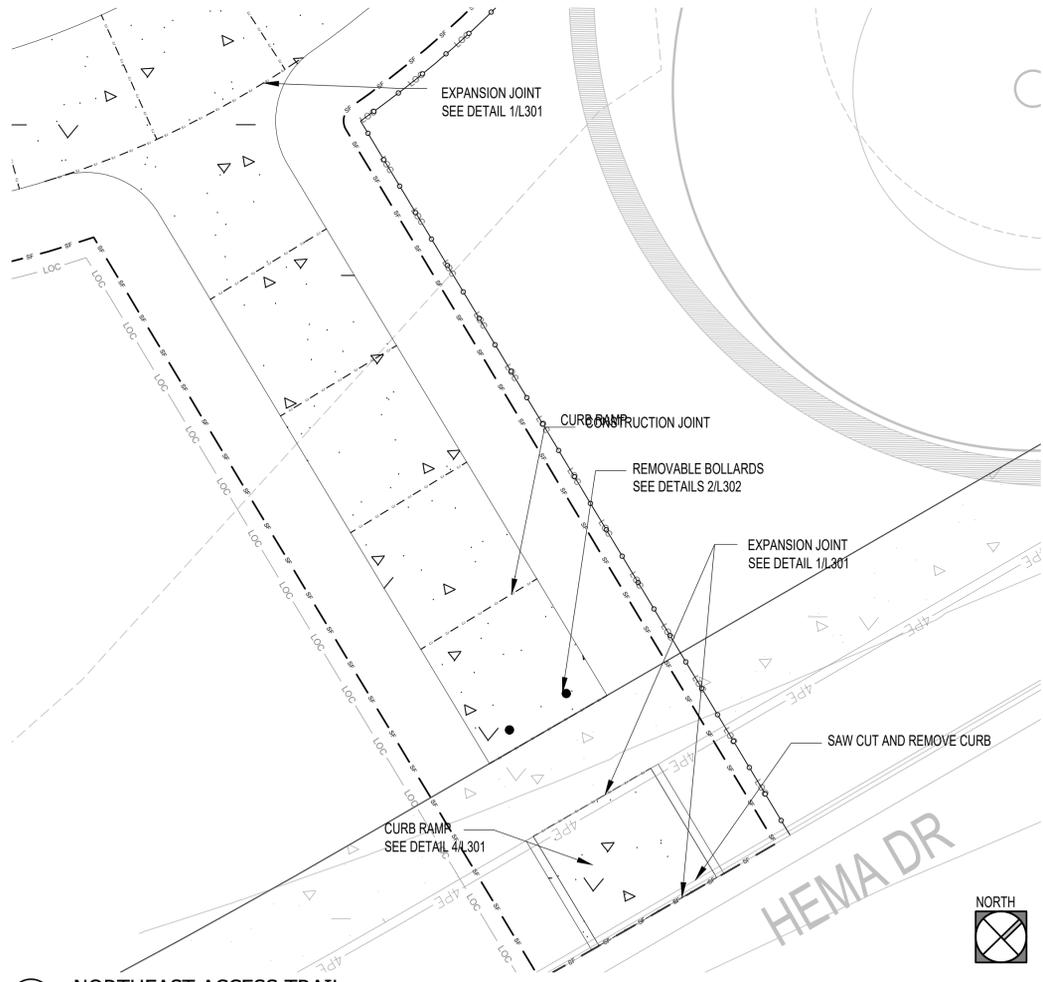
REVISIONS:  
 COA PERMIT #: SP-2022-0441C  
 PROJECT #: 046-22-02  
 DATE PRINTED: 05/12/2022  
 DRAWING TITLE:  
**HARDSCAPE PLAN - OVERALL**  
 SHEET NO:  
**5** of 24



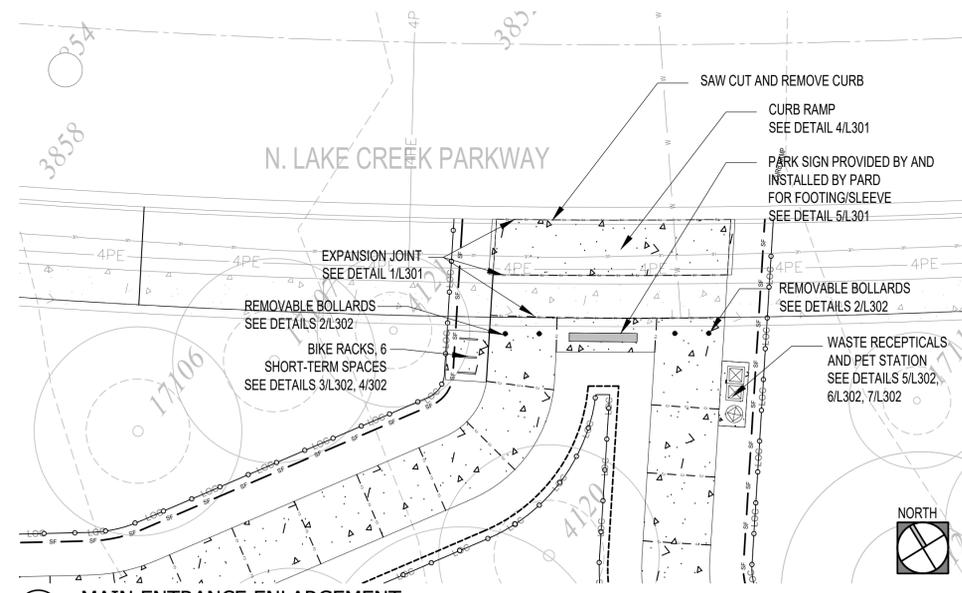
1 WEST PICNIC AREA



2 EAST PICNIC AREA



3 NORTHEAST ACCESS TRAIL



4 MAIN ENTRANCE ENLARGEMENT

TREE LEGEND KEY:

- EXISTING HERITAGE TREE
- EXISTING PROTECTED TREE
- EXISTING SITE TREE
- MITIGATION TREE (MITIGATE IN PLACE)
- REMOVED TREE



LANDSCAPE ARCHITECTURE  
BLU FISH COLLABORATIVE, INC.  
P.O. BOX 40792, AUSTIN, TX 78704  
Phone: (512)388-4115



PROJECT NAME:  
**AVERY RANCH PARK**

OWNER:  
**AVERY LAND INVESTORS LP**

PROJECT LOCATION:  
**9204 NORTH LAKE CREEK PKWY  
AUSTIN, TX, 78613**



James R. McCann  
04/21/2023

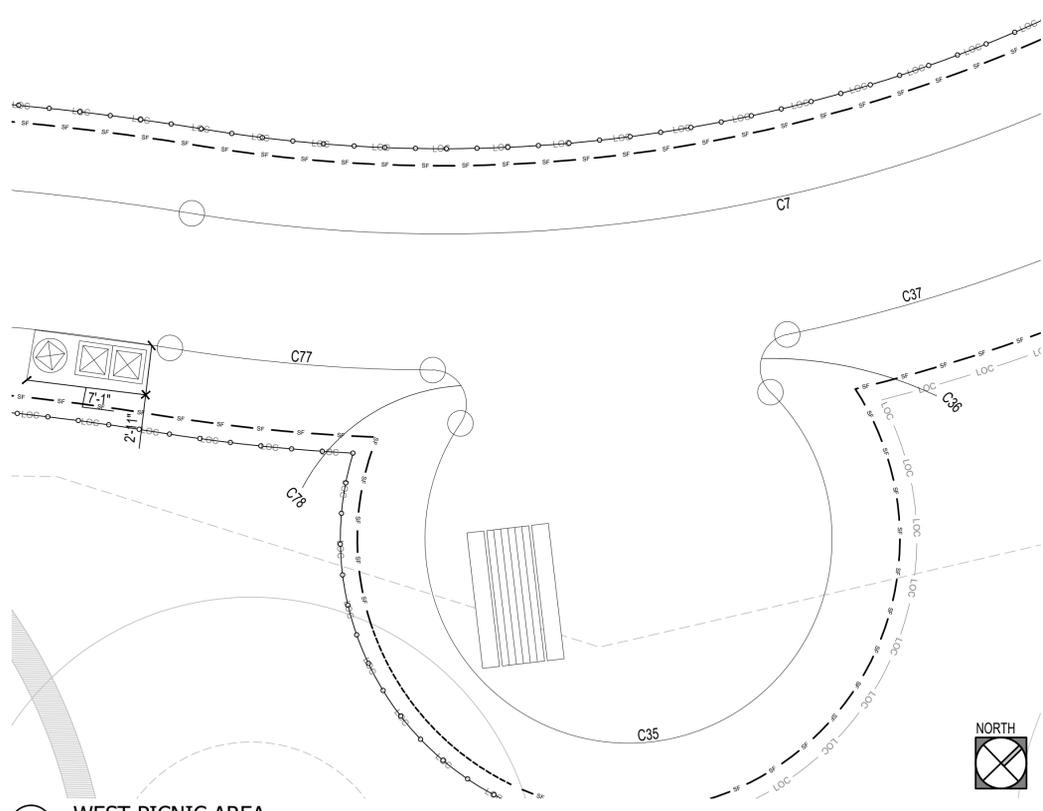
FILE NUMBER: SP-2022-0441C	SITE PLAN RELEASE	Sheet 6 of 24
CASE MANAGER: JENNIFER BENNETT	EXPIRATION DATE: 09/21/2022	COA PERMIT #: SP-2022-0441C
APPROVED BY PLANNING COMMISSION ON: _____	DATE PRINTED: 05/12/2022	PROJECT #: 046-22-02
APPROVED BY CITY COUNCIL ON: _____	DATE OF RELEASE: _____	DRAWING TITLE: HARDSCAPE ENLARGEMENTS
SIGNING FOR DIRECTOR, DEVELOPMENT SERVICES DEPARTMENT		
ZONING: MF-4		
CORRECTIONS:		
RELEASE OF THIS APPLICATION DOES NOT CONSTITUTE A VERIFICATION OF ALL DATA. INFORMATION AND CALCULATIONS SUPPLIED BY THE APPLICANT. THE ENGINEER OF RECORD IS SOLELY RESPONSIBLE FOR THE COMPLETENESS, ACCURACY AND ADEQUACY OF HIS/HER SUBMITTAL, WHETHER OR NOT THE APPLICATION IS REVIEWED FOR CODE COMPLIANCE BY CITY ENGINEERS.		

REVISIONS:

DATE OF RELEASE: _____	CORRECTION 1
_____	CORRECTION 2
_____	CORRECTION 3

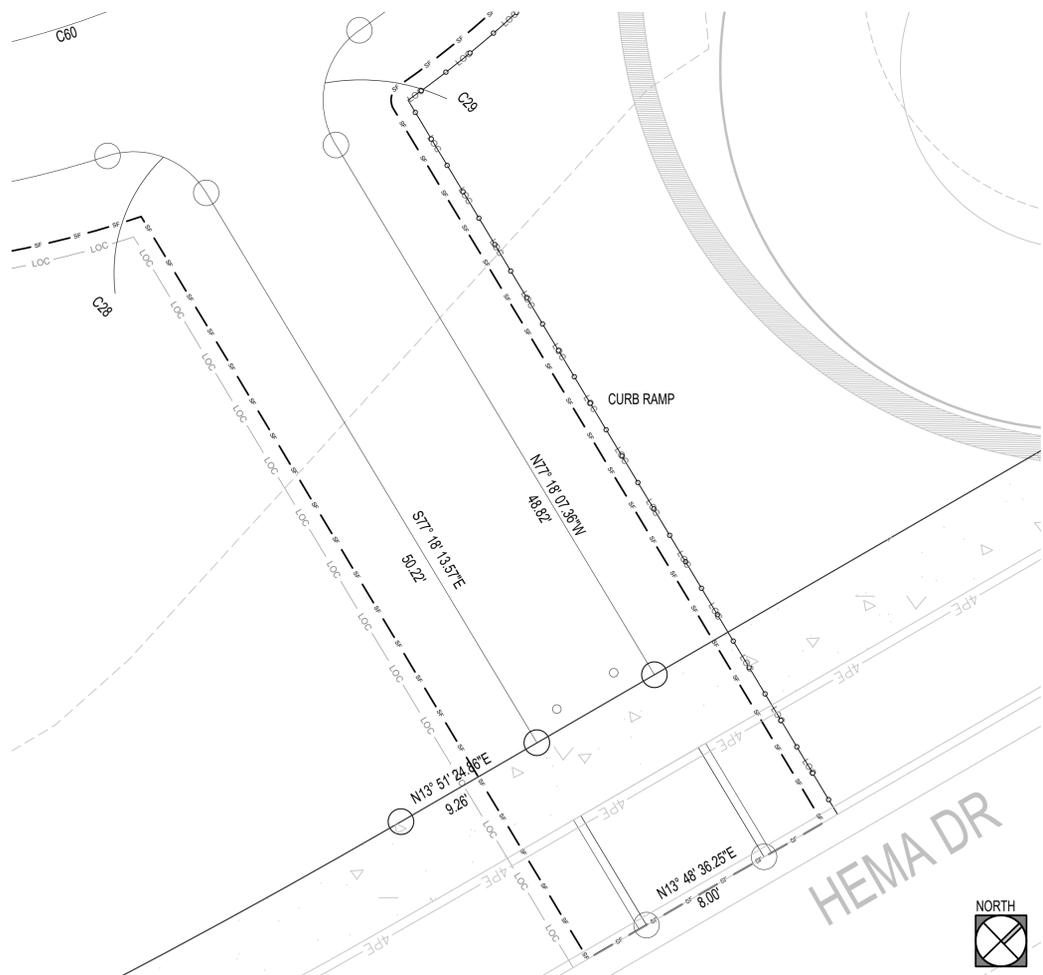
SHEET NO.: **6** OF 24





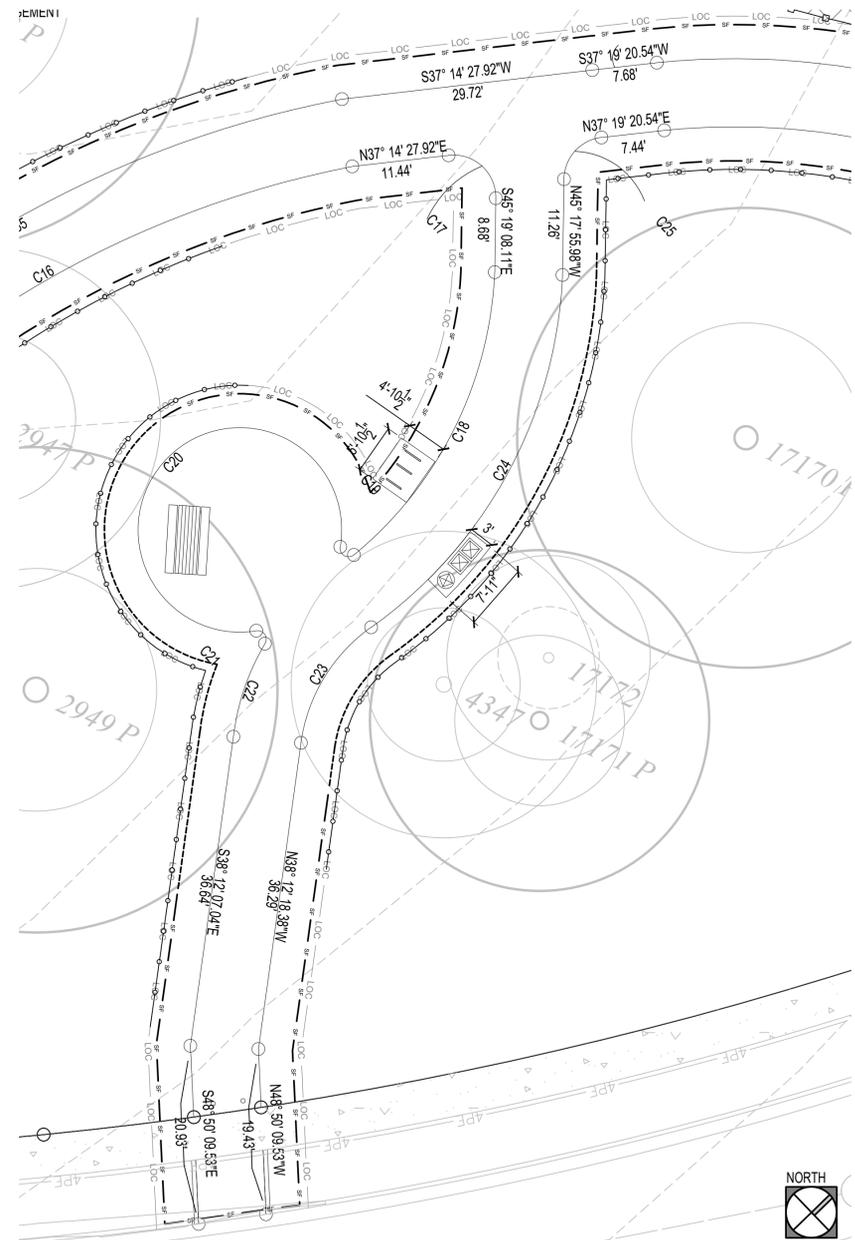
1 WEST PICNIC AREA

Scale: 1"=5'-0"



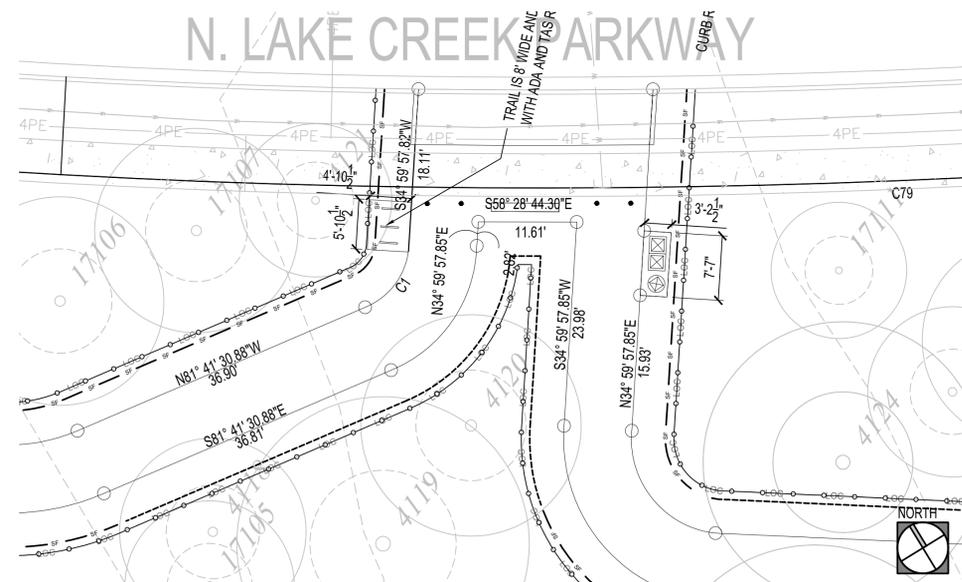
3 NORTHEAST ACCESS TRAIL

Scale: 1"=5'-0"



2 EAST PICNIC AREA

Scale: 1"=10'-0"



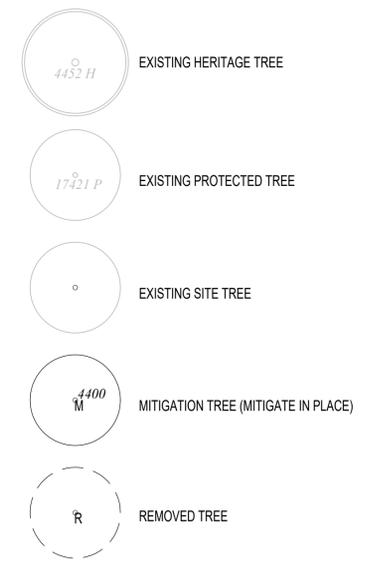
4 MAIN ENTRANCE ENLARGEMENT

Scale: 1"=10'-0"

LAYOUT NOTES:

1. THE CONTRACTOR SHALL NOTIFY THE OWNER'S REPRESENTATIVE IMMEDIATELY IF A DISCREPANCY IS FOUND BETWEEN THE PLANS AND THE ACTUAL CONDITIONS IN THE FIELD.
2. ALL DIMENSIONS USING CURBS, BUILDING WALLS OR PAVEMENT ARE FROM THE FACE OF WALL OR CURB AND EDGE OF PAVEMENT.

TREE LEGEND KEY:



LANDSCAPE ARCHITECTURE  
BLU FISH COLLABORATIVE, INC.  
P.O. BOX 40792, Austin, TX 78704  
Phone: (512)388-4115



PROFESSIONAL SEAL:  
DATE SEALED: 05/06/2022  
PROJECT NAME:  
**AVERY RANCH PARK**  
OWNER:  
**AVERY LAND INVESTORS LP**

PROJECT LOCATION:  
**9204 NORTH LAKE CREEK PKWY  
AUSTIN, TX, 78613**

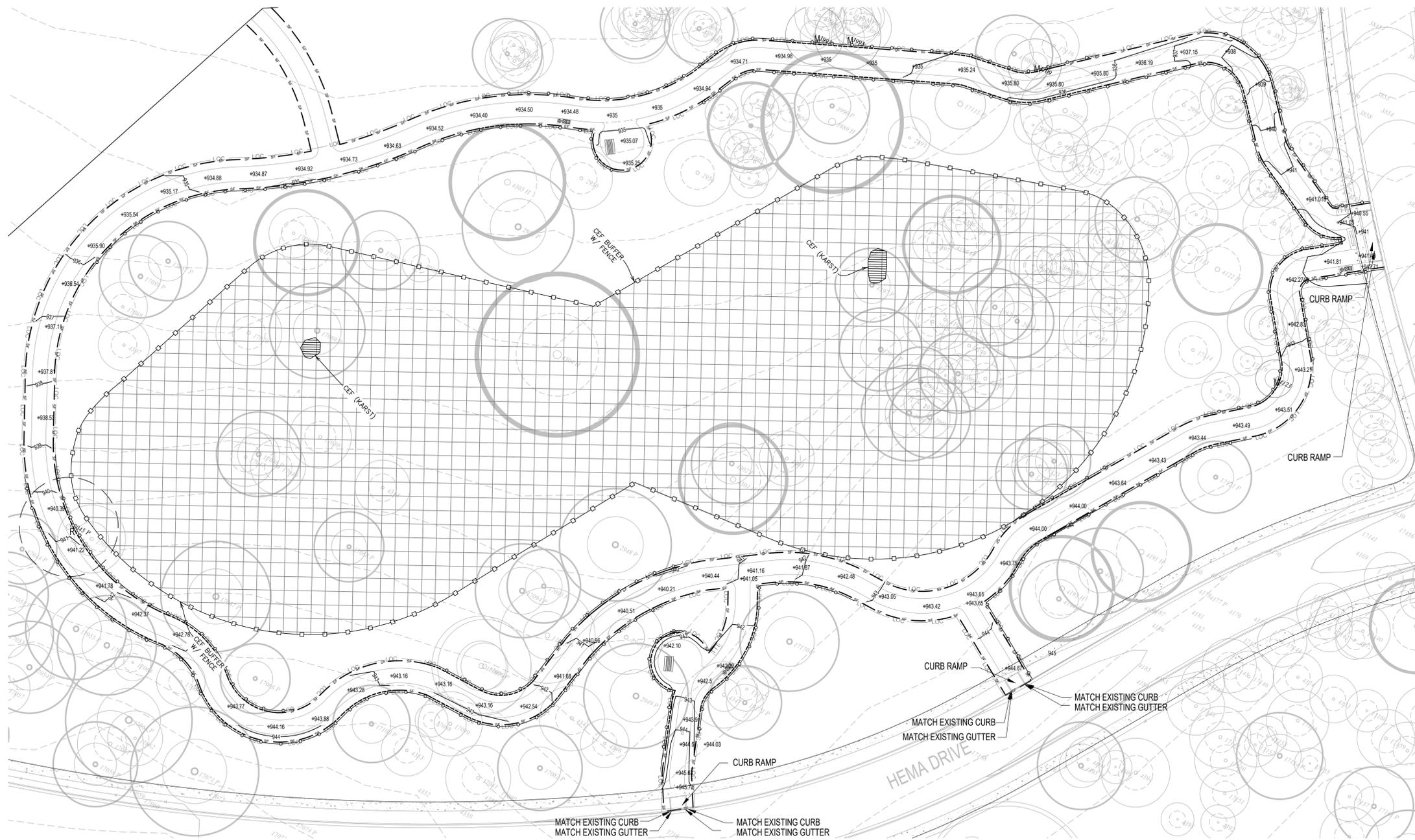


James R. McCann  
04/21/2023

FILE NUMBER: SP-2022-0441C	SITE PLAN RELEASE	Sheet 8 of 24
CASE MANAGER: JENNIFER BENNETT	EXPIRATION DATE: 09/21/2022	COA PERMIT #: SP-2022-0441C
APPROVED BY PLANNING COMMISSION ON: _____	APPROVED BY CITY COUNCIL ON: _____	PROJECT #: 046-22-02
APPROVED BY CITY COUNCIL ON: _____	DATE PRINTED ON: 05/12/2022	DATE PRINTED ON: 05/12/2022
_____ of Chapter 25-5 of the Austin City Code.	_____	DRAWING TITLE: LAYOUT PLAN - ENLARGEMENTS
Signing For Director, Development Services Department	DATE OF RELEASE: _____	ZONING: MF-4
Correction 1 _____	Correction 2 _____	Correction 3 _____
RELEASE OF THIS APPLICATION DOES NOT CONSTITUTE A VERIFICATION OF ALL DATA. INFORMATION AND CALCULATIONS SUPPLIED BY THE APPLICANT. THE ENGINEER OF RECORD IS SOLELY RESPONSIBLE FOR THE COMPLETENESS, ACCURACY AND ADEQUACY OF HIS/HER SUBMITTAL, WHETHER OR NOT THE APPLICATION IS REVIEWED FOR CODE COMPLIANCE BY CITY ENGINEERS.		

REVISIONS:

NO.	DATE	DESCRIPTION



**GRADING NOTES:**

1. CONTRACTOR TO BE RESPONSIBLE FOR FIELD VERIFICATION OF ALL EXISTING CONDITIONS, DIMENSIONS, LOCATIONS AND MATERIALS.
2. EACH CONTRACTOR IS RESPONSIBLE FOR LOCATING AND PROTECTING ALL UTILITIES.
3. CONTRACTOR TO ENSURE POSITIVE DRAINAGE ACROSS ALL FINISH GRADED SURFACES, AND AWAY FROM BUILDINGS, SO AS TO PREVENT PONDING.
4. ALL SPOT ELEVATIONS ARE AT THE CENTERLINE OF PATH. PATH IS 8 FEET WIDE AND SHOULD HAVE A CROSS SLOPE OF 0.5% TOWARD THE SOUTH OR WEST. EXISTING CONDITIONS ARE SHOWN SHADED BACK TO ALLOW ALL PROPOSED IMPROVEMENTS TO STAND OUT. EXISTING BASE INFORMATION HAS BEEN IMPORTED FROM CIVIL AND ARCHITECTURAL DRAWINGS. REFER TO THESE DRAWINGS FOR SUPPLEMENTAL INFORMATION.
5. CONTRACTOR TO LASER GRADE THE SUB GRADE, PAVEMENT BASE MATERIALS AND FINISHED SURFACES. FINISHED SURFACE OF CONCRETE AND PAVERS TO BE GRADED TO A TOLERANCE OF .083 FEET VERTICALLY OVER 10 LINEAR FEET.
6. ALL GRADING IS TO OCCUR OUTSIDE ANY CRZ OF ANY TREE

**GRADING LEGEND:**

- +0.00 SPOT ELEVATION
- EXISTING CONTOUR
- PROPOSED CONTOUR

**TREE LEGEND KEY:**

- EXISTING HERITAGE TREE
- EXISTING PROTECTED TREE
- EXISTING SITE TREE
- MITIGATION TREE (MITIGATE IN PLACE)
- REMOVED TREE



LANDSCAPE ARCHITECTURE  
 BLU FISH COLLABORATIVE, INC.  
 P.O. BOX 40792, AUSTIN, TX 78704  
 Phone: (512)388-4115

PROFESSIONAL SEAL:



DATE SEALED: 05/06/2022

PROJECT NAME:

**AVERY RANCH PARK**

OWNER:

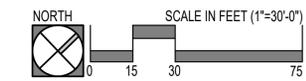
**AVERY LAND INVESTORS LP**

PROJECT LOCATION:

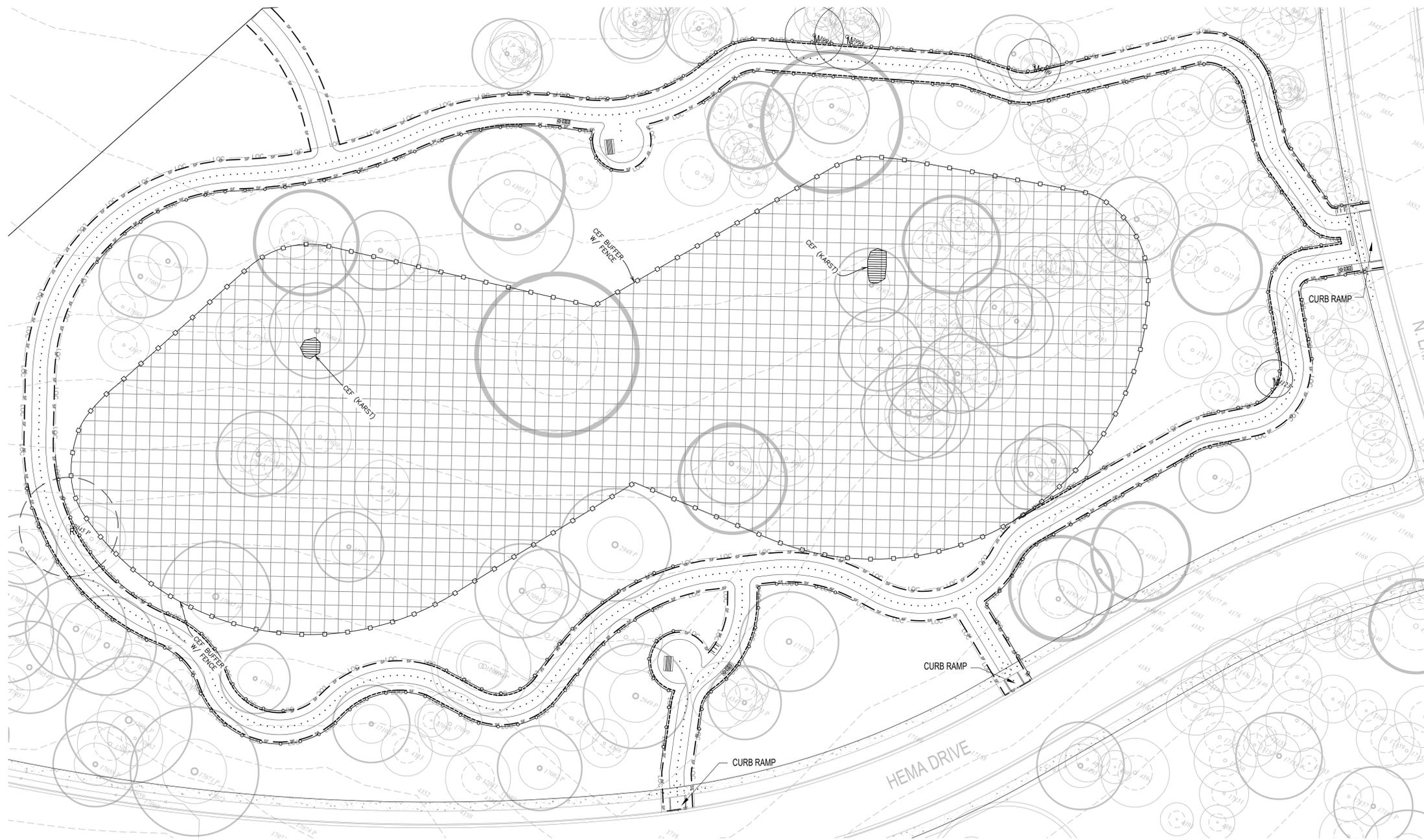
**9204 NORTH LAKE CREEK PKWY  
 AUSTIN, TX, 78613**



James R. McCann  
 04/21/2023



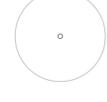
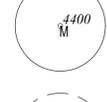
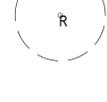
SITE PLAN RELEASE		Sheet 9 of 24
FILE NUMBER: SP-2022-044	EXPIRATION DATE: 09/21/2022	
CASE MANAGER: JENNIFER BENNETT	APPROVED ADMINISTRATIVELY ON: _____	COA PERMIT #: SP-2022-044C
APPROVED BY PLANNING COMMISSION ON: _____	APPROVED BY CITY COUNCIL ON: _____	PROJECT #: 046-22-02
APPROVED BY CITY COUNCIL ON: _____	of Chapter 25.5 of the Austin City Code.	DATE PRINTED: 05/12/2022
Signing For Director, Development Services Department		DRAWING TITLE: FINE GRADING PLAN - OVERALL
DATE OF RELEASE: _____	ZONING: MF-4	SHEET NO.: 9 of 24
Correction 1: _____	Correction 2: _____	
Correction 3: _____		
RELEASE OF THIS APPLICATION DOES NOT CONSTITUTE A VERIFICATION OF ALL DATA. INFORMATION AND CALCULATIONS SUPPLIED BY THE APPLICANT. THE ENGINEER OF RECORD IS SOLELY RESPONSIBLE FOR THE COMPLETENESS, ACCURACY AND ADEQUACY OF HIS/HER SUBMITTAL, WHETHER OR NOT THE APPLICATION IS REVIEWED FOR CODE COMPLIANCE BY CITY ENGINEERS.		



**ACCESSIBILITY LEGEND:**

..... ACCESSIBILITY ROUTE

**TREE LEGEND KEY:**

-  EXISTING HERITAGE TREE
-  EXISTING PROTECTED TREE
-  EXISTING SITE TREE
-  MITIGATION TREE (MITIGATE IN PLACE)
-  REMOVED TREE



**LANDSCAPE ARCHITECTURE**  
 BLU FISH COLLABORATIVE, INC.  
 P.O. BOX 40792, Austin, TX 78704  
 Phone: (512)388-4115

PROFESSIONAL SEAL:



DATE SEALED: 05/06/2022

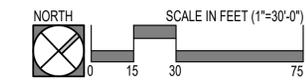
PROJECT NAME:  
**AVERY RANCH PARK**

OWNER:  
**AVERY LAND INVESTORS LP**

PROJECT LOCATION:  
**9204 NORTH LAKE CREEK PKWY  
 AUSTIN, TX, 78613**



*James R. McCann*  
 04/21/2023



FILE NUMBER: SP-2022-0441C	SITE PLAN RELEASE	Sheet 10 of 24
CASE MANAGER: JENNIFER BENNETT	EXPIRATION DATE: 09/21/2022	
APPROVED ADMINISTRATIVELY ON: _____	APPROVED BY PLANNING COMMISSION ON: _____	DATE PRINTED: 05/12/2022
APPROVED BY CITY COUNCIL ON: _____	_____ of Chapter 25.5 of the Austin City Code.	DRAWING TITLE: <b>ACCESSIBLE ROUTE</b>
Signing For Director, Development Services Department		
DATE OF RELEASE: _____	ZONING: MF-4	
_____	Correction 1	
_____	Correction 2	
_____	Correction 3	
RELEASE OF THIS APPLICATION DOES NOT CONSTITUTE A VERIFICATION OF ALL DATA. INFORMATION AND CALCULATIONS SUPPLIED BY THE APPLICANT. THE ENGINEER OF RECORD IS SOLELY RESPONSIBLE FOR THE COMPLETENESS, ACCURACY AND ADEQUACY OF HIS/HER SUBMITTAL, WHETHER OR NOT THE APPLICATION IS REVIEWED FOR CODE COMPLIANCE BY CITY ENGINEERS.		

REVISIONS:

COA PERMIT #:	SP-2022-0441
PROJECT #:	046-22-02
DATE PRINTED:	05/12/2022
DRAWING TITLE:	<b>ACCESSIBLE ROUTE</b>
SHEET NO.:	<b>10</b> of 24

PROFESSIONAL SEAL:

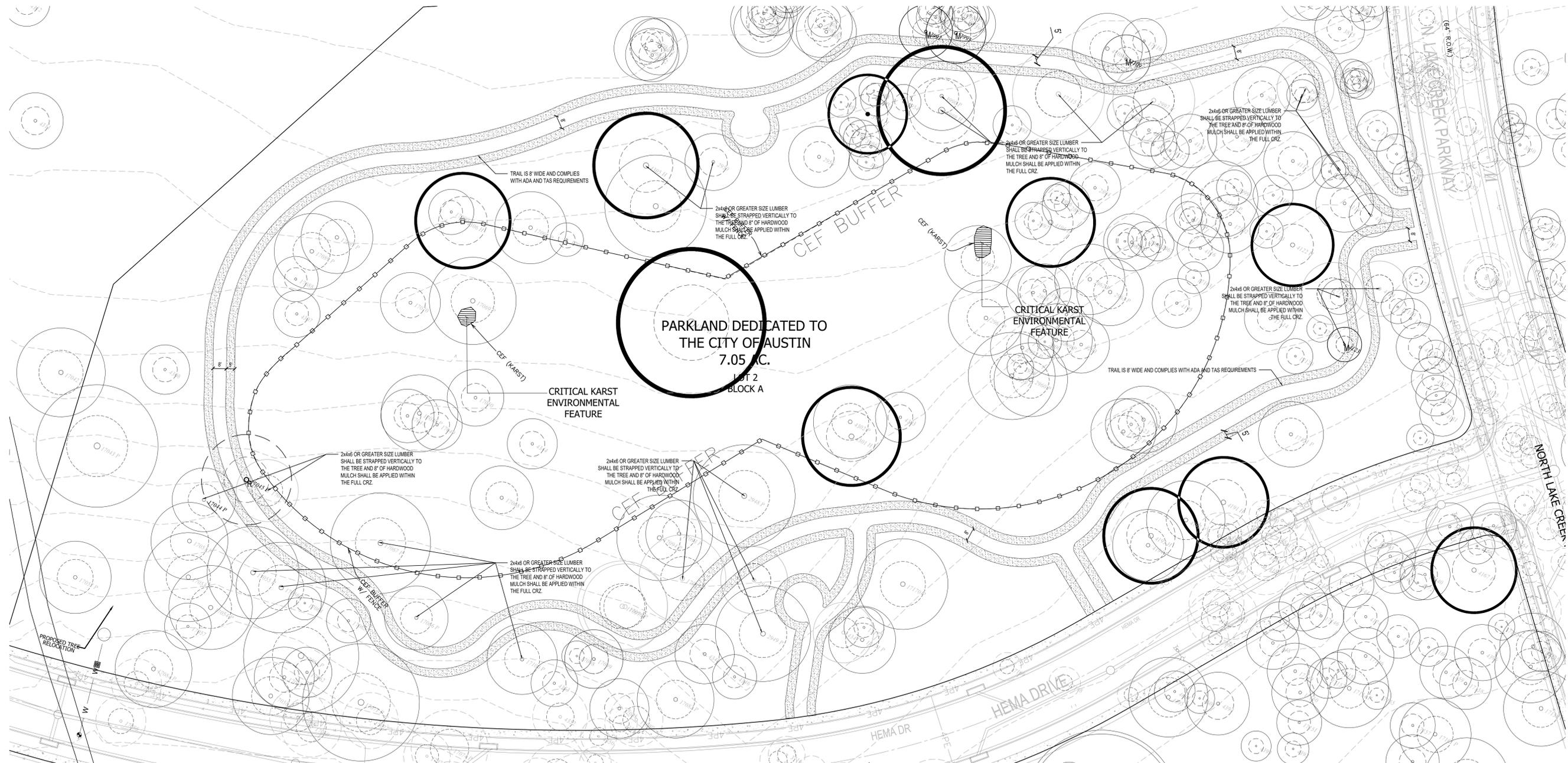


DATE SEALED: 05/06/2022

PROJECT NAME:  
**AVERY RANCH PARK**

OWNER:  
**AVERY LAND INVESTORS LP**

PROJECT LOCATION:  
**9204 NORTH LAKE CREEK PKWY  
 AUSTIN, TX, 78613**



**MODIFIED TREE & NATURAL AREA PROTECTION**

**BEFORE CONSTRUCTION**

ALL TREES AND NATURAL AREAS SHOWN ON PLAN TO BE PRESERVED SHALL BE PROTECTED PER ECM 3.6.1.  
 TREE PROTECTION SHALL BE INSTALLED PRIOR TO THE START OF ANY SITE WORK, INCLUDING DEMOLITION OR SITE PREPARATION. REFER TO ECM 3.6.1.A.  
 FENCING FOR TREE PROTECTION SHALL BE CHAIN-LINK MESH WITH A MINIMUM HEIGHT OF 5 FEET AND SHALL BE INSTALLED AROUND OR BEYOND THE CRITICAL ROOT ZONE EXCEPT AS ALLOWED IN ECM 3.6.1.B.4.  
 UNFENCED SECTIONS OF THE CRITICAL ROOT ZONE SHALL BE COVERED WITH MULCH AT A MINIMUM DEPTH OF 8 INCHES AND A MAXIMUM DEPTH OF 12 INCHES PER ECM 3.6.1.C.  
 WHERE FENCING IS LOCATED 5 FEET OR LESS FROM THE TRUNK OF A PRESERVED TREE, TRUNK WRAPPING SHALL BE INSTALLED PER ECM 3.6.1.D.  
 EROSION AND SEDIMENTATION CONTROLS SHALL BE INSTALLED AND MAINTAINED SO AS NOT TO CAUSE IMPACTS THAT EXCEED PRESERVATION CRITERIA LISTED IN ECM 3.5.3.D.

**DURING CONSTRUCTION**

TREES APPROVED FOR REMOVAL SHALL BE REMOVED IN A MANNER THAT DOES NOT EXCEED PRESERVATION CRITERIA FOR THE TREES TO REMAIN. REFER TO ECM 3.5.2.A.  
 FENCING MAY NOT BE TEMPORARILY MOVED OR REMOVED DURING DEVELOPMENT WITHOUT PRIOR AUTHORIZATION. THE FENCED CRITICAL ROOT ZONE SHALL NOT BE USED FOR TOOL OR MATERIAL STORAGE OF ANY KIND AND SHALL BE KEPT FREE OF LITTER. REFER TO ECM 3.6.1.B.3.  
 PRUNING SHALL BE IN COMPLIANCE WITH THE CURRENT ANSI A300 STANDARD FOR TREE CARE.

**AFTER CONSTRUCTION**

TREE PROTECTION SHALL BE REMOVED AT THE END OF THE PROJECT AFTER ALL CONSTRUCTION AND FINAL GRADING IS COMPLETE, BUT BEFORE FINAL INSPECTION. REFER TO ECM 3.6.1.A.  
 LANDSCAPE INSTALLATION WITHIN THE CRZ OF PRESERVED TREES, INCLUDING IRRIGATION, SOIL AND PLANTINGS, SHALL NOT EXCEED PRESERVATION CRITERIA LISTED IN ECM 3.5.2.  
 DOCUMENTATION OF TREE WORK PERFORMED MUST BE PROVIDED TO INSPECTOR PER ECM APPENDIX P-6.  
 THIS LIST IS NOT EXHAUSTIVE.  
 REFER TO APPROPRIATE ECM SECTIONS FOR FULL REQUIREMENTS.

**SITE DEVELOPMENT PERMIT LANDSCAPE NOTES:**

- THE OWNER WILL CONTINUOUSLY MAINTAIN THE REQUIRED LANDSCAPING IN ACCORDANCE WITH LDC 25-2-984.
- EXISTING TREES TO BE SAVED SHALL BE PROTECTED BY FENCING BEFORE CONSTRUCTION BEGINS. NO EQUIPMENT OR MATERIALS SHALL BE STORED OR OPERATED WITHIN THE FENCED-IN AREAS. FENCES SHALL BE AT THE DRIP LINE AND COMPLETELY SURROUND THE TREE OR CLUSTERS OF TREES. NO BURNING OF DEBRIS, CLEANING FLUIDS, CONCRETE SPILLS, ETC. WILL BE ALLOWED WITHIN THESE AREAS.
- GRADE CHANGES THAT DO NOT APPEAR ON THE SITE PLANS SHALL BE BROUGHT TO THE ATTENTION OF THE LANDSCAPE ARCHITECT BY THE GENERAL CONTRACTOR PRIOR TO CONSTRUCTION.
- TRENCHING SHALL NOT OCCUR WITHIN THE FENCED DRIP LINE AREAS OF EXISTING TREES.
- SHRUB MATERIAL NOT TO EXCEED 36" O.C. UNLESS OTHERWISE SPECIFIED. GROUNDCOVERS NOT TO EXCEED 18" O.C. DURING THE TIME OF MARCH 15-OCTOBER 15 INSTALLATION OF HYDROMULCH SHALL BE COMMON BERMUDA OR SAHARA BERMUDA FOR OCTOBER 16 -MARCH 14 INSTALLATION OF HYDROMULCH SHALL BE ANNUAL OR PERENNIAL RYE WITH A SPRING APPLICATION OF COMMON BERMUDA OR SAHARA BERMUDA.
- ALL LAWN AREAS WITHIN THE LIMITS OF CONSTRUCTION SHALL BE RE-VEGETATED WITH BERMUDA SOD OR RYE UNLESS NATIVE RESTORATION MIX IS SPECIFIED.
- AN AUTOMATIC IRRIGATION SYSTEM SHALL NOT BE INSTALLED. HAND WATERING WILL BE REQUIRED.
- IF ESTABLISHING VEGETATION DURING ANY STAGE OF DROUGHT, SECTION 6-4-30 MAY REQUIRE A VARIANCE. CONTACT AUSTIN WATER CONSERVATION STAFF AT (512)974-2199 OR AT WATERUSECOMPVAR@AUSTINTEXAS.GOV.

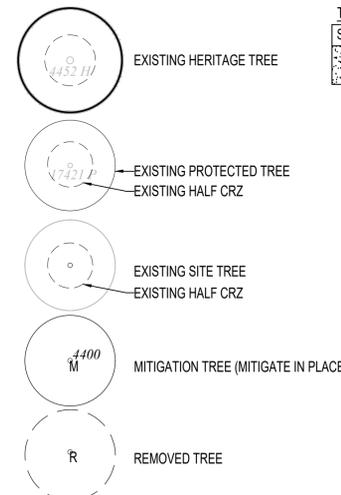
**SPECIAL CONSTRUCTION TECHNIQUES ECM 3.5.4 (D)**

- PRIOR TO EXCAVATION WITHIN TREE DRIP LINES OR THE REMOVAL OF TREES ADJACENT TO OTHER TREES THAT ARE TO REMAIN, MAKE A CLEAN CUT BETWEEN THE DISTURBED AND UNDISTURBED ROOT ZONES WITH A ROCK SAW OR SIMILAR EQUIPMENT TO MINIMIZE ROOT DAMAGE.
- IN CRITICAL ROOT ZONE AREAS THAT CANNOT BE PROTECTED DURING CONSTRUCTION WITH FENCING AND WHERE HEAVY VEHICULAR TRAFFIC IS ANTICIPATED, COVER THOSE AREAS WITH A MINIMUM OF 12 INCHES OF ORGANIC MULCH TO MINIMIZE SOIL COMPACTION. IN AREAS WITH HIGH SOIL PLASTICITY GEOTEXTILE FABRIC, PER STANDARD SPECIFICATION 620S, SHOULD BE PLACED UNDER THE MULCH TO PREVENT EXCESSIVE MIXING OF THE SOIL AND MULCH. ADDITIONALLY, MATERIAL SUCH AS PLYWOOD AND METAL SHEETS, COULD BE REQUIRED BY THE CITY ARBORIST TO MINIMIZE ROOT IMPACTS FROM HEAVY EQUIPMENT.
- ONCE THE PROJECT IS COMPLETED, ALL MATERIALS SHOULD BE REMOVED, AND THE MULCH SHOULD BE REDUCED TO A DEPTH OF 3 INCHES. PERFORM ALL GRADING WITHIN CRITICAL ROOT ZONE AREAS BY HAND OR WITH SMALL EQUIPMENT TO MINIMIZE ROOT DAMAGE.
- WATER ALL TREES MOST HEAVILY IMPACTED BY CONSTRUCTION ACTIVITIES DEEPLY ONCE A WEEK DURING ACCUMULATION OF THE LEAVES.
- WHEN INSTALLING CONCRETE ADJACENT TO THE ROOT ZONE OF A TREE, USE A PLASTIC VAPOR BARRIER BEHIND THE CONCRETE TO PROHIBIT LEACHING OF LIME INTO THE SOIL.

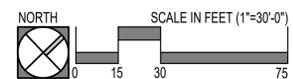
**LANDSCAPE PLANTING NOTES:**

- ALL WEEDS WITHIN THE LIMITS OF CONSTRUCTION ARE TO BE REMOVED AND TAKEN OFF SITE BY THE CONTRACTOR. ROOT SYSTEMS SHOULD BE ERADICATED.
- FINISH GRADES OF PLANT BED AREAS (TOP OF MULCH), SOD (TOP OF SOD), HYDROMULCH (TOP OF TOPSOIL), SHALL BE FLUSH WITH ADJACENT PAVING.
- TRENCHING AND SITE WORK PERFORMED WITHIN THE PROMINENT ROOT ZONES OF EXISTING TREES SHALL BE DONE BY HAND OR AIR SPADE UNLESS OTHERWISE SPECIFIED BY THE LANDSCAPE ARCHITECT. NO ROOTS OVER 1" DIA. SHALL BE CUT.
- VERIFY PLANT COUNTS AND SQUARE FOOTAGES: IF QUANTITIES ON PLANT SCHEDULE DIFFER FROM GRAPHIC INDICATIONS, THEN GRAPHICS SHALL PREVAIL.
  - AREAS DISTURBED BY CONSTRUCTION AND ARE NOT SCHEDULED TO BE IMPROVED SHALL BE REPAIRED TO THE STATE THAT IT WAS PRIOR TO THE START OF CONSTRUCTION.
- ALL PROPOSED TURF GRASS AREAS SHALL HAVE 6" DEPTH OF CLEAN (NO WEEDS, ROOTS, DEBRIS, VEGETATION) TOPSOIL, UNLESS A LESSOR DEPTH IS REQUIRED BY THE LOCAL JURISDICTION. TOP SOIL SHOULD BE OBTAINED FROM A REPUTABLE SOURCE LOCATED WITHIN 50 MILES OF THE PROJECT SITE.

**TREE LEGEND KEY:**



TURF			
SYM.	QTY.	COMMON NAME, BOTANICAL NAME	CONTAINER
[Symbol]	20,233 S.F.	BERMUDAGRASS, <i>CYNODON DACTYLON</i> 'SAHARA'	HYDRO-MULCH



**SITE PLAN RELEASE** Sheet: 11 of 24

FILE NUMBER: SP-2022-0441C EXPIRATION DATE: 09/21/2022  
 CASE MANAGER: JENNIFER BENNETT APPLICATION DATE: 09/21/2022  
 APPROVED ADMINISTRATIVELY ON: \_\_\_\_\_  
 APPROVED BY PLANNING COMMISSION ON: \_\_\_\_\_  
 APPROVED BY CITY COUNCIL ON: \_\_\_\_\_  
 \_\_\_\_\_ of Chapter 25-5 of the Austin City Code.

Signing For Director, Development Services Department

DATE OF RELEASE: \_\_\_\_\_ ZONING: MF-4  
 \_\_\_\_\_ Correction 1  
 \_\_\_\_\_ Correction 2  
 \_\_\_\_\_ Correction 3

RELEASE OF THIS APPLICATION DOES NOT CONSTITUTE A VERIFICATION OF ALL DATA. INFORMATION AND CALCULATIONS SUPPLIED BY THE APPLICANT. THE ENGINEER OF RECORD IS SOLELY RESPONSIBLE FOR THE COMPLETENESS, ACCURACY AND ADEQUACY OF HIS/HER SUBMITTAL, WHETHER OR NOT THE APPLICATION IS REVIEWED FOR CODE COMPLIANCE BY CITY ENGINEERS.

REVISIONS:


CDA PERMIT #: SP-2022-0441C  
 PROJECT #: 046-22-02  
 DATE PRINTED: 05/12/2022  
 DRAWING TITLE: **LANDSCAPE PLAN - OVERALL PLANTING**  
 SHEET NO.: **11** of 24

Tree ID	Status	Location	Size	Trunk Type	Species	Trunk Breakdown	Condition	Action
2893	-	C2; Park	11.5	Twin	Cedar	8, 9	Average	-
2894	-	C2; Park	15.5	Twin	Live Oak	11, 9	Average	-
2895	-	C2; Park	14.5	Multi-stem	Cedar	8, 7, 6	Average	-
2896	-	C2; Park	8	Single	Cedar	-	Average	-
2897	-	C2; Park	11	Single	Cedar	-	Average	-
2898	-	C2; Park	16	Twin	Cedar	14, 4	Average	-
2899	Protected	C2; Park	21.5	Multi-stem	Cedar	13, 7, 5, 5	Average	-
2900	-	C2; Park	10	Single	Cedar	-	Average	-
2947	Protected	C2; Park	20	Twin	Cedar	16, 8	Average	-
2948	Protected	C2; Park	30.5	Multi-stem	Cedar	11, 11, 10, 9, 9	Average	-
2949	Protected	C2; Park	28.5	Multi-stem	Cedar	13, 11, 7, 7, 6	Average	-
2950	-	C2; Park	17	Twin	Cedar	14, 6	Average	-
2951	Protected	C2; Park	30.5	Multi-stem	Cedar	15, 10, 7, 7, 7	Average	-
2952	-	C2; Park	9	Single	Cedar	-	Average	-
2953	-	C2; Park	9.75	Single	Cedar	-	Poor	-
2954	-	C2; Park	10.5	Single	Cedar	-	Poor	-
2955	-	C2; Park	9	Single	Cedar	-	Poor	-
2956	-	C2; Park	18.25	Single	Cedar	-	Poor	-
2957	Protected	C2; Park	19	Multi-stem	Cedar	9, 6, 5, 5, 4	Average	-
2958	-	C2; Park	8	Single	Cedar	-	Average	-
2959	Protected	C2; Park	26	Multi-stem	Cedar	13, 8, 6, 5, 5	Average	-
2960	Protected	C2; Park	22	Multi-stem	Cedar	10, 9, 6, 5, 4	Average	-
2961	Protected	C2; Park	22.5	Multi-stem	Cedar	12, 11, 10, 10	Average	-
2962	Protected	C2; Park	21	Multi-stem	Cedar	9, 9, 8, 7	Average	-
2963	Protected	C2; Park	20	Multi-stem	Cedar	9, 8, 7, 7	Average	-
2964	-	C2; Park	10.5	Single	Cedar	-	Average	-
2965	-	C2; Park	17	Single	Cedar	-	Average	-
2966	-	C2; Park	10.5	Single	Cedar	-	Poor	-
2967	-	C2; Park	10	Single	Cedar	-	Average	-
2991	-	C2; Park	17	Twin	Cedar	12, 10	Average	-
2993	-	C2; Park	9.25	Single	Cedar	-	Average	-
2994	-	C2; Park	17	Twin	Cedar	9, 12, 5	Average	-
2995	-	C2; Park	17.5	Twin	Cedar	11, 12	Average	-
2997	Protected	C2; Park	24.5	Multi-stem	Cedar	8, 9, 8, 7, 8	Average	-
2998	-	C2; Park	10.5	Single	Cedar	-	Poor	-
2999	-	C2; Park	10.5	Single	Cedar	-	Average	-
3862	-	C2; Park	9	Single	Live Oak	-	Average	-
3863	-	C2; Park	8.25	Single	Live Oak	-	Average	-
3864	-	C2; Park	9	Single	Live Oak	-	Average	-
3865	-	C2; Park	10.25	Single	Live Oak	-	Average	-
3866	-	C2; Park	9.75	Single	Live Oak	-	Average	-
3867	-	C2; Park	11.5	Single	Live Oak	-	Average	-
3868	-	C2; Park	9.5	Single	Live Oak	-	Average	-
3869	-	C2; Park	11.5	Single	Live Oak	-	Fair	-
3870	-	C2; Park	14	Single	Live Oak	-	Average	-
3871	-	C2; Park	12.5	Single	Live Oak	-	Average	-
3872	-	C2; Park	13.25	Single	Live Oak	-	Average	-
3873	-	C2; Park	16	Single	Live Oak	-	Fair	-
3874	-	C2; Park	10	Single	Live Oak	-	Average	-
3875	-	C2; Park	15	Single	Live Oak	-	Average	-
3969	Protected	C2; Park	19	Single	Live Oak	-	Average	-
3970	-	C2; Park	13	Single	Cedar Elm	-	Average	-
3971	-	C2; Park	17	Single	Live Oak	-	Average	-
3972	-	C2; Park	16	Single	Live Oak	-	Average	-
3973	-	C2; Park	17.75	Single	Live Oak	-	Average	-
3974	Protected	C2; Park	19	Twin	Live Oak	13, 12	Average	-
3975	-	C2; Park	14	Single	Live Oak	-	Average	-
3976	-	C2; Park	11.5	Single	Live Oak	-	Average	-
3977	-	C2; Park	13.75	Single	Live Oak	-	Average	-
3978	-	ROW	10.5	Single	Live Oak	-	Average	-
3979	-	ROW	12.75	Single	Live Oak	-	Average	-
3980	-	ROW	11	Single	Live Oak	-	Fair	-
3981	Protected	C2; Park	19	Twin	Live Oak	14, 10	Average	-
3982	-	C2; Park	9.75	Single	Live Oak	-	Average	-
3983	-	C2; Park	18	Single	Live Oak	-	Average	-
3984	Heritage	C2; Park	24	Single	Live Oak	-	Average	-
3985	-	C2; Park	8	Twin	Live Oak	14, 8	Average	-
3986	-	C2; Park	11	Single	Live Oak	-	Average	-
3987	-	C2; Park	10.5	Single	Live Oak	-	Average	-
3988	-	C2; Park	13	Twin	Live Oak	9, 8	Average	-
3989	Heritage	C2; Park	39	Multi-stem	Live Oak	24, 19, 11	Average	-
3990	Protected	C2; Park	20.5	Twin	Live Oak	16, 9	Average	-
3991	-	C2; Park	16	Twin	Live Oak	9, 8	Average	Mitigate in Place
3992	-	C2; Park	11.5	Single	Live Oak	-	Average	-
3993	-	C2; Park	13.5	Single	Live Oak	-	Average	-
3994	-	C2; Park	9.75	Single	Live Oak	-	Average	-
3995	-	C2; Park	18	Single	Live Oak	-	Average	Mitigate in Place
3996	-	C2; Park	15.25	Twin	Live Oak	13, 10	Average	-
3997	-	C2; Park	13.75	Single	Live Oak	-	Average	-
3998	-	C2; Park	11	Single	Live Oak	-	Average	-
3999	-	C2; Park	11.75	Single	Live Oak	-	Average	-
4108	Protected	C2; Park	21	Single	Live Oak	-	Average	-
4109	-	C2; Park	14.5	Single	Live Oak	-	Average	Mitigate in Place
4110	-	C2; Park	15.5	Single	Live Oak	-	Average	-
4111	-	C2; Park	14.25	Single	Live Oak	-	Average	-
4112	-	C2; Park	11.5	Single	Live Oak	-	Average	-
4113	-	C2; Park	16	Single	Live Oak	-	Average	-
4114	-	C2; Park	16.25	Single	Live Oak	-	Average	-
4115	-	C2; Park	8.5	Single	Live Oak	-	Average	-
4116	-	C2; Park	14	Single	Live Oak	-	Average	-
4117	-	C2; Park	17.5	Single	Live Oak	-	Average	-
4118	-	C2; Park	11	Single	Hackberry	-	Average	-
4119	-	C2; Park	17.25	Single	Live Oak	-	Average	-
4120	-	C2; Park	13	Single	Live Oak	-	Average	-
4121	-	C2; Park	9	Single	Live Oak	-	Average	-
4122	Heritage	C2; Park	25	Twin	Live Oak	17, 16	Average	-
4123	-	C2; Park	10.25	Single	Hackberry	-	Average	Mitigate in Place
4124	-	C2; Park	16.5	Single	Live Oak	-	Average	-
4125	-	C2; Park	14.5	Single	Live Oak	-	Average	-

Tree ID	Status	Location	Size	Trunk Type	Species	Trunk Breakdown	Condition	Action
4126	-	C3; MF	10	Single	Live Oak	-	Average	-
4127	-	C3; MF	13	Single	Cedar Elm	-	Average	-
4128	-	C3; MF	12.25	Single	Live Oak	-	Average	-
4129	-	C3; MF	13.5	Single	Live Oak	-	Average	-
4131	-	C3; MF	13.5	Single	Live Oak	-	Average	-
4191	Heritage	C2; Park	27.5	Twin	Live Oak	19, 17	Average	-
4192	Protected	C2; Park	23.5	Twin	Live Oak	19, 9	Average	-
4193	Heritage	C2; Park	29	Multi-stem	Live Oak	19, 12, 8	Average	-
4194	Protected	C2; Park	21.25	Single	Live Oak	-	Fair	-
4195	-	C2; Park	14.75	Single	Live Oak	-	Average	-
4196	Heritage	C2; Park	27	Single	Live Oak	-	Average	-
4197	Protected	C2; Park	20	Single	Live Oak	-	Average	-
4198	-	C2; Park	16	Single	Live Oak	-	Average	-
4199	-	C2; Park	16	Twin	Live Oak	13, 5	Average	-
4200	-	C2; Park	17	Single	Live Oak	-	Average	-
4301	Heritage	C2; Park	30	Twin	Cedar Elm	20, 20	Average	-
4302	Protected	C2; Park	22	Single	Live Oak	-	Average	-
4303	-	C2; Park	15	Single	Cedar Elm	-	Average	-
4304	Heritage	C2; Park	45	Single	Live Oak	-	Average	-
4305	Heritage	C2; Park	32	Single	Live Oak	-	Average	-
4306	Heritage	C2; Park	29	Single	Post Oak	-	Average	-
4307	-	C2; Park	14	Single	Hackberry	-	Average	-
4308	-	C2; Park	14.75	Single	Cedar Elm	-	Average	-
4344	-	C2; Park	15	Single	Live Oak	-	Average	-
4345	-	C2; Park	17.75	Single	Cedar Elm	-	Poor	-
4346	-	C3; MF	13.25	Single	Cedar Elm	-	Average	-
4347	-	C2; Park	18	Single	Live Oak	-	Average	-
4353	-	C1; AL	11.5	Single	Cedar Elm	-	Average	-
17043	Protected	ROW	36.5	Multi-stem	Cedar	18, 12, 8, 8, 9	Average	-
17044	Protected	C2; Park	19	Multi-stem	Cedar	10, 10, 8	Average	-
17045	Protected	C2; Park	27	Multi-stem	Cedar	12, 16, 10	Poor	Remove
17046	-	C2; Park	18.5	Multi-stem	Cedar	11, 8, 7	Average	-
17047	-	C2; Park	16	Twin	Cedar	12, 8	Average	-
17048	Protected	C2; Park	23	Multi-stem	Cedar	11, 8, 8, 8	Average	-
17049	-	C2; Park	15	Multi-stem	Cedar	8, 8, 6	Average	-
17050	-	C2; Park	17	Twin	Cedar	12, 10	Average	-
17051	Protected	C2; Park	23	Multi-stem	Cedar	11, 11, 12	Fair	-
17052	Protected	ROW	21.5	Multi-stem	Cedar	9.5, 8, 8, 8	Average	-
17053	Protected	C2; Park	26.5	Multi-stem	Cedar	10, 8, 9, 8, 8	Average	-
17054	Protected	C2; Park	25	Multi-stem	Cedar	12, 12, 13	Fair	-
17055	Protected	C2; Park	27.5	Multi-stem	Cedar	10, 9, 8, 10, 8	Average	-
17056	Protected	C2; Park	27	Multi-stem	Cedar	14, 10, 8, 8	Poor	-
17057	-	C2; Park	14	Single	Cedar	-	Poor	-
17058	Protected	C2; Park	23	Multi-stem	Cedar	11, 8, 8, 8	Fair	-
17061	-	C2; Park	18	Multi-stem	Cedar	11, 8, 6	Average	-
17062	-	C2; Park	15	Single	Cedar	-	Fair	-
17063	Protected	C2; Park	34.5	Multi-stem	Cedar	12, 11, 8, 19	Fair	-
17064	-	C2; Park	10	Single	Cedar	-	Fair	-
17065	-	C2; Park	13.25	Single	Cedar	-	Average	-
17066	Protected	C2; Park	19	Multi-stem	Cedar	8, 8, 8, 6	Average	-
17067	Protected	C2; Park	30	Multi-stem	Cedar	10, 8, 8, 17	Average	-
17068	Protected	C2; Park	19	Twin	Cedar	15, 8	Poor	-
17069	Protected	C2; Park	26	Multi-stem	Cedar	12, 9, 9, 10	Poor	-
17070	-	C2; Park	18	Single	Cedar	-	Average	-
17071	Protected	C2; Park	35	Multi-stem	Cedar	17, 18.5, 18	Average	-
17081	-	C1; AL	17.75	Single	Cedar	-	Average	-
17082	Protected	C3; MF	23	Multi-stem	Cedar	13, 10, 10	Poor	-
17084	Protected	C1; AL	23	Multi-stem	Cedar	13, 8, 12	Fair	-
17087	Protected	C2; Park	21.5	Multi-stem	Cedar	12, 10, 9	Poor	-
17088	-	C2; Park	13.5	Twin	Cedar	9, 9	Poor	-
17089	Protected	C2; Park	22.5	Multi-stem	Cedar	11, 12, 10	Average	-
17090	-	C2; Park	13.5	Multi-stem	Cedar	17, 9, 9	Fair	-
17091	Protected	C2; Park	21.5	Single	Cedar	-	Average	-
17092	-	C2; Park	10	Multi-stem	Cedar	11, 10, 8	Average	-
17093	Protected	C2; Park	20	Multi-stem	Cedar	12, 10, 9, 8	Average	-
17094	Protected	C2; Park	25.5	Multi-stem	Cedar	13, 12, 8, 8	Average	-
17095	Protected	C2; Park	26	Multi-stem	Cedar	10, 9, 8, 8, 6	Average	-
17096	Protected	C2; Park	25.5	Multi-stem	Cedar	16, 8, 7, 7	Average	-
17097	Protected	C2; Park	27	Single	Cedar	-	Average	-
17099	-	C2; Park	17.5	Multi-stem	Cedar	9, 9, 8	Average	-
17100	Protected	C2; Park	21	Twin	Cedar	12, 15	Average	-
17101	Protected	C2; Park	23	Twin	Cedar	17, 12	Average	-
17102	-	C2; Park	17.5	Twin	Cedar	12, 11	Average	-
17103	-	C2; Park	9.5	Single	Cedar	-	Average	-
17104	-	C2; Park	12	Single	Cedar	-	Average	-
17105	-	C2; Park	10	Single	Cedar	-	Fair	-
17106	-	C2; Park	12.5	Single	Cedar	-	Average	-
17107	-	C2; Park	12	Single	Cedar	-	Poor	-</

# MATERIALS SCHEDULE



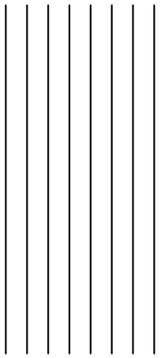
KEY	ITEM	MANUFACTURER	PRODUCT #	DIMENSIONS	FINISH/COLOR	CONTACT	REMARKS
H.1	CONCRETE WALK						REF. DETAIL 1/L301, 2/L301, 3/L301
H.2	ROOT BRIDGE						REF. DETAIL 1/L301, 2/L301, 3/L301
F.1	BICYCLE RACKS	CITY OF AUSTIN STANDARD			SCHED. 40 GALV		REF. DETAIL 3/L302
F.2	PICNIC TABLE AND BENCH	SITESCAPES	AVONDALE PICNIC TABLE AV6-5462-ADA	55 1/2" X 96" X 48"	STEEL AND RECYCLED PLASTIC	SITESCAPES 1-(402)-421-9464	REF. DETAIL 1/L302
M.1	PET STATION	MUTT MITTS	DOG WASTE STATION DISPENSER KIT & RECEPTACLE ITEM 1004		GREEN	MUTT MITTS 1-800-697-6084	REF. DETAIL 6/L302
M.2	WASTE RECEPTACLE	CITY OF AUSTIN STANDARD					
M.3	REMOVABLE BOLLARD	RELIANCE FOUNDRY	STAINLESS STEEL REMOVABLE BOLLARD R-8464	3' HEIGHT	BRUSHED STAINLESS STEEL	RELIANCE FOUNDRY 1-877-789-3245	REF. DETAIL 2/L302
M.4	PARK SIGNAGE	CITY OF AUSTIN PARD					PARD TO PROVIDE AND INSTALL PARK SIGN



PROJECT NAME:  
**AVERY RANCH  
PARK**

OWNER:  
**AVERY LAND  
INVESTORS LP**

PROJECT LOCATION:  
**9204 NORTH  
LAKE CREEK  
PKWY  
AUSTIN, TX,  
78613**



SITE PLAN RELEASE Sheet 13 of 24

FILE NUMBER: SP-2022-0441C EXPIRATION DATE: \_\_\_\_\_  
CASE MANAGER: JENNIFER BENNETT APPLICATION DATE: 09/21/2022  
APPROVED ADMINISTRATIVELY ON: \_\_\_\_\_  
APPROVED BY PLANNING COMMISSION ON: \_\_\_\_\_  
APPROVED BY CITY COUNCIL ON: \_\_\_\_\_  
112 of Chapter 25.5 of the Austin City Code.

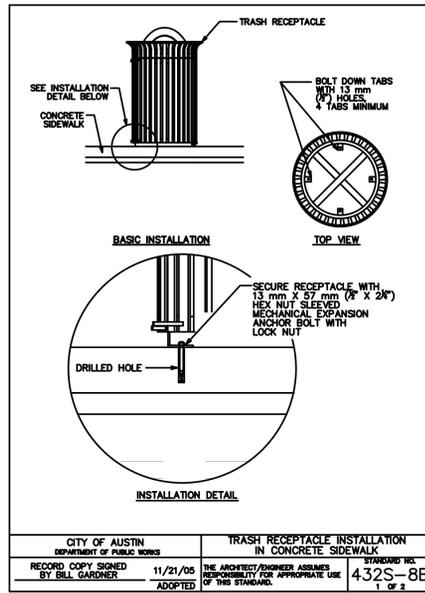
Signing For Director, Development Services Department

DATE OF RELEASE: \_\_\_\_\_ ZONING: MF-4  
Correction 1 \_\_\_\_\_  
Correction 2 \_\_\_\_\_  
Correction 3 \_\_\_\_\_

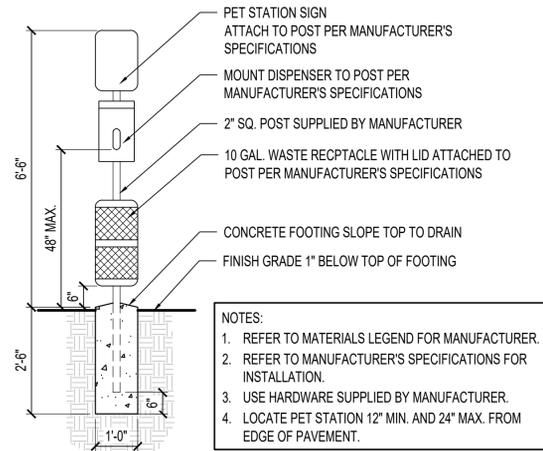
RELEASE OF THIS APPLICATION DOES NOT CONSTITUTE A VERIFICATION OF ALL DATA. INFORMATION AND CALCULATIONS SUPPLIED BY THE APPLICANT. THE ENGINEER OF RECORD IS SOLELY RESPONSIBLE FOR THE COMPLETENESS, ACCURACY AND ADEQUACY OF HIS/HER SUBMITTAL, WHETHER OR NOT THE APPLICATION IS REVIEWED FOR CODE COMPLIANCE BY CITY ENGINEERS.

COA PERMIT #: SP-2022-0441C  
PROJECT #: 046-22-02  
DATE PRINTED: 05/12/2022  
DRAWING TITLE:  
**MATERIALS  
SCHEDULE**  
SHEET NO.:  
**13** of 24

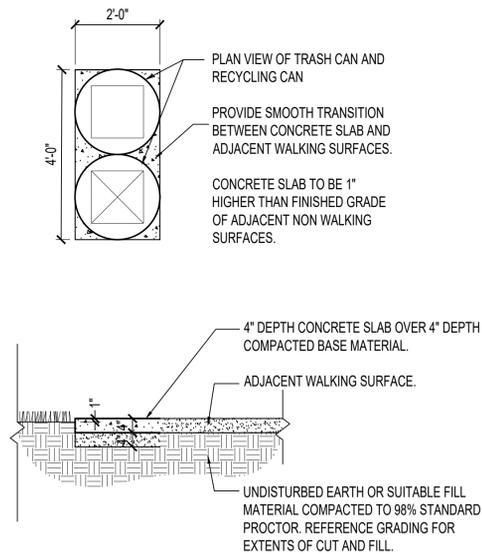




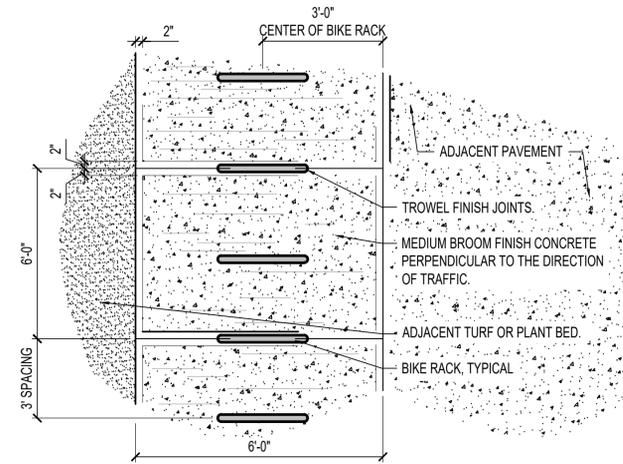
**7** TRASH OR RECYCLING RECEPTACLE INSTALLATION  
Scale: 1/2" = 1'-0"



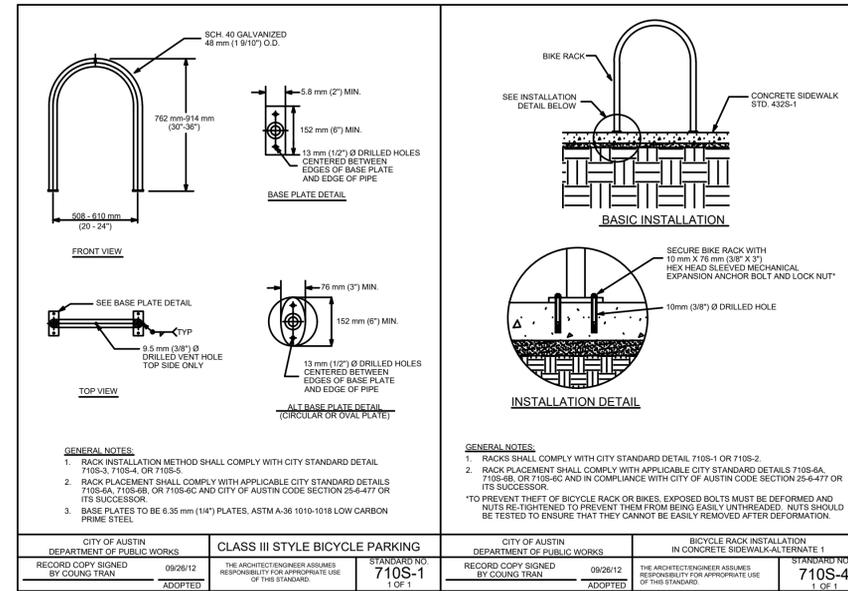
**6** PET WASTE STATION  
Scale: 1/2" = 1'-0"



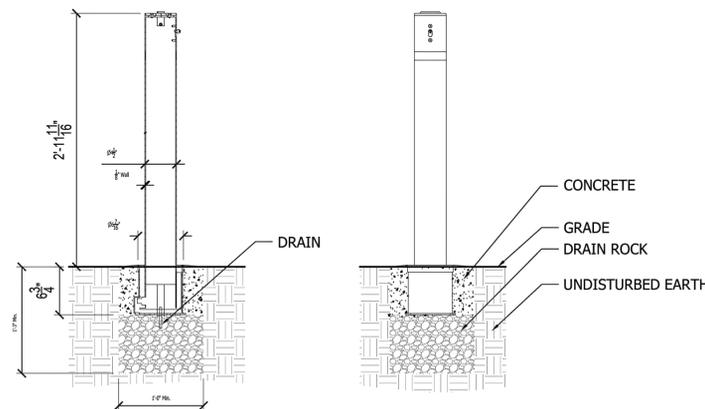
**5** CONCRETE PAD FOR RECYCLING & WASTE  
Scale: 1/2" = 1'-0"



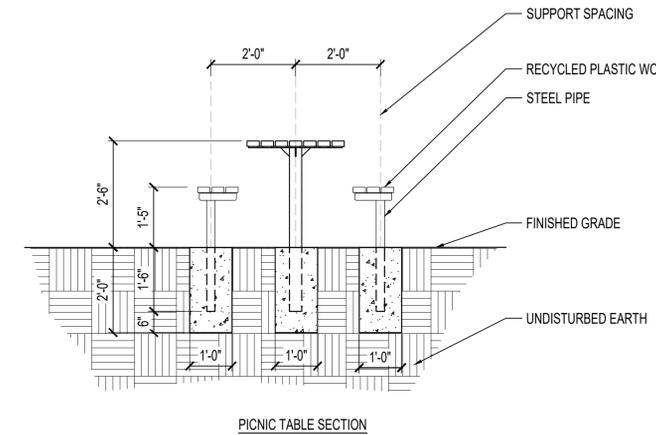
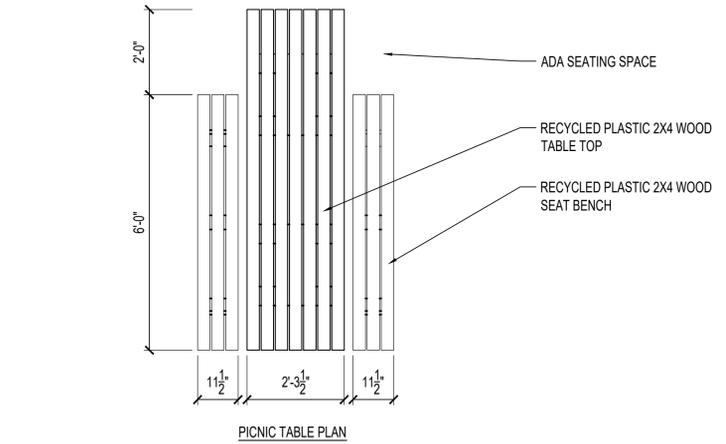
**4** BIKE RACK PLAN  
Scale: 1/2" = 1'-0"



**3** CITY OF AUSTIN BICYCLE RACK STANDARD  
Scale: 1/2" = 1'-0"



**2** REMOVABLE BOLLARD  
Scale: 1" = 1'-0"



**1** ADA PICNIC TABLE AND BENCH PLAN AND SECTION  
Scale: 1/2" = 1'-0"

REVISIONS:

FILE NUMBER: SP-2022-0441C	SITE PLAN RELEASE	Sheet 15 of 24
CASE MANAGER: JENNIFER BENNETT	EXPIRATION DATE: 09/21/2022	
APPROVED ADMINISTRATIVELY ON: _____	COA PERMIT #: SP-2022-0441C	
APPROVED BY PLANNING COMMISSION ON: _____	PROJECT #: 046-22-02	
APPROVED BY CITY COUNCIL ON: _____	DATE PRINTED: 05/12/2022	
112 of Chapter 25-5 of the Austin City Code.	DRAWING TITLE: CONSTRUCTION DETAILS	

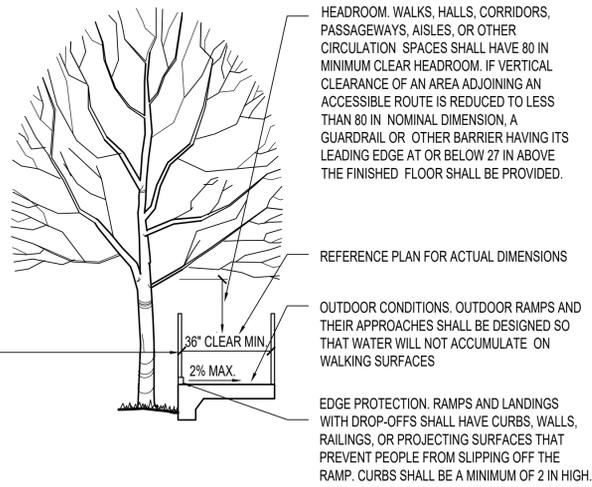
Signing For Director, Development Services Department

DATE OF RELEASE: \_\_\_\_\_ ZONING: MF-4

Correction 1 \_\_\_\_\_  
Correction 2 \_\_\_\_\_  
Correction 3 \_\_\_\_\_

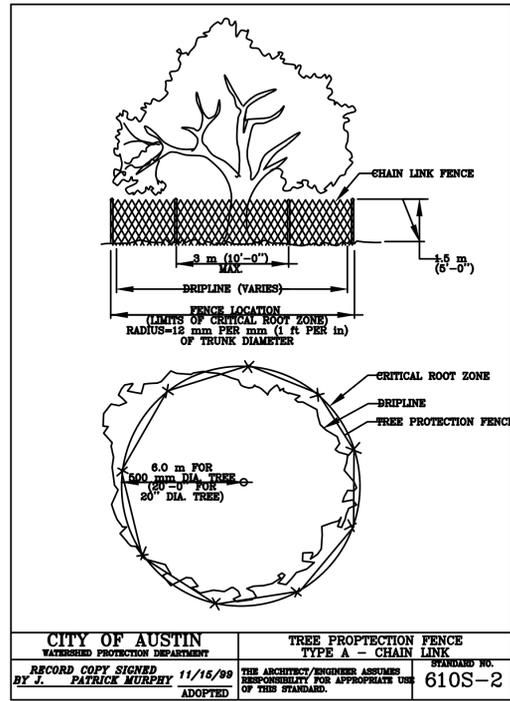
RELEASE OF THIS APPLICATION DOES NOT CONSTITUTE A VERIFICATION OF ALL DATA. INFORMATION AND CALCULATIONS SUPPLIED BY THE APPLICANT. THE ENGINEER OF RECORD IS SOLELY RESPONSIBLE FOR THE COMPLETENESS, ACCURACY AND ADEQUACY OF HIS/HER SUBMITTAL, WHETHER OR NOT THE APPLICATION IS REVIEWED FOR

- HANDRAILS. IF A RAMP RUN HAS A RISE GREATER THAN 6 IN OR A HORIZONTAL PROJECTION GREATER THAN 72 IN, THEN IT SHALL HAVE HANDRAILS ON BOTH SIDES. HANDRAILS ARE NOT REQUIRED ON CURB RAMPS. HANDRAILS SHALL HAVE THE FOLLOWING FEATURES:
- HANDRAILS SHALL BE PROVIDED ALONG BOTH SIDES OF RAMP SEGMENTS. THE INSIDE HANDRAIL ON SWITCH BACK OR DOGLEG RAMPS SHALL ALWAYS BE CONTINUOUS.
  - IF HANDRAILS ARE NOT CONTINUOUS, THEY SHALL EXTEND AT LEAST 12 IN BEYOND THE TOP AND BOTTOM OF THE RAMP SEGMENT AND SHALL BE PARALLEL WITH FLOOR OR GROUND SURFACE.
  - THE CLEAR SPACE BETWEEN THE HANDRAIL AND THE WALL SHALL BE 1-1/2 IN. HANDRAILS MAY BE LOCATED IN A RECESS IF THE RECESS IS A MAXIMUM OF 3 IN DEEP AND EXTENDS AT LEAST 18 IN ABOVE THE TOP OF THE RAIL.
  - GRIPPING SURFACES SHALL BE CONTINUOUS, WITHOUT INTERRUPTION BY NEWEL POSTS, OTHER CONSTRUCTION ELEMENTS, OR OBSTRUCTIONS.
  - THE DIAMETER OR WIDTH OF THE GRIPPING SURFACES OF A HANDRAIL SHALL BE 1-1/4 IN TO 1-1/2 IN OR THE SHAPE SHALL PROVIDE AN EQUIVALENT GRIPPING SURFACE. STANDARD PIPE SIZES DESIGNATED BY THE INDUSTRY AS 1-1/4 IN TO 1-1/2 IN ARE ACCEPTABLE INDUSTRY TOLERANCES.
  - THE TOP OF HANDRAIL GRIPPING SURFACES SHALL BE MOUNTED BETWEEN 30 IN TO 34 IN ABOVE RAMP SURFACES.
  - A HANDRAIL AND ANY WALL OR OTHER SURFACE ADJACENT TO IT SHALL BE FREE OF ANY SHARP OR ABRASIVE ELEMENTS. EDGES SHALL HAVE A MINIMUM RADIUS OF 1/8 IN.



5 CITY OF AUSTIN PATH ACCESSIBILITY

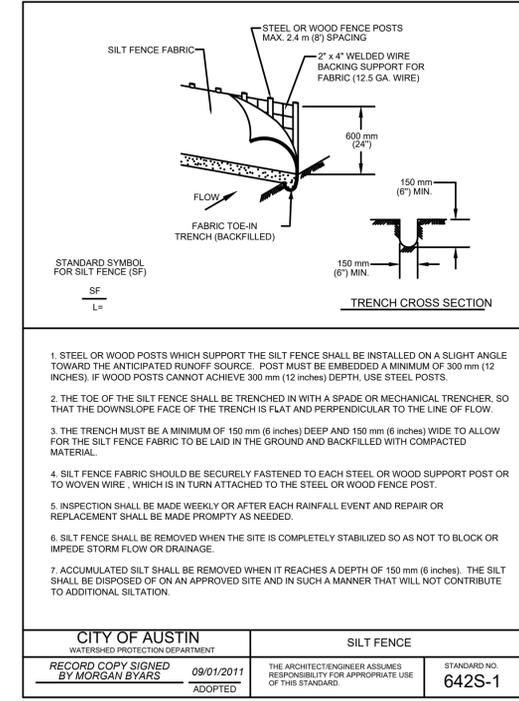
N.T.S.



<b>CITY OF AUSTIN</b> WATERSHED PROTECTION DEPARTMENT	<b>TREE PROTECTION FENCE</b> TYPE A - CHAIN LINK	STANDARD NO.
RECORD COPY SIGNED BY J. PATRICK MURPHY 11/16/99 ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	610S-2

3 CITY OF AUSTIN TREE PROTECTION FENCE STANDARD

N.T.S.



<b>CITY OF AUSTIN</b> WATERSHED PROTECTION DEPARTMENT	<b>SILT FENCE</b>	STANDARD NO.
RECORD COPY SIGNED BY MORGAN BYARS 09/01/2011 ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	642S-1

1 CITY OF AUSTIN SILT FENCE STANDARD

N.T.S.



PROFESSIONAL SEAL:  
DATE SEALED: 05/06/2022  
PROJECT NAME:  
**AVERY RANCH PARK**

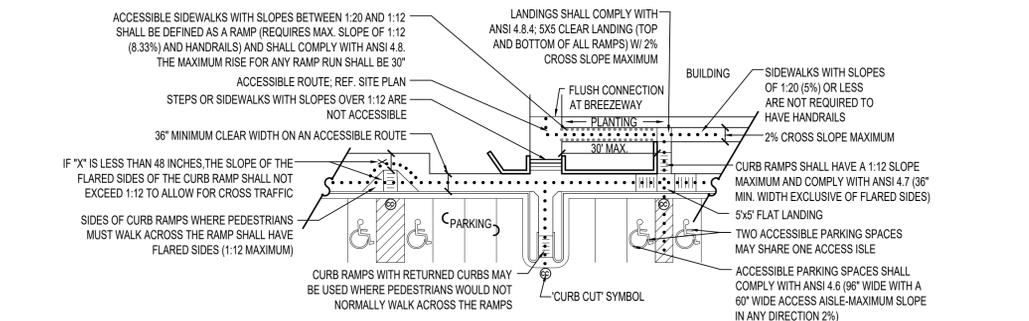
OWNER:  
**AVERY LAND INVESTORS LP**

PROJECT LOCATION:  
**9204 NORTH LAKE CREEK PKWY  
AUSTIN, TX, 78613**



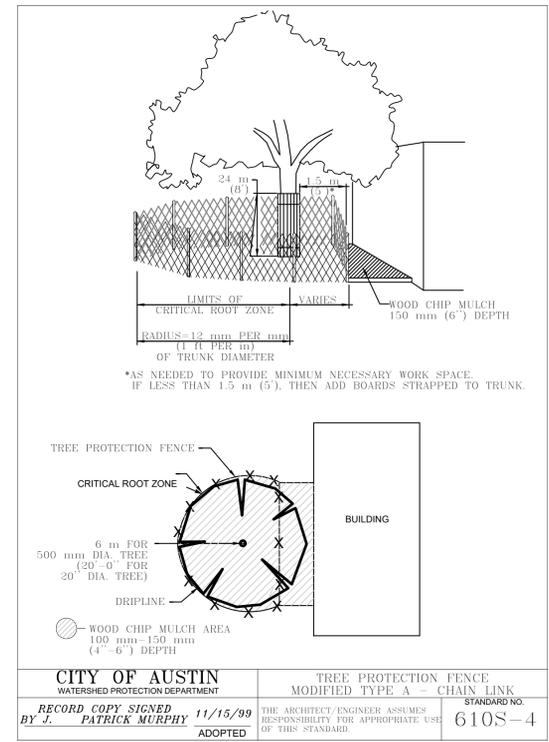
James R. McCann  
04/21/2023

REVISIONS:  
FILE NUMBER: SP-2022-0441C  
CASE MANAGER: JENNIFER BENNETT  
APPROVED ADMINISTRATIVELY ON: 09/21/2022  
APPROVED BY PLANNING COMMISSION ON: 046-22-02  
APPROVED BY CITY COUNCIL ON: 112 of Chapter 25-5 of the Austin City Code.  
DATE PRINTED: 05/12/2022  
DRAWING TITLE: **CONSTRUCTION DETAILS**  
SHEET NO.: **16** of 24



4 CITY OF AUSTIN PATH ACCESSIBILITY

N.T.S.



<b>CITY OF AUSTIN</b> WATERSHED PROTECTION DEPARTMENT	<b>TREE PROTECTION FENCE</b> MODIFIED TYPE A - CHAIN LINK	STANDARD NO.
RECORD COPY SIGNED BY J. PATRICK MURPHY 11/15/99 ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	610S-4

2 CITY OF AUSTIN TREE PROTECTION MODIFIED FENCE STANDARD

N.T.S.

FILE NUMBER: SP-2022-0441C	EXPIRATION DATE: 09/21/2022	COA PERMIT #: SP-2022-0441C
APPROVED ADMINISTRATIVELY ON: 09/21/2022	PROJECT #: 046-22-02	DATE PRINTED: 05/12/2022
APPROVED BY PLANNING COMMISSION ON: 046-22-02	DATE PRINTED: 05/12/2022	DRAWING TITLE: <b>CONSTRUCTION DETAILS</b>
APPROVED BY CITY COUNCIL ON: 112 of Chapter 25-5 of the Austin City Code.	DATE PRINTED: 05/12/2022	SHEET NO.: <b>16</b> of 24

PROFESSIONAL SEAL:



DATE SEALED: 05/06/2022

PROJECT NAME:  
**AVERY RANCH  
PARK**

OWNER:  
**AVERY LAND  
INVESTORS LP**

PROJECT LOCATION:  
**9204 NORTH  
LAKE CREEK  
PKWY  
AUSTIN, TX,  
78613**



James R. McCann  
04/21/2023

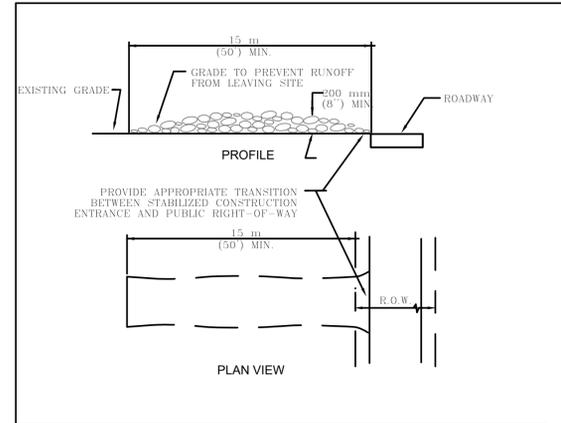
REVISIONS:

COA PERMIT #: SP-2022-0441C  
PROJECT #: 046-22-02  
DATE PRINTED: 05/12/2022

DRAWING TITLE:  
**CONSTRUCTION  
DETAILS**

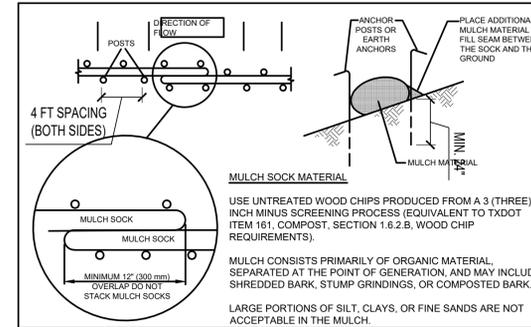
SHEET NO.:

**17** of 24



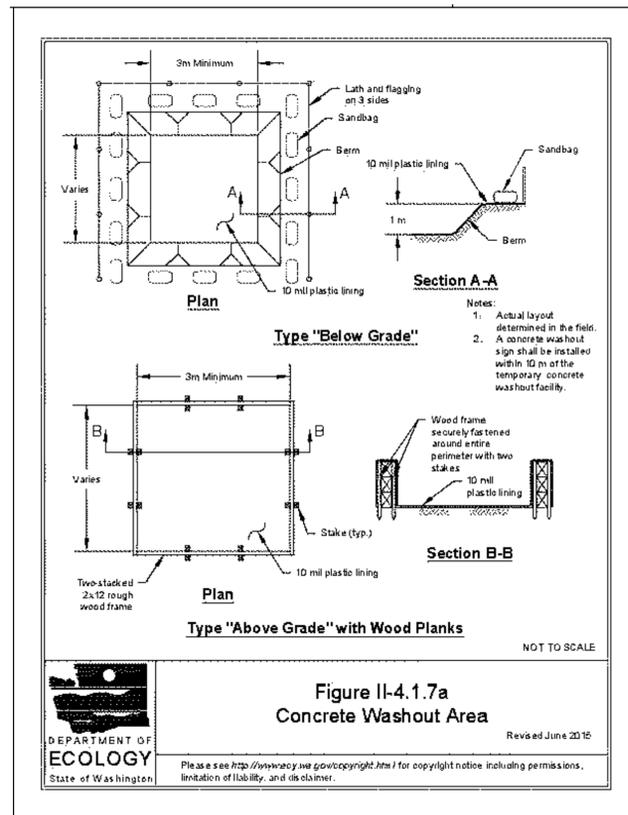
- NOTES:
- STONE SIZE: 75-125 mm (3-5") OPEN GRADED ROCK.
  - LENGTH: AS EFFECTIVE BUT NOT LESS THAN 15 m (50').
  - THICKNESS: NOT LESS THAN 200 mm (8").
  - WIDTH: NOT LESS THAN FULL WIDTH OF ALL POINTS OF INGRESS/EGRESS.
  - WASHING: WHEN NECESSARY, VEHICLE WHEELS SHALL BE CLEANED TO REMOVE SEDIMENT PRIOR TO ENTRANCE ONTO PUBLIC ROADWAY. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH CRUSHED STONE AND DRAINS INTO AN APPROVED TRAP OR SEDIMENT BASIN. ALL SEDIMENT SHALL BE PREVENTED FROM ENTERING ANY STORM DRAIN, DITCH OR WATERCOURSE USING APPROVED METHODS.
  - MAINTENANCE: THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION THAT WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC ROADWAY. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE AS CONDITIONS DEMAND AS WELL AS REPAIR AND CLEAN OUT OF ANY MEASURE DEVICES USED TO TRAP SEDIMENT. ALL SEDIMENTS THAT IS SPILLED, DROPPED, WASHED OR TRACKED ONTO PUBLIC ROADWAY MUST BE REMOVED IMMEDIATELY.
  - DRAINAGE: ENTRANCE MUST BE PROPERLY GRADED OR INCORPORATE A DRAINAGE SWALE TO PREVENT RUNOFF FROM LEAVING THE CONSTRUCTION SITE.

<b>CITY OF AUSTIN</b> WATERSHED PROTECTION DEPARTMENT	<b>STABILIZED CONSTRUCTION ENTRANCE</b>	STANDARD NO. <b>641S-1</b>
RECORD COPY SIGNED BY J. PATRICK MURPHY 5/23/00 ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	



- NOTES:
- STEEL OR WOOD POSTS WHICH SUPPORT THE MULCH SOCK SHALL BE INSTALLED ON A SLIGHT ANGLE TOWARD THE ANTICIPATED RUNOFF SOURCE. POST MUST BE EMBEDDED A MINIMUM OF 600mm (24 inches). IF WOOD POSTS CANNOT ACHIEVE 600mm (24 inches) DEPTH, USE STEEL POSTS. EARTH ANCHORS ARE ALSO ACCEPTABLE.
  - THE TOE OF THE MULCH SOCK SHALL BE PLACED SO THAT THE MULCH SOCK IS FLAT AND PERPENDICULAR TO THE LINE OF FLOW. IN ORDER TO PREVENT WATER FROM FLOWING BETWEEN THE JOINTS OF ADJACENT ENDS OF MULCH SOCKS, LAP THE ENDS OF ADJACENT MULCH SOCKS A MINIMUM OF 300mm (12 inches).
  - MULCH MATERIAL MUST BE FREE OF REFUSE, PHYSICAL CONTAMINANTS, AND MATERIAL TOXIC TO PLANT GROWTH; IT IS NOT ACCEPTABLE FOR THE MULCH MATERIAL TO CONTAIN GROUND CONSTRUCTION DEBRIS, BIOSOLIDS, OR MANURE.
  - SOCK MATERIAL WILL BE 100% BIODEGRADABLE, PHOTODEGRADABLE, OR RECYCLABLE SUCH AS BURLAP, TWINE, UV PHOTODEGRADABLE PLASTIC, POLYESTER, OR ANY OTHER ACCEPTABLE MATERIAL.
  - MULCH SOCKS SHOULD BE USED AT THE BASE OF SLOPES NO STEEPER THAN 2:1 AND SHOULD NOT EXCEED THE MAXIMUM SPACING CRITERIA PROVIDED IN CITY OF AUSTIN ENVIRONMENTAL CRITERIA MANUAL TABLE 14.5.F.1 FOR A GIVEN SLOPE CATEGORY.
  - ACCUMULATED SILT SHALL BE REMOVED WHEN IT REACHES A DEPTH OF 150mm (6 inches). THE SILT SHALL BE DISPOSED OF ON AN APPROVED SITE AND IN SUCH A MANNER THAT WILL NOT CONTRIBUTE TO ADDITIONAL SILTATION.

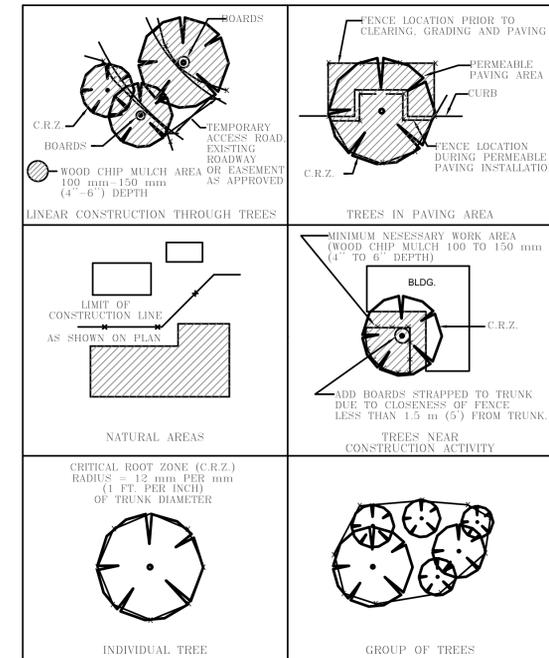
<b>CITY OF AUSTIN</b> WATERSHED PROTECTION DEPARTMENT	<b>MULCH SOCK</b>	STANDARD NO. <b>648S-1</b>
RECORD COPY SIGNED BY MORGAN BYARS 08/24/2010 ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	



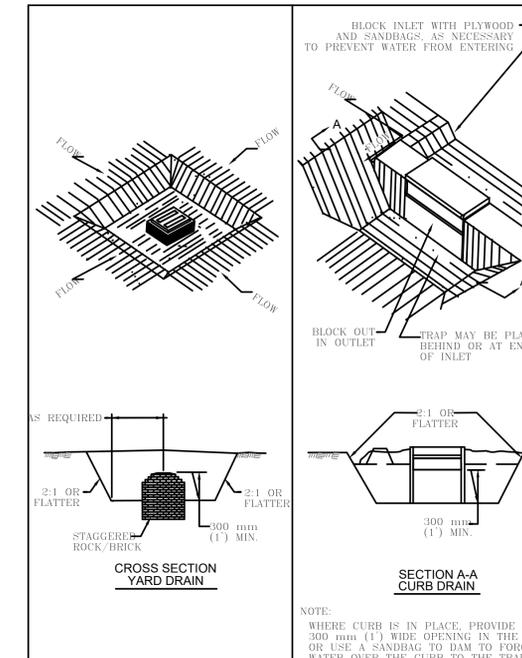
**Figure II-4.1.7a  
Concrete Washout Area**



Revised June 2015  
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<b>CITY OF AUSTIN</b> WATERSHED PROTECTION DEPARTMENT	<b>TREE PROTECTION FENCE LOCATIONS</b>	STANDARD NO. <b>610S-1</b>
RECORD COPY SIGNED BY J. PATRICK MURPHY 11/16/99 ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	



<b>CITY OF AUSTIN</b> WATERSHED PROTECTION DEPARTMENT	<b>STORM INLET SEDIMENT TRAP</b>	STANDARD NO. <b>632S-1</b>
RECORD COPY SIGNED BY J. PATRICK MURPHY 3/27/00 ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	

FILE NUMBER: SP-2022-0441C	SITE PLAN RELEASE	Sheet 17 of 24
CASE MANAGER: JENNIFER BENNETT	EXPIRATION DATE: 09/21/2022	
APPROVED ADMINISTRATIVELY ON: _____	APPROVED BY PLANNING COMMISSION ON: _____	
APPROVED BY CITY COUNCIL ON: _____	of Chapter 25-5 of the Austin City Code.	
Signing For Director, Development Services Department		
DATE OF RELEASE: _____	ZONING: MF-4	
_____	Correction 1	
_____	Correction 2	
_____	Correction 3	
RELEASE OF THIS APPLICATION DOES NOT CONSTITUTE A VERIFICATION OF ALL DATA. INFORMATION AND CALCULATIONS SUPPLIED BY THE APPLICANT. THE ENGINEER OF RECORD IS SOLELY RESPONSIBLE FOR THE COMPLETENESS, ACCURACY AND ADEQUACY OF HIS/HER SUBMITTAL, WHETHER OR NOT THE APPLICATION IS REVIEWED FOR CODE COMPLIANCE BY CITY ENGINEERS.		

PROFESSIONAL SEAL:

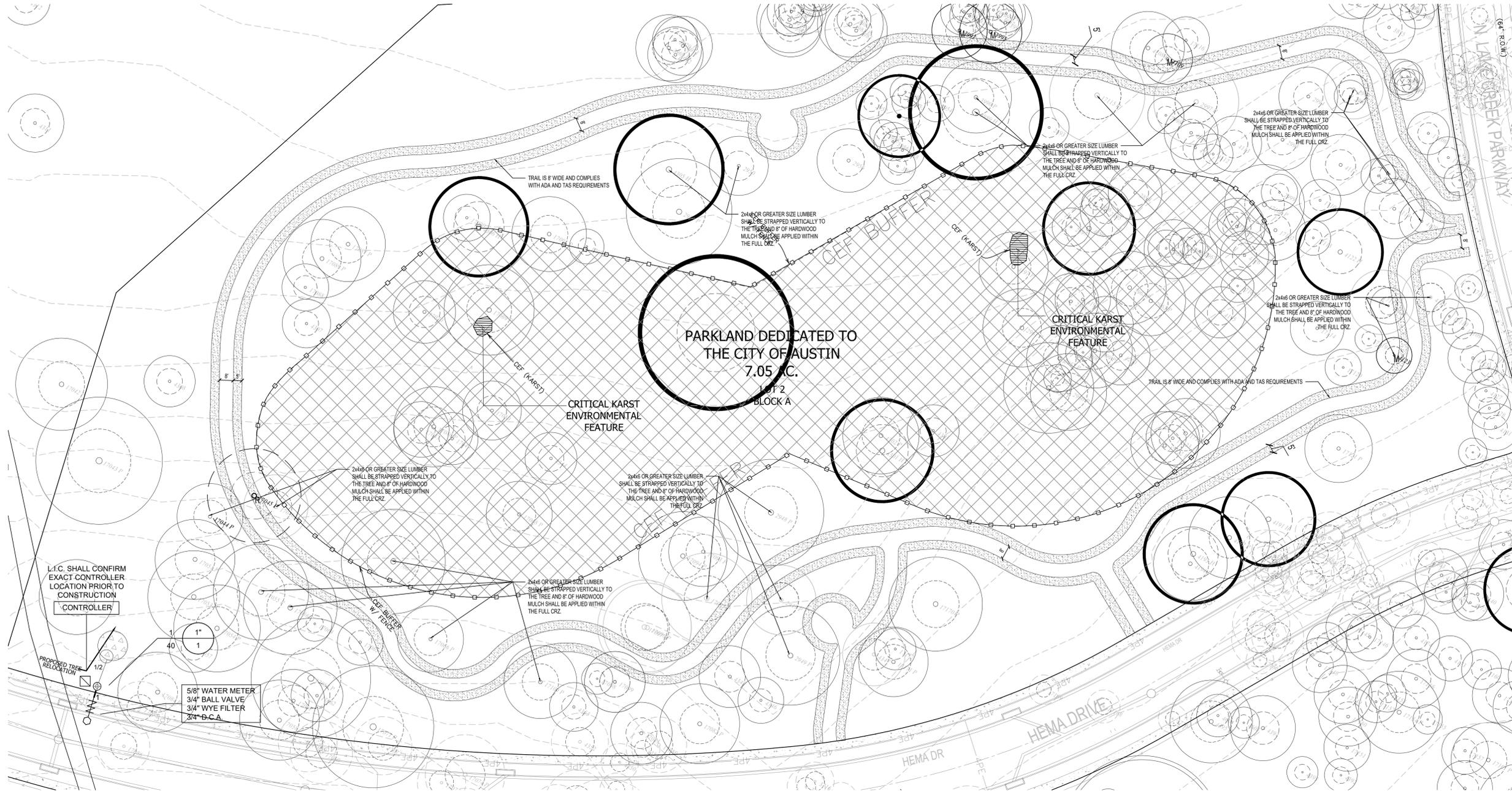


DATE SEALED: 05/06/2022

PROJECT NAME:  
**AVERY RANCH  
PARK**

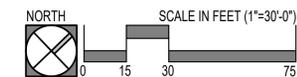
OWNER:  
**AVERY LAND  
INVESTORS LP**

PROJECT LOCATION:  
**9204 NORTH  
LAKE CREEK  
PKWY  
AUSTIN, TX,  
78613**



### IRRIGATION LEGEND

- NETAFIM TECHLINE CV SERIES TREE DRIP TUBE RINGS AT REFORESTATION AREAS. COORDINATE WITH PLANTING PLANS AND SEE INSTALLATION NOTE #9 REGARDING DRIP TREE RING PIPE LAYOUT IN REFORESTATION AREAS.
- HUNTER PCZ-101, ICZ-101, AND ICZ-102 DRIP VALVE ASSEMBLY WITH 40 PSI PRESSURE REGULATOR AND 120 MESH SCREEN, WITH #458200 D.C. LATCHING SOLENOID
- ZURN / WILKINS 350 SERIES D.C.A. INSTALLED PER CITY CODE, WITH SAME SIZE ZURN / WILKINS 850 SERIES BRONZE BALL VALVE AND ZURN / WILKINS YB SERIES BRONZE WYE FILTER WITH 20 MESH STAINLESS STEEL SCREEN
- LASCO "V" SERIES SCH. 80 PVC TRUE UNION BALL VALVE, MAINLINE SIZE
- IRRIGATION WATER METER AND TAP, SIZE AS NOTED ON THE PLAN
- HUNTER NODE BATTERY POWERED CONTROL MODULE LOCATED IN VALVE BOX WITH WIRED RAIN AND FREEZE CLIK DEVICE LOCATE SENSOR AS FIELD DIRECTED BY THE LANDSCAPE ARCHITECT
- CLASS 200 PVC MAINLINE PIPE
- CLASS 200 (EXCEPT 1/2 INCH #315) PVC LATERAL PIPE



SITE PLAN RELEASE		Sheet 18 of 24
FILE NUMBER: SP-2022-0441C	EXPIRATION DATE: 09/21/2022	COA PERMIT #: SP-2022-0441C
CASE MANAGER: JENNIFER BENNETT	APPROVED ADMINISTRATIVELY ON: 046-22-02	PROJECT #: 046-22-02
APPROVED BY PLANNING COMMISSION ON: _____	DATE PRINTED: 05/12/2022	DATE OF RELEASE: _____
APPROVED BY CITY COUNCIL ON: _____	of Chapter 25-5 of the Austin City Code.	DRAWING TITLE: IRRIGATION PLAN
Signing For Director, Development Services Department		
DATE OF RELEASE: _____	ZONING: MF-4	REVISIONS:
Correction 1	Correction 2	Correction 3
RELEASE OF THIS APPLICATION DOES NOT CONSTITUTE A VERIFICATION OF ALL DATA. INFORMATION AND CALCULATIONS SUPPLIED BY THE APPLICANT. THE ENGINEER OF RECORD IS SOLELY RESPONSIBLE FOR THE COMPLETENESS, ACCURACY AND ADEQUACY OF HIS/HER SUBMITTAL, WHETHER OR NOT THE APPLICATION IS REVIEWED FOR CODE COMPLIANCE BY CITY ENGINEERS.		

REVISIONS:

IRRIGATION  
PLAN

SHEET NO.:

PROFESSIONAL SEAL:



DATE SEALED: 05/06/2022

PROJECT NAME:

AVERY RANCH PARK

OWNER:

AVERY LAND INVESTORS LP

PROJECT LOCATION:

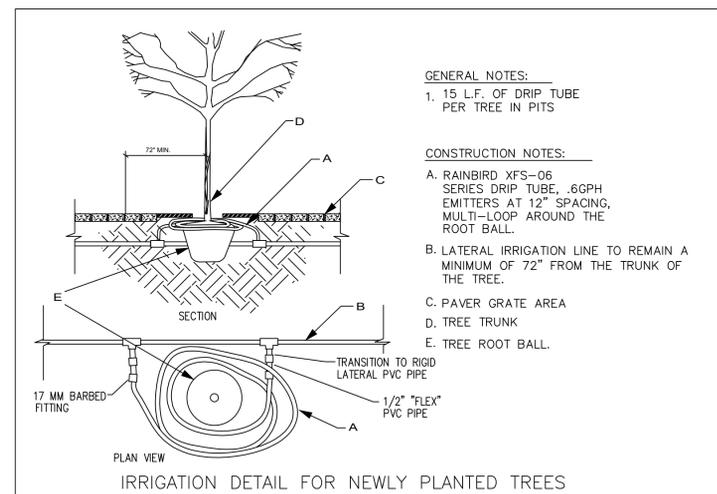
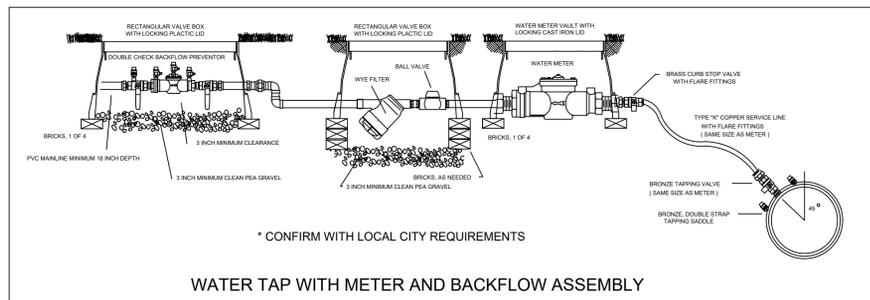
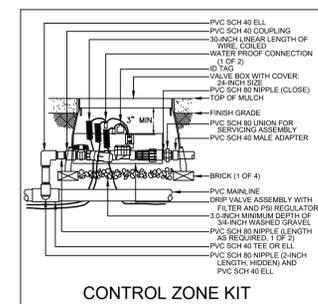
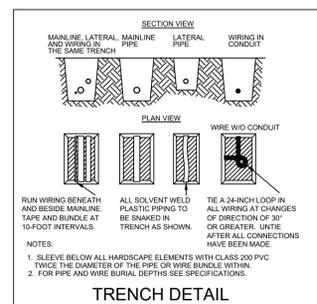
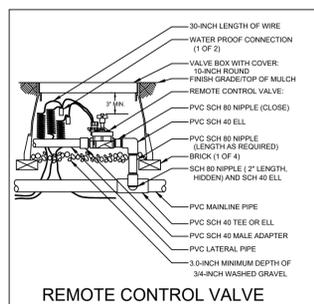
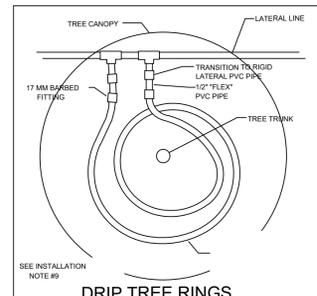
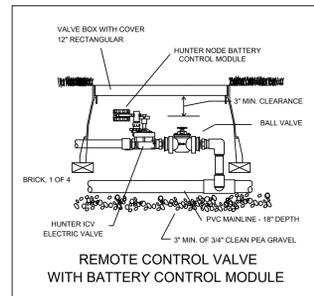
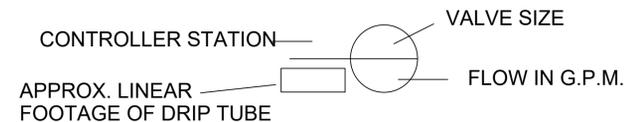
9204 NORTH LAKE CREEK PKWY  
AUSTIN, TX, 78613

## INSTALLATION NOTES

- COORDINATE IRRIGATION INSTALLATION WITH PLANTING PLAN AND SITE CONDITIONS TO PROVIDE COMPLETE COVERAGE WITH MINIMUM OVERSPRAY. THE IRRIGATION CONTRACTOR SHALL MAKE MINOR ADJUSTMENTS TO ENSURE PROPER COVERAGE AT NO ADDITIONAL COST TO THE OWNER. THE IRRIGATION CONTRACTOR SHALL COMPLY WITH ALL LOCAL AND STATE MANDATED IRRIGATION ORDINANCES AND CODES, AND WILL SECURE ALL REQUIRED PERMITS. L.I.C. SHALL PAY ANY ASSOCIATED FEES UNLESS OTHERWISE NOTED. ALL LOCAL CODES SHALL PREVAIL OVER ANY DISCREPANCIES HEREIN AND SHALL BE ADDRESSED BEFORE ANY CONSTRUCTION BEGINS.
- NO MACHINE TRENCHING SHALL BE PERMITTED WITHIN THE ROOT ZONE OF EXISTING TREES. HAND-DIG ONLY, WITHIN THE ROOT ZONES OF EXISTING TREES. NO ROOTS OVER 1" DIAMETER SHALL BE CUT. STAKE ALL PROPOSED TRENCH ROUTES NEAR EXISTING TREES FOR APPROVAL BY THE LANDSCAPE ARCHITECT BEFORE DIGGING BEGINS.
- CONFIRM MINIMUM STATIC WATER PRESSURE OF 65 PSI AT THE HIGHEST ELEVATION OF THE SYSTEM LIMITS, AND MAXIMUM STATIC WATER PRESSURE OF 90 P.S.I. AT THE LOWEST ELEVATION OF THE SYSTEM LIMITS AT LEAST 7 DAYS BEFORE BEGINNING WORK. IF STATIC WATER PRESSURE IS OUTSIDE THE RANGE STATED ABOVE, DO NOT PROCEED UNTIL DIRECTED BY THE LANDSCAPE ARCHITECT.
- LATERAL PIPE SHALL BE INSTALLED AT A MINIMUM DEPTH OF 12 INCHES. MAINLINE PIPE AND WIRES SHALL BE INSTALLED AT A MINIMUM DEPTH OF 18 INCHES. NO MACHINE TRENCHING SHALL BE PERMITTED WITHIN EXISTING TREE ROOT ZONES. WHEN HAND - TRENCHING WITHIN EXISTING TREE ROOT ZONES, NO ROOTS LARGER THAN 1" DIAMETER SHALL BE CUT.
- 24 VOLT VALVE WIRE SHALL BE A MINIMUM OF #14 GAUGE, U.F. APPROVED FOR DIRECT BURIAL, SINGLE CONDUCTOR "IRRIGATION WIRE". WIRE SPLICES SHALL INCLUDE DBY CONNECTORS AS MANUFACTURED BY 3M COMPANY. ALL FIELD SPLICES SHALL BE LOCATED IN A ROUND VALVE BOX OF SUFFICIENT SIZE TO ALLOW INSPECTION.
- VALVE BOXES SHALL BE INSTALLED FLUSH WITH GRADE, SUPPORTED BY BRICKS IF NEEDED, WITH 3 INCHES OF CLEAN PEA GRAVEL LOCATED BELOW THE VALVE. USE 12" x 17" RECTANGULAR VALVE BOXES WITH PURPLE LID FOR QUICK COUPLING VALVES, AND 10" ROUND BOXES FOR ELECTRIC VALVES UNLESS NOTED OTHERWISE. D.C.A. WITH UPSTREAM BALL VALVE AND WYE FILTER SHALL BE BOXED AND LOCATED ACCORDING TO LOCAL CODE.
- CONTRACTOR IS TO CONTACT APPROPRIATE AUTHORITIES AND LOCATE ALL UTILITIES PRIOR TO CONSTRUCTION.
- THE PROPOSED LOCATIONS OF ALL ABOVE-GROUND EQUIPMENT INCLUDING BACKFLOW PREVENTORS, CONTROLLERS AND WEATHER SENSORS SHALL BE STAKED BY THE CONTRACTOR FOR APPROVAL BY THE LANDSCAPE ARCHITECT OR OWNER'S REPRESENTATIVE BEFORE THESE ITEMS ARE INSTALLED.
- WHERE SHOWN ON THE PLANS, REFORESTATION AREAS SHALL INCLUDE NETAFIM TECHLINE CV SERIES DRIP TUBE TREE RINGS AT EACH PROPOSED NEW TREE. TREE RINGS SHALL INCLUDE PRE-INSTALLED 6 GPH DRIP EMITTERS EVERY 12", PLACED IN EVEN SPIRALS AROUND THE ROOT BALL OF EACH TREE. EACH 5 GALLON SIZE TREE DRIP RING SHALL INCLUDE APPROX. 10 LINEAR FEET OF DRIP TUBE. EACH 15 GALLON SIZE TREE DRIP RING SHALL INCLUDE APPROX. 25 LINEAR FEET OF DRIP TUBE. EACH MACHINE DUG TREE DRIP RING SHALL INCLUDE APPROX. 40 LINEAR FEET OF DRIP TUBE. TREE DRIP RINGS SHALL BE CONNECTED TO VALVES AS SHOWN WITH POLYETHYLENE LATERAL PIPE, SIZED TO ALLOW A MAXIMUM FLOW VELOCITY OF FIVE FEET PER SECOND. POLY. LATERAL PIPE AND TREE DRIP RINGS SHALL BE INSTALLED AT GRADE, STAKED BELOW MULCH LAYER AT 24" INTERVALS. COORDINATE WITH LANDSCAPE PLAN FOR SIZES AND LOCATIONS OF PROPOSED TREES IN REFORESTATION AREAS.
- ALL VALVES SERVED BY NODE CONTROLLER MODULE SHALL INCLUDE DC LATCHING SOLENOIDS MODEL #458200.

## IRRIGATION LEGEND

- NETAFIM TECHLINE CV SERIES TREE DRIP TUBE RINGS AT REFORESTATION AREAS. COORDINATE WITH PLANTING PLANS AND SEE INSTALLATION NOTE #9 REGARDING DRIP TREE RING PIPE LAYOUT IN REFORESTATION AREAS.
- HUNTER PCZ-101, ICZ-101, AND ICZ-102 DRIP VALVE ASSEMBLY WITH 40 PSI PRESSURE REGULATOR AND 120 MESH SCREEN, WITH #458200 D.C. LATCHING SOLENOID
- ZURN / WILKINS 330 SERIES D.C.A. INSTALLED PER CITY CODE, WITH SAME SIZE ZURN / WILKINS 850 SERIES BRONZE BALL VALVE AND ZURN / WILKINS YB SERIES BRONZE WYE FILTER WITH 20 MESH STAINLESS STEEL SCREEN
- LASCO 1/2" SERIES SCH. 80 PVC TRUE UNION BALL VALVE, MAINLINE SIZE
- IRRIGATION WATER METER AND TAP, SIZE AS NOTED ON THE PLAN
- HUNTER NODE BATTERY POWERED CONTROL MODULE LOCATED IN VALVE BOX WITH WIRED RAIN AND FREEZE CLIK DEVICE
- LOCATE SENSOR AS FIELD DIRECTED BY THE LANDSCAPE ARCHITECT
- CLASS 200 PVC MAINLINE PIPE
- CLASS 200 ( EXCEPT 1/2 INCH #315 ) PVC LATERAL PIPE



SITE PLAN RELEASE		Sheet 19 of 24
FILE NUMBER: SP-2022-0441C	EXPIRATION DATE:	
CASE MANAGER: JENNIFER BENNETT	APPLICATION DATE: 09/21/2022	
APPROVED ADMINISTRATIVELY ON:		
APPROVED BY PLANNING COMMISSION ON:		
APPROVED BY CITY COUNCIL ON:		
112	of Chapter 25.5	of the Austin City Code.
Signing For Director, Development Services Department		
DATE OF RELEASE:	ZONING: MF-4	
	Correction 1	
	Correction 2	
	Correction 3	
RELEASE OF THIS APPLICATION DOES NOT CONSTITUTE A VERIFICATION OF ALL DATA, INFORMATION AND CALCULATIONS SUPPLIED BY THE APPLICANT. THE ENGINEER OF RECORD IS SOLELY RESPONSIBLE FOR THE COMPLETENESS, ACCURACY AND ADEQUACY OF HIS/HER SUBMITTAL, WHETHER OR NOT THE APPLICATION IS REVIEWED FOR CODE COMPLIANCE BY CITY ENGINEERS.		

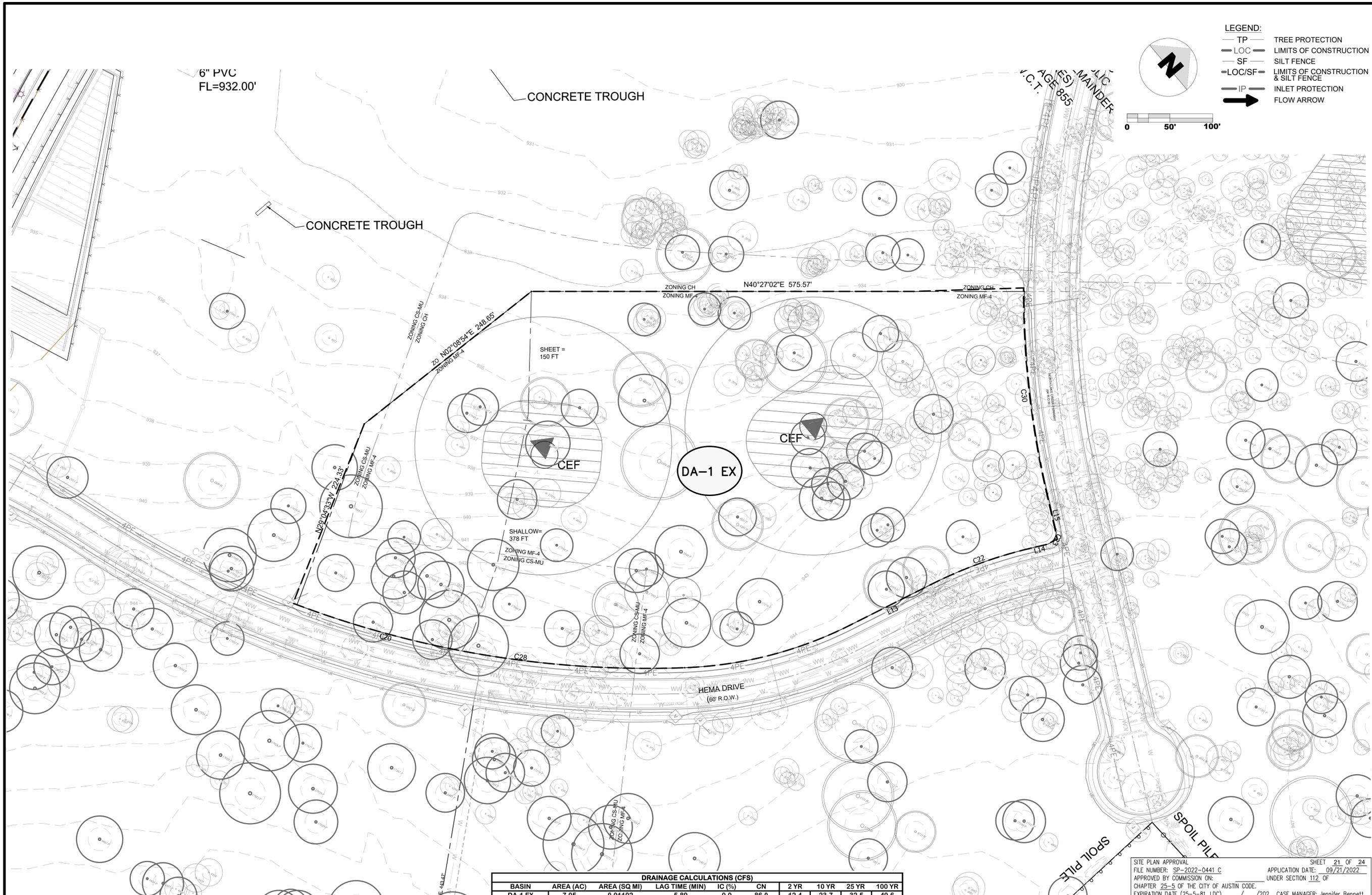
REVISIONS:

COA PERMIT #: SP-2022-0441C  
PROJECT #: 046-22-02  
DATE PRINTED: 05/12/2022

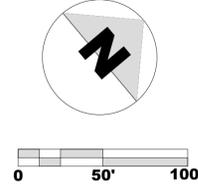
DRAWING TITLE:  
**IRRIGATION NOTES & DETAILS**

SHEET NO.:





**LEGEND:**  
 TP TREE PROTECTION  
 LOC LIMITS OF CONSTRUCTION  
 SF SILT FENCE  
 LOC/SF LIMITS OF CONSTRUCTION & SILT FENCE  
 IP INLET PROTECTION  
 FLOW ARROW FLOW ARROW



BASIN	AREA (AC)	AREA (SQ MI)	LAG TIME (MIN)	IC (%)	CN	2 YR	10 YR	25 YR	100 YR
DA-1 EX	7.05	0.01102	5.89	0.0	86.0	12.4	23.7	32.5	49.6
DA-1 PR	7.05	0.01102	5.89	5.4	84.3	12.7	24.0	32.9	49.9

Drainage Area	SHEET FLOW						SHALLOW CONCENTRATED FLOW						CHANNEL FLOW		Lag Time (min)
	Length of Reach (ft)	Manning's n	2 yr Precipitation (in)	Slope (ft/ft)	Tt (min)	Paved			Unpaved			Tt (min)	Tc (min)		
						Length of Reach (ft)	Slope (ft/ft)	Tt (min)	Length of Reach (ft)	Slope (ft/ft)	Tt (min)				
DA-1 EX	150	0.06	3.44	0.01333	7.39				378	0.025661	2.44	0.00	9.82	5.89	
DA-1 PR	150	0.06	3.44	0.0133	7.39				378	0.025661	2.44	0.00	9.82	5.89	

LOCATION OF EXISTING UNDERGROUND AND OVERHEAD UTILITIES ARE APPROXIMATE LOCATIONS ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES PRIOR TO BEGINNING WORK AND SHALL BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT OCCUR.



SITE PLAN APPROVAL SHEET 21 OF 24  
 FILE NUMBER: SP-2022-0441 C APPLICATION DATE: 09/21/2022  
 APPROVED BY COMMISSION ON: UNDER SECTION 112 OF CHAPTER 25-5 OF THE CITY OF AUSTIN CODE.  
 EXPIRATION DATE (25-5-81, LDC) /202 CASE MANAGER: Jennifer Bennett  
 PROJECT EXPIRATION DATE (OED #970905-A) DWZ DDZ X  
 DIRECTOR, DEVELOPMENT SERVICES DEPARTMENT RELEASED FOR GENERAL COMPLIANCE: ZONING: MH-4  
 REV 1: CORRECTION 1:  
 REV 2: CORRECTION 2:  
 REV 3: CORRECTION 3:  
 FINAL PLAT MUST BE RECORDED BY THE PROJECT EXPIRATION DATE, IF APPLICABLE. SUBSEQUENT SITE PLANS WHICH DO NOT COMPLY WITH THE CODE CURRENT AT THE TIME OF FILING, AND ALL REQUIRED BUILDING PERMITS AND/OR A NOTICE OF CONSTRUCTION (IF A BUILDING PERMIT IS NOT REQUIRED), MUST ALSO BE APPROVED PRIOR TO THE PROJECT EXPIRATION DATE.

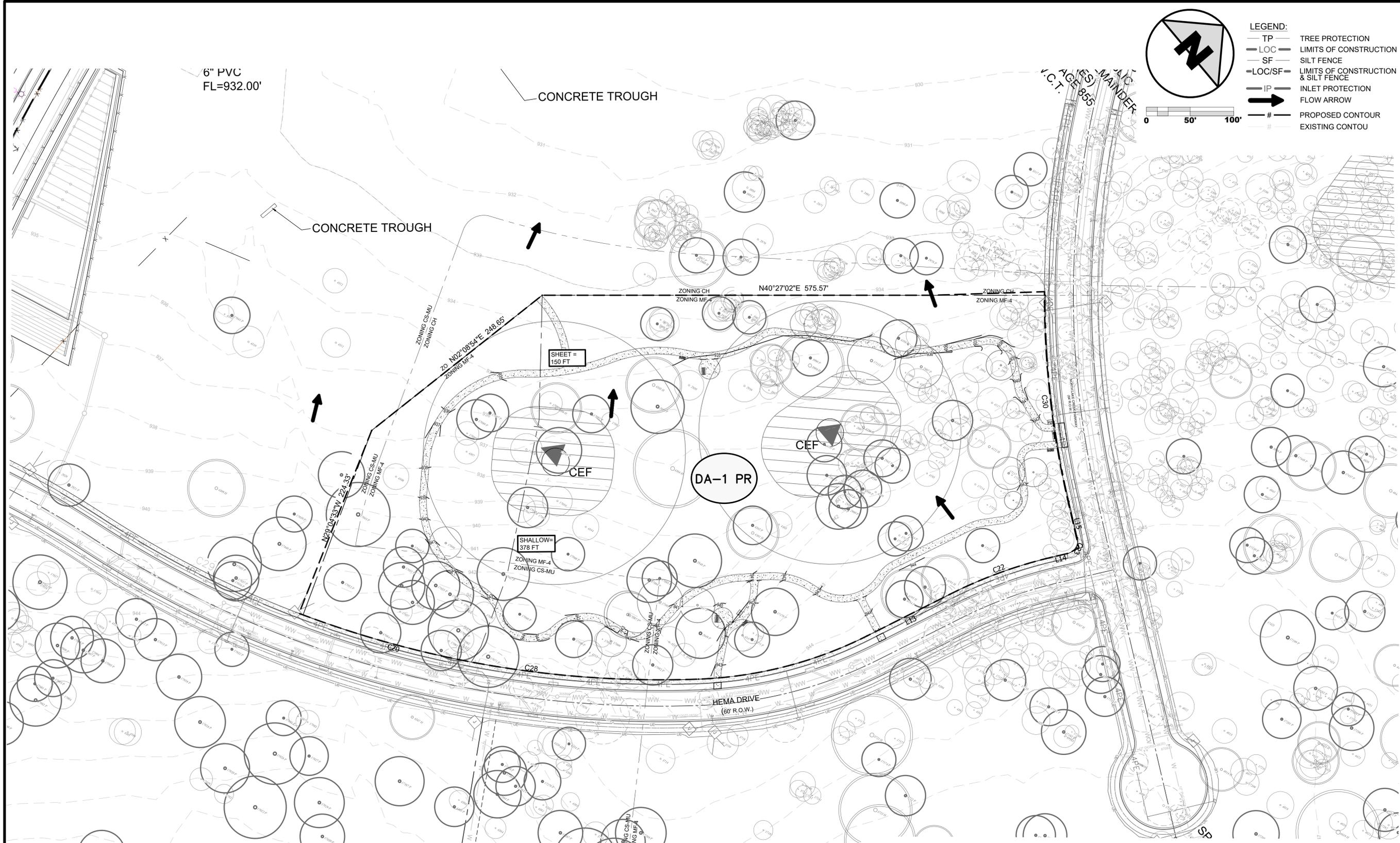
Date	Description	Rev



James R. McCann  
04/21/2023

**Avery Oaks Park**  
 Plans for Site Improvements  
 9204 North Lake Creek Parkway, Austin, TX 78613  
 Drainage Area Map-Existing Conditions

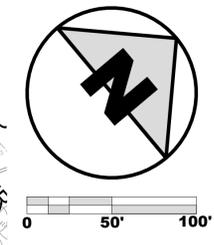
DMO
21
24
SP-2022-0441C



6" PVC  
FL=932.00'

CONCRETE TROUGH

CONCRETE TROUGH



- LEGEND:**
- TP — TREE PROTECTION
  - LOC — LIMITS OF CONSTRUCTION
  - SF — SILT FENCE
  - LOC/SF — LIMITS OF CONSTRUCTION & SILT FENCE
  - IP — INLET PROTECTION
  - FLOW ARROW
  - # — PROPOSED CONTOUR
  - # — EXISTING CONTOUR

SHEET =  
150 FT

SHALLOW =  
378 FT

DA-1 PR

DRAINAGE CALCULATIONS (CFS)									
BASIN	AREA (AC)	AREA (SQ MI)	LAG TIME (MIN)	IC (%)	CN	2 YR	10 YR	25 YR	100 YR
DA-1 EX	7.05	0.01102	5.89	0.0	86.0	12.4	23.7	32.5	49.6
DA-1 PR	7.05	0.01102	5.89	5.4	84.3	12.7	24.0	32.9	49.9

IMPERVIOUS COVER CALCULATIONS			
	ACRES	SQ. FT.	PERCENT
TOTAL SITE AREA	7.05	307,293	
SIDEWALK IMPERVIOUS COVER	0.36	16,412	5.34%
PARKING LOT IMPERVIOUS COVER	0.00	0	0.00%
TOTAL IMPERVIOUS COVER	0.36	16,412	5.34%

Drainage Area	SHEET FLOW						SHALLOW CONCENTRATED FLOW						CHANNEL FLOW	Tc (min)	Lag Time (min)
	Length of Reach (ft)	Manning's n	2 yr Precipitation (in)	Slope (ft/ft)	Tt (min)	Paved			Unpaved						
						Length of Reach (ft)	Slope (ft/ft)	Tt (min)	Length of Reach (ft)	Slope (ft/ft)	Tt (min)				
DA-1 EX	150	0.06	3.44	0.01333	7.39				378	0.025661	2.44	0.00	9.82	5.89	
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SITE PLAN APPROVAL  
FILE NUMBER: SP-2022-0441 C APPLICATION DATE: 09/21/2022 SHEET 22 OF 24  
APPROVED BY COMMISSION ON: UNDER SECTION 112 OF  
CHAPTER 25-5 OF THE CITY OF AUSTIN CODE.  
EXPIRATION DATE (25-5-81, LDC) /202\_ CASE MANAGER: Jennifer Bennett  
DWPZ DDZ X  
PROJECT EXPIRATION DATE (OED #970905-A) /202\_  
DIRECTOR, DEVELOPMENT SERVICES DEPARTMENT  
RELEASED FOR GENERAL COMPLIANCE: ZONING: MH-4  
REV1: CORRECTION 1:  
REV2: CORRECTION 2:  
REV3: CORRECTION 3:  
FINAL PLAT MUST BE RECORDED BY THE PROJECT EXPIRATION DATE, IF APPLICABLE. SUBSEQUENT SITE PLANS WHICH DO NOT COMPLY WITH THE CODE CURRENT AT THE TIME OF FILING, AND ALL REQUIRED BUILDING PERMITS AND/OR A NOTICE OF CONSTRUCTION (IF A BUILDING PERMIT IS NOT REQUIRED), MUST ALSO BE APPROVED PRIOR TO THE PROJECT EXPIRATION DATE.

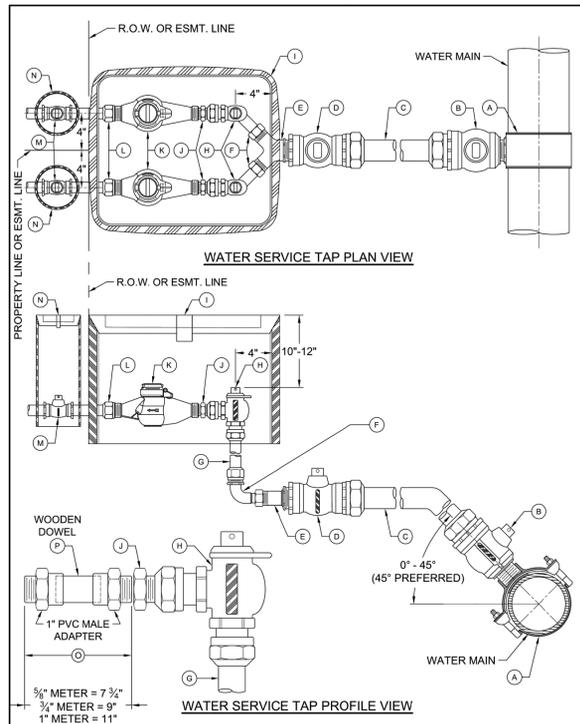
Date	Description	Rev



James R. McCann  
04/21/2023

**Avery Oaks Park**  
Plans for Site Improvements  
9204 North Lake Creek Parkway, Austin, TX 78613  
Drainage Area Map-Proposed Conditions

DM1
22 / 24
SP-2022-0441C



- MATERIALS LIST:**
- A. 2" SERVICE CLAMP, SPL WW-264
  - B. 2" CORPORATION STOP, SPL WW-68
  - C. 2" HDPE WATER SERVICE TUBING, SPL WW-65
  - D. 2" BALL VALVE, SPL WW-68
  - E. SINGLE SERVICE: 2" MIP X 1" COPPER FLARE FITTING, SPL WW-68 OR DOUBLE SERVICE: 2" MIP X 1" COPPER FLARE WYE, SPL WW-68
  - F. 1" SWIVEL NUT X 1" COMPRESSION 90° BEND, SPL WW-68
  - G. 1" HDPE WATER SERVICE TUBING, SPL WW-65
  - H. 1" ANGLE METER STOP, SPL WW-68
  - I. METER BOX AND LID, SPL WW-145A; FOR DUAL 1" METERS: USE TWO SINGLE METER BOXES

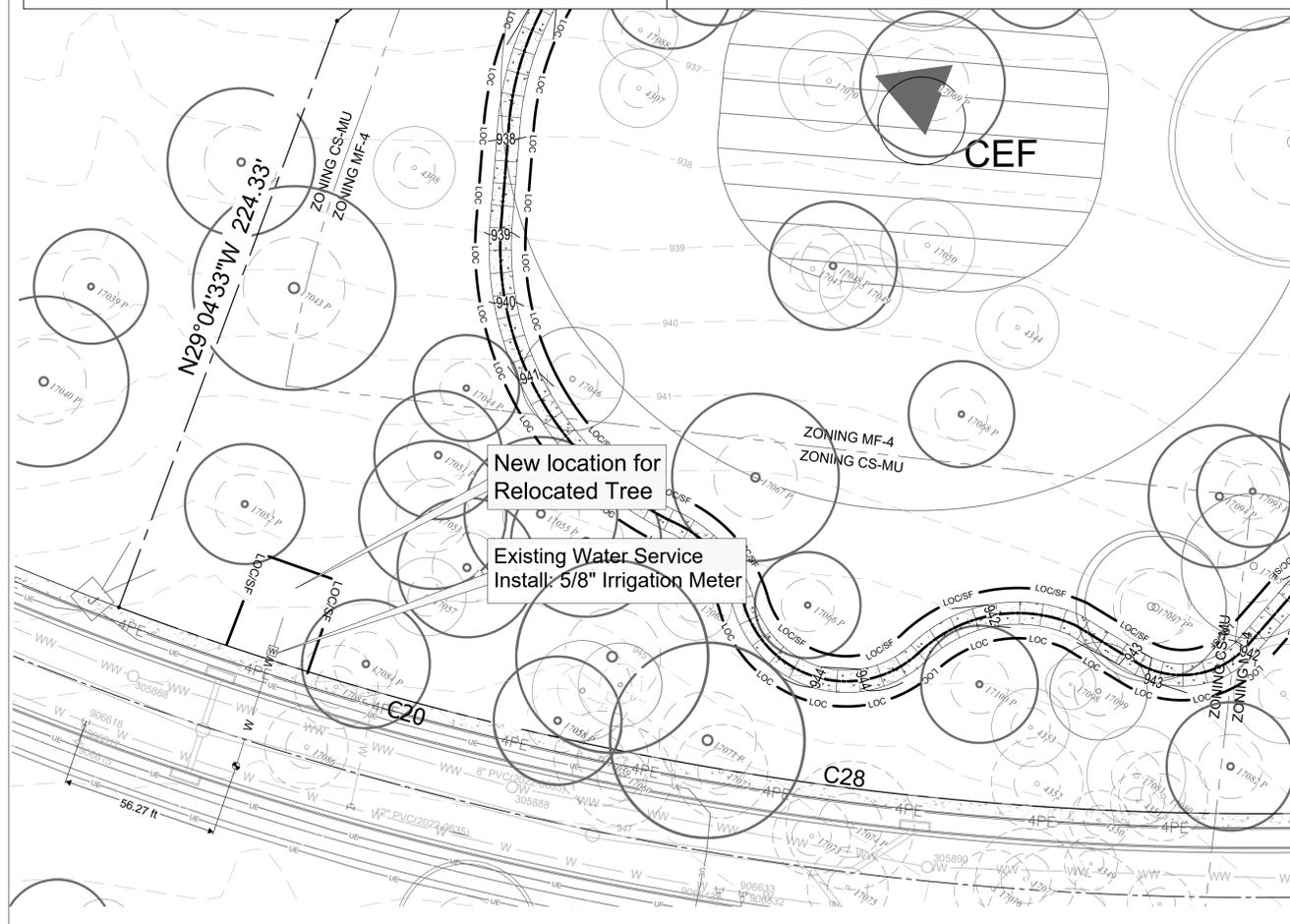
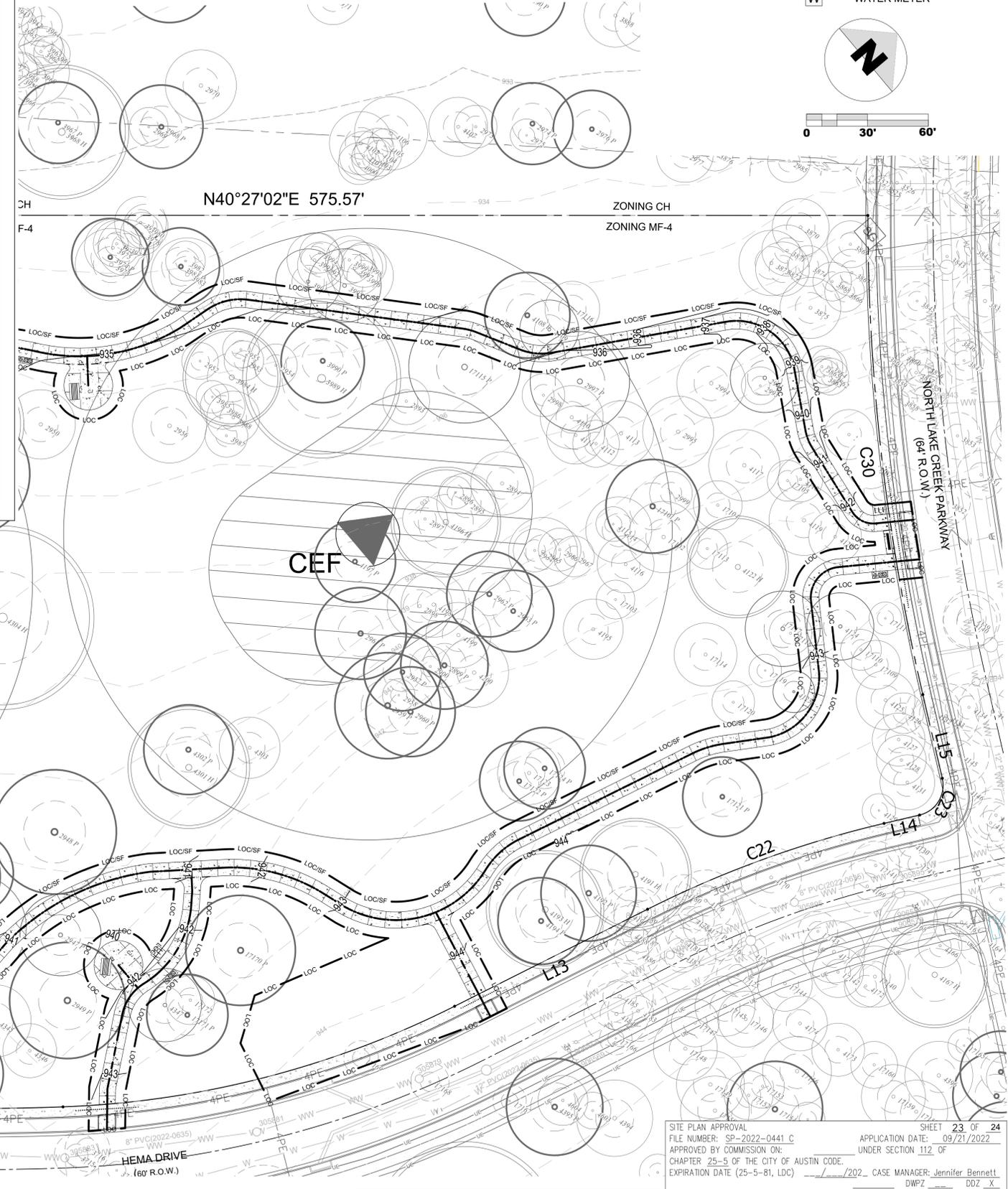
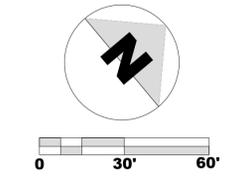
- MATERIALS TO BE INSTALLED BY PLUMBER:**
- J. BRASS METER BUSHING - SIZE AS NEEDED TO CONNECT ANGLE METER STOP TO METER
  - K. WATER METER PURCHASED FROM AUSTIN WATER
  - L. BRASS WATER METER COUPLING MALE IPT X SWIVEL COUPLING NUT: 3/4" AND 1/2" METERS: 8 1/2" LONG X 3/4" DIA. 1" METERS: 8 1/2" LONG X 1" DIA.
  - M. PROPERTY OWNER'S CUT OFF VALVE, SPL WW-276
  - N. PROPERTY OWNER'S CUT OFF VALVE BOX AND LID
  - O. TEMPORARY METER SPACER (REQUIRED TO ASSURE METER WILL FIT APPROPRIATELY)
  - P. 1" WOODEN DOWEL (SHOW ADDRESS ON DOWEL USING WATERPROOF MARKER)

- NOTES:**
1. SERVICE CLAMP SHALL BE WRAPPED COMPLETELY WITH 8 MIL. POLYETHYLENE FILM, SPL WW-27D.
  2. BRANCH CONNECTIONS AND ALL ANGLE METER STOPS MUST BE INSTALLED PRIOR TO ANY METER INSTALLATION.
  3. TOP OF METER BOXES SHOULD BE 4" ABOVE GROUND.
  4. PIPING AND TUBING IN STREET RIGHT-OF-WAY SHALL BE BEDDED IN GRANULAR MATERIALS AS REQUIRED BY SECTION 510.3 (14) OF THE CITY OF AUSTIN STANDARD SPECIFICATIONS; BACKFILL ABOVE GRANULAR BEDDING AS REQUIRED BY SECTION 510.3 (25).
  5. METER BOX MUST BE BEHIND CURB NEXT TO PROPERTY LINE OR EASEMENT AND OUT OF VEHICULAR TRAFFIC AREA AND SIDEWALK.
  6. BALL VALVE "D" SHALL NOT BE LOCATED UNDER SIDEWALK, CURB, OR PAVEMENT, AND NOT BE LOCATED MORE THAN 36" BELOW FINAL GRADE.
  7. METER SIZES TO BE SHOWN ON PLANS.
  8. METER BOX CUT OUTS SHALL NOT EXCEED TWO TIMES THE PIPE DIAMETER.
  9. INSTALL METALLIC TRACER TAPE, SPL WW-597, MINIMUM 1" ABOVE TUBING FROM SERVICE CLAMP "A" TO BALL VALVE "D".
  10. TUBING SHALL BE PLACED IN A STRAIGHT ALIGNMENT AND ALLOWED TO RELAX AND "SNAKE" LOOSELY IN THE TRENCH. TUBING BEHIND CURB AND GUTTER SHALL BE INSTALLED WITH A MINIMUM 2" DEPTH OF COVER.
  11. 1" TUBING, WHEN BENT, SHALL HAVE A RADIUS NO SMALLER THAN 3'. 2" TUBING, WHEN BENT, SHALL HAVE A RADIUS NO SMALLER THAN 5'. BRASS FITTINGS SHALL NOT BE CONNECTED TO A BENT SECTION OF TUBING.
  12. SOLID, TUBULAR STAINLESS STEEL INSERT STIFFENERS FOR HDPE TUBING SHALL BE USED AT ALL COMPRESSION FITTINGS. INSERT STIFFENERS SHALL BE FROM THE SAME MANUFACTURER AS THE COMPRESSION FITTING USED.
  13. FOR RECLAIMED WATER SERVICES AND METERS, ALL RECLAIMED TUBING SHALL BE MANUFACTURED SOLID PURPLE, SPL WW-65A. ALL APPURTENANCES SHALL BE MANUFACTURED PURPLE IF AVAILABLE. ALL FITTINGS THAT ARE NOT AVAILABLE FROM THE MANUFACTURER IN PURPLE SHALL BE PAINTED PURPLE PER SPL WW-6C. ALL METER BOX LIDS SHALL BE PURPLE AND HAVE "RECLAIMED WATER" CAST INTO THEM, SPL WW-145A.

CITY OF AUSTIN AUSTIN WATER	WATER SERVICE & METER INSTALLATION - 1" & SMALLER METERS	STANDARD NO. 520-AW-01B 1 OF 2
RECORD COPY SIGNED JEFF A. KYLE	THE ENGINEER/ARCHITECT ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD. MODIFICATIONS TO THIS STANDARD ARE PROHIBITED.	ADOPTED 08/16/2019

CITY OF AUSTIN AUSTIN WATER	WATER SERVICE & METER INSTALLATION - 1" & SMALLER METERS	STANDARD NO. 520-AW-01B 2 OF 2
RECORD COPY SIGNED JEFF A. KYLE	THE ENGINEER/ARCHITECT ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD. MODIFICATIONS TO THIS STANDARD ARE PROHIBITED.	ADOPTED 08/16/2019

- LEGEND:**
- FIRE HYDRANT ASSEMBLY
  - GATE VALVE
  - WATER LINE
  - WATER METER



New location for Relocated Tree

Existing Water Service Install: 5/8" Irrigation Meter

LOCATION OF EXISTING UNDERGROUND AND OVERHEAD UTILITIES ARE APPROXIMATE LOCATIONS ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES PRIOR TO BEGINNING WORK AND SHALL BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT OCCUR.



SITE PLAN APPROVAL  
FILE NUMBER: SP-2022-0441 C APPLICATION DATE: 09/21/2022 SHEET 23 OF 24  
APPROVED BY COMMISSION ON: UNDER SECTION 112 OF  
CHAPTER 25-5 OF THE CITY OF AUSTIN CODE.  
EXPIRATION DATE (25-5-81, LDC) /202\_ CASE MANAGER: Jennifer Bennett  
DWPZ DDZ X  
PROJECT EXPIRATION DATE (OED #970905-A) /202\_

DIRECTOR, DEVELOPMENT SERVICES DEPARTMENT  
RELEASED FOR GENERAL COMPLIANCE: ZONING: MH-4

REV. 1: CORRECTION 1:  
REV. 2: CORRECTION 2:  
REV. 3: CORRECTION 3:

FINAL PLAT MUST BE RECORDED BY THE PROJECT EXPIRATION DATE, IF APPLICABLE. SUBSEQUENT SITE PLANS WHICH DO NOT COMPLY WITH THE CODE CURRENT AT THE TIME OF FILING, AND ALL REQUIRED BUILDING PERMITS AND/OR A NOTICE OF CONSTRUCTION (IF A BUILDING PERMIT IS NOT REQUIRED), MUST ALSO BE APPROVED PRIOR TO THE PROJECT EXPIRATION DATE.

Date	
Description	
Rev	



James R. McCann  
04/21/2023

**Avery Oaks Park**  
Plans for Site Improvements  
9204 North Lake Creek Parkway, Austin, TX 78613  
Water Distribution

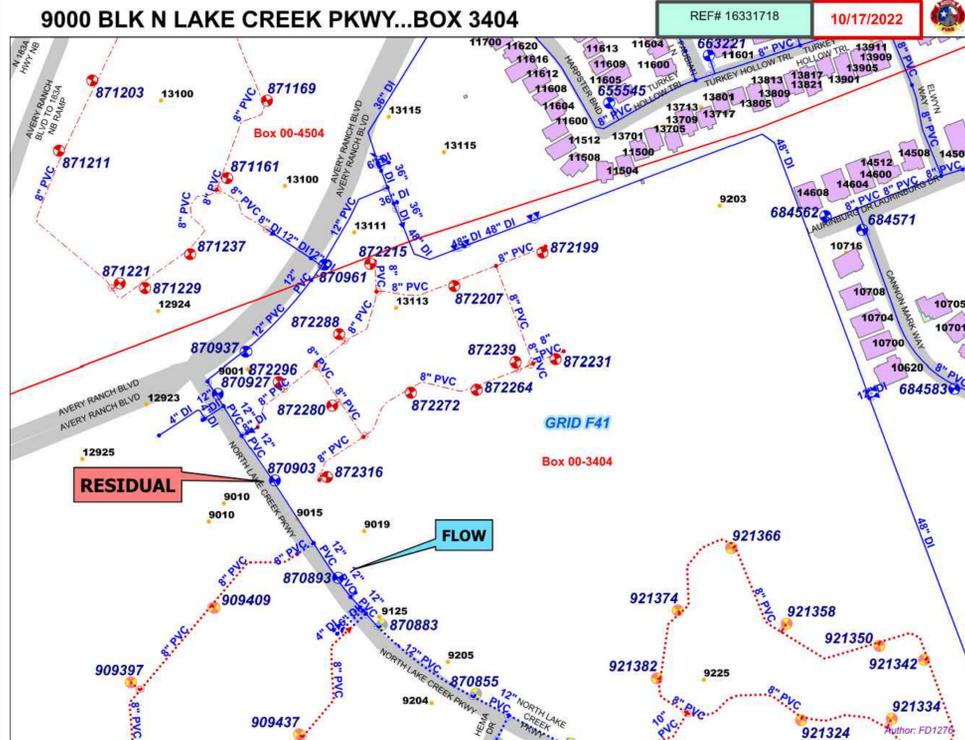
WDO
23
24
SP-2022-0441C

**GENERAL NOTES**

ALL RESPONSIBILITY FOR THE ADEQUACY OF THESE PLANS REMAINS WITH THE ENGINEER. APPROVAL OF THESE PLANS BY THE CITY OF AUSTIN DOES NOT REMOVE THESE RESPONSIBILITIES.  
 "REVIEWED BY AUSTIN WATER" APPLIES ONLY TO AW PUBLIC FACILITIES. ALL OTHER WATER AND WASTEWATER FACILITIES INSIDE PRIVATE PROPERTY ARE UNDER THE JURISDICTION OF BUILDING INSPECTIONS.

Use of Electronic Files General Disclaimer: Use of the attached files in any manner indicates your acceptance of terms and conditions as set forth below. If you do not agree to all of the terms and conditions, please contact Austin Water Pipeline Engineering, project coordinator prior to use of the referenced information. Please be advised that the attached files are in a format that can be altered by the user. Due to this fact, any reuse of the data will be at the user's sole risk without liability or legal exposure to the City of Austin and user shall indemnify and hold harmless The City of Austin from all claims, damages, losses and expenses including attorney's fees arising out of or resulting from using the digital file. In addition, it is the responsibility of the user to compare all data with the PDF version of this drawing. In the event there is a conflict between the PDF version drawing and the electronic file, the PDF version drawing shall prevail.

**FIRE FLOW TEST DATA**



Automated Metering Infrastructure: Effective March 2022, new water meters installed shall be in conformance with AW's automated metering infrastructure technology, and with the applicable standard product list. Applicants filing a site plan or subdivision plan will be required to coordinate with the Austin Water Plan Reviewer for details on approval and installation.

Prior to the handling and disposal of Asbestos Pipe, the Contractor's work plans will be reviewed and coordinated through Austin Water's Asbestos Program Manager who can be reached at 512-972-0915. It is the Contractor's responsibility to use a trained, certified and licensed Asbestos Abatement Contractor in accordance with the Federal, State and Local regulations.

Modifications to Austin Water signed and stamped sheets are not permitted. All design modifications will need to be submitted via the ABC portal for a Plan Correction or Revision. All unethical engineering practices, including modifying City Stamped plan sheets, shall be reported to the Texas Board of Professional Engineers and Land Surveyors (PELS).  
 Reference: Texas Engineering Practice Act and Rules, Subchapter C: Professional Conduct and Ethics

**SERVICE EXTENSION REQUESTS**

No new SER's needed for this Site Plan.

**PROJECT INFORMATION<sup>1</sup>**

FIRE, DOMESTIC AND IRRIGATION DEMAND DATA	
GRID NUMBER:	F40, F41
MAPSCO NUMBER:	406V, 403R
AW INTERSECTION NUMBER:	20349, 36360
BUILDING SIZE IN SQUARE FEET:	N/A
BUILDING TYPE PER IFC:	N/A
BUILDING HEIGHT:	N/A
AVAILABLE FIRE FLOW CALCS AT 20 PSI:	N/A
REQUIRED BUILDING FIRE FLOW PER IFC TABLE B105.1(2):	N/A
REDUCED FIRE FLOW PER 50% FIRE SPRINKLER REDUCTION PER IFC TABLE B105.2:	N/A
MINIMUM FIRE FLOW (SEE NOTE #2 BELOW):	N/A
DOMESTIC WATER DEMAND IN GPM:	NA
WATER SUPPLY FIXTURE UNITS (WSFU) FLUSH TANKS OR FLUSHMETERS (CIRCLE APPLICABLE ITEM):	TBD
AUSTIN WATER PRESSURE ZONE:	NORTHWEST B
STATIC WATER PRESSURE IN PSI:	82 psi
STATIC PRESSURE AT THE HIGHEST LOT SERVED IN PSI:	82 psi
STATIC PRESSURE AT THE LOWEST LOT SERVED IN PSI:	82 psi
MAXIMUM IRRIGATION DEMAND:	TBD
FIRE LINE VELOCITY: ___ SIZE OF FIRE LINE	N/A
DOMESTIC LINE VELOCITY: ___ SIZE OF DOMESTIC LINE	N/A
LIVING UNIT EQUIVALENTS (LUEs)	N/A

NOTE: LOTS WITH 65 PSI OR GREATER REQUIRE A PRV TO BE INSTALLED ON THE PROPERTY OWNERS SIDE OF THE DOMESTIC WATER METER.  
 1. WITH THE EXCEPTION OF PROVIDING THE REQUIRED INFORMATION, DO NOT REVISE THESE TABLES IN ANYWAY.  
 2. MIN FIRE FLOW: DESIGN ENGINEER MUST INDICATE VALUES WHICH COMPLY WITH IFC TABLES B105.1(2) OR B105.2 (REQUIRED OR REDUCED FIRE FLOWS). MIN FIRE FLOW VALUE SHALL BE NO LESS THAN 1000 GPM FOR NFPA 13 SYSTEMS OR 1500 GPM FOR NFPA 13R SYSTEMS (FOOTNOTES a and b FOR TABLE B105.2).  
 3. IF DEMAND, OTHER THAN MINIMUM FIRE FLOW, IS UTILIZED IN FIRE LINE VELOCITY DETERMINATION, ENGINEERING JUSTIFICATION SHALL BE SHOWN ON THIS SHEET WITH APPLICABLE DATA AND CALCULATIONS.

**INSPECTION NOTES**

Please contact Development Services Department, Site and Subdivision Inspection at sitesubintake@austintexas.gov for arrangements for payment of inspection fees and job assignment for inspection of the public utilities to this site. Inspection fees must be paid before any Pre-construction meeting can be held.

**STANDARD CONSTRUCTION NOTES**

October 1, 2021

- THE CITY STANDARD CONSTRUCTION SPECIFICATIONS CURRENT AT THE TIME OF BIDDING SHALL COVER MATERIALS AND METHODS USED TO DO THIS WORK.
- CONTRACTOR MUST OBTAIN A ROW PERMIT FROM AUSTIN TRANSPORTATION DEPT. RIGHT OF WAY MANAGEMENT DIVISION BEFORE BEGINNING CONSTRUCTION WITHIN THE RIGHT-OF-WAY OF A PUBLIC STREET OR ALLEY. ACTIVITY WITHIN RIGHT-OF-WAY SHALL COMPLY WITH APPROVED TCP.
- AT LEAST 48 HOURS PRIOR TO BEGINNING ANY UTILITY CONSTRUCTION ACTIVITY IN PUBLIC ROW OR PUBLIC EASEMENT, THE CONTRACTOR SHALL NOTIFY THE APPLICABLE CITY OF AUSTIN INSPECTION GROUP (AUSTIN TRANSPORTATION, DEVELOPMENT SERVICES, OR PUBLIC WORKS). SEE CURRENT NOTIFICATION REQUIREMENTS AT WWW.AUSTINTEXAS.GOV.
- THE CONTRACTOR SHALL CONTACT THE AUSTIN AREA "ONE CALL" SYSTEM AT 1-800-344-8377 FOR EXISTING UTILITY LOCATIONS PRIOR TO ANY EXCAVATION IN ADVANCE OF CONSTRUCTION. THE CONTRACTOR SHALL VERIFY THE LOCATIONS OF ALL UTILITIES TO BE EXTENDED, TIED TO, OR ALTERED, OR SUBJECT TO DAMAGING/INCONVENIENCE BY THE CONSTRUCTION OPERATIONS. THE CITY OF AUSTIN WATER AND WASTEWATER MAINTENANCE RESPONSIBILITY ENDS AT R.O.W./EASEMENT LINES.
- NO OTHER UTILITY SERVICE/APPURTENANCES SHALL BE PLACED NEAR THE PROPERTY LINE, OR OTHER ASSIGNED LOCATION DESIGNATED FOR WATER AND WASTEWATER UTILITY SERVICE THAT WOULD INTERFERE WITH THE WATER AND WASTEWATER SERVICES.
- MINIMUM TRENCH SAFETY MEASURES SHALL BE PROVIDED, AS REQUIRED BY OSHA, CITY SPECIFICATION 509S, AND CITY/COUNTY CONSTRUCTION INSPECTORS.
- ALL MATERIALS TESTS ORDERED BY THE OWNER FOR QUALITY ASSURANCE PURPOSES, SHALL BE CONDUCTED BY AN INDEPENDENT LABORATORY AND FUNDED BY THE OWNER IN ACCORDANCE WITH CITY STANDARD SPECIFICATION ITEM 1804S.04.
- PRESSURE TAPS SHALL BE ALLOWED ON A CASE BY CASE BASIS, AS DETERMINED BY THE DIRECTOR'S DESIGNEE. NORMALLY PRESSURE TAPS 4 INCHES AND LARGER SHALL BE ALLOWED IN THE FOLLOWING CASES: A) A TEST SHUT OUT INDICATES AN ADEQUATE SHUT OUT TO PERFORM THE WORK IS NOT FEASIBLE B) MORE THAN 30 CUSTOMERS OR A SINGLE CRITICAL CUSTOMER (AS DEFINED BY AUSTIN WATER) WOULD BE IMPACTED BY THE SHUT OUT OR C) THE EXISTING WATER LINE WARRANTS IT.
- WATER LINE TESTING AND STERILIZATION SHALL BE PERFORMED IN ACCORDANCE WITH CITY STANDARD SPECIFICATION ITEM 510.3 (27)-(28). FORCE MAIN PRESSURE TESTING SHALL BE CONDUCTED AND FALL UNDER THE SPECIFICATIONS AS WATER LINES (PRESSURE PIPE) OR AT THE PRESSURES SHOWN ON THE APPROVED PLANS.
- ALL MATERIAL USED ON THIS PROJECT MUST BE LISTED ON THE STANDARD PRODUCTS LISTING. ANY MATERIAL NOT LISTED HAS TO GO THROUGH THE REVIEW OF THE STANDARDS COMMITTEE FOR REVIEW AND APPROVAL PRIOR TO START OF PROJECT. TESTING AND EVALUATION OF PRODUCTS ARE REQUIRED BEFORE APPROVAL WILL BE GIVEN ANY CONSIDERATION.
- WHEN WATER SERVICES ARE DAMAGED AND THE SERVICE MATERIAL IS POLYETHYLENE (PE), THE LINE SHALL BE REPAIRED ONLY BY HEAT FUSION WELD, AT BRASS FITTINGS, OR THE FULL LENGTH SHALL BE REPLACED PER CURRENT STANDARD DETAIL(S). WHEN POLYBUTYLENE (PB) TUBING IS DAMAGED OR TAMPED WITH IN ANY WAY, THE FULL LENGTH OF SERVICE LINE SHALL BE REPLACED. (NOTE: FULL LENGTH IS FROM THE CORPORATION STOP TO THE METER.) REPAIR COUPLINGS ARE NOT ALLOWED FOR ANY WATER OR WASTEWATER SERVICE LINE REPAIR, RECONNECT, OR REPLACEMENT.
- WHEN AN EXISTING WATERLINE SHUT OUT IS NECESSARY AND POSSIBLE, THE CONTRACTOR SHALL NOTIFY THE CONSTRUCTION INSPECTOR WHO WILL THEN NOTIFY AUSTIN WATER DISPATCH AND THE AFFECTED CUSTOMERS A MINIMUM OF FORTY-EIGHT (48) HOURS IN ADVANCE.
- THE CONTRACTOR SHALL NOTIFY THE CONSTRUCTION INSPECTOR SO THAT HE CAN NOTIFY THE AUSTIN WATER AT 972-0000 AT A MINIMUM OF 72 HOURS PRIOR TO RELOCATING ANY METERS OR FIRE DEMAND WATER METERS. THE CONTRACTOR SHALL CAREFULLY REMOVE ALL METERS AND METERS BOXES THAT ARE INDICATED TO BE RELOCATED OR SALVAGED. THE CONTRACTOR SHALL INSTALL THE REMOVED METER OR CITY PROVIDED METER AT THE NEW LOCATION INDICATED ON THE CONSTRUCTION PLANS.
- THE CONTRACTOR SHALL VERIFY ALL VERTICAL AND HORIZONTAL LOCATIONS OF EXISTING UTILITIES, BELOW GROUND AND OVERHEAD, PRIOR TO STARTING ON-SITE UTILITY WORK.
- ALL WATER, WASTEWATER, AND RECLAIMED MAINS SHALL BE INSTALLED IN ACCORDANCE WITH THE SEPARATION DISTANCES INDICATED ON THE PLANS, PER UTILITY CRITERIA MANUAL AND TCEQ CHAPTERS 210, 217, AND 230.
- PROJECT-SPECIFIC SHOP DRAWINGS SHALL BE SUBMITTED FOR AW APPROVAL FOR PRE-CAST CIRCULAR VERTICAL MANHOLE SECTIONS LARGER THAN 48" DIAMETER. THE SHOP DRAWINGS SHALL INCLUDE THE FLOWLINE ELEVATION OF ALL CONNECTING PIPES, ELEVATIONS OF TRANSITIONS FROM LARGE DIAMETER SECTIONS TO 48" DIAMETER SECTIONS; TOP OF MANHOLE AND SURROUNDING GROUND ELEVATIONS; AND DETAILS OF SPECIAL CONSTRUCTION CONSIDERATIONS SPECIFIED IN THE CONTRACT DOCUMENTS.
- WHEN CONCRETE MANHOLES LARGER THAN 48 INCH DIAMETER ARE USED, DRAWINGS THAT ARE SEALED BY A PROFESSIONAL ENGINEER SHALL BE SUBMITTED FOR BASE SLABS, FLAT TOP LIDS (IF USED), AND FLAT TYPE CONCRETE PIECES USED TO TRANSITION FROM LARGER TO SMALLER DIAMETER MANHOLE SECTIONS.
- ALL FIRE HYDRANTS AND VALVES THAT ARE TO BE ABANDONED SHALL BE REMOVED, SALVAGED AND RETURNED TO AUSTIN WATER. NOTICE SHOULD BE GIVEN 48 HOURS PRIOR. TO PIPELINE OPERATIONS DISTRIBUTION SYSTEM VALVES AND HYDRANT SERVICES SUPERVISOR AT 512-972-1280.
- ALL EXISTING WATER METERS IDENTIFIED TO BE RELOCATED OR ABANDONED AT THE DEVELOPMENT SHALL BE REMOVED FROM THE METER BOX PRIOR TO CONSTRUCTION AND GIVEN IMMEDIATELY TO THE CITY OF AUSTIN INSPECTOR.
- THE ENGINEER SHALL CALL OUT THE SIZE, TYPE AND USE (DOMESTIC OR IRRIGATION) OF ALL EXISTING WATER METERS TO BE RELOCATED OR REPURPOSED. WATER METER NUMBERS WILL NOT BE REQUIRED TO BE PLACED ON THE PLAN SHEET. A SEPARATE AUSTIN WATER TAPS OFFICE FORM WILL BE USED TO PROVIDE RELEVANT DATA FOR THE EXISTING INFORMATION ON EXISTING METERS TO RECEIVE APPROPRIATE CREDITS. THIS FORM SHALL BE DIRECTLY SUBMITTED TO AUSTIN WATER TAPS OFFICE FOR REVIEW AND PROCESSING.
- NO CONNECTION MAY BE MADE BETWEEN THE PRIVATE PLUMBING AND AUSTIN WATER INFRASTRUCTURE UNTIL A CITY APPROVED WATER METER HAS BEEN INSTALLED.
- METER BOXES AND CLEAN OUTS SHALL NOT BE LOCATED WITHIN PAVED AREAS SUCH AS DRIVEWAYS AND SIDEWALKS.

**Meter Notice:**

Meter 1.5 inches and larger must be purchased and ordered 90 days in advance of installation.

Meter(s) Requirement for Project: NA

Address:

Proposed Use:

Type:

Size: GPM Range:

Service Units:

Meter(s) Requirement for Project:

Address: 9204 North Lake Creek Parkway

Proposed Use: IRRIGATION

Type: POSITIVE DISPLACEMENT

Size: 5/8" GPM Range: 1-20

Service Units: 1

Reclaimed Meter(s) Requirement for Project: NA

Address:

Proposed Use:

Type:

Size: GPM Range:

**NOTE: DO NOT REMOVE THE TITLE BLOCK**  
**AUSTIN WATER GENERAL INFORMATION AND CONSTRUCTION NOTES FOR COMMERCIAL SITES AND SUBDIVISION PLANS**

**CITY OF AUSTIN**  
**AUSTIN WATER**  
 October 2021

**VERSION 2.0**  
**STANDARD NO.**  
**1 OF 1**

AWU - GENERAL NOTES

NO.	REVISIONS	DESCRIPTION	DATE



James R. McCann  
04/21/2023



**AUSTIN FIRE DEPARTMENT**  
 FIRE PREVENTION DIVISION  
 6310 Wilhelmina Delco Dr., Austin, Texas 78752  
 afd.hydrants@austintexas.gov

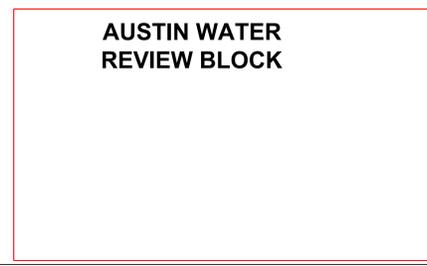
Hydrant Flow Test Report			
TEST DATE	10/23/2022	FIRE BOX	3404
TIME	1135 hrs	MAP GRID ID	F41
COMPANY	PREVENTION	AFD STAFF	SHEEHAN, BRADLEY
RESIDUAL HYDRANT			
RESIDUAL HYDRANT #	870903	MAIN SIZE (in.)	12
BLK #	9000	DIRECTION	N
STREET NAME	LAKE CREEK	TYPE	PKWY
STATIC PRESSURE (PSI)	82	RESIDUAL PRESSURE (PSI)	80
FLOW HYDRANT			
FLOW HYDRANT #	870893	MAIN SIZE (in.)	12
BLK #	9000	DIRECTION	N
STREET NAME	LAKE CREEK	TYPE	PKWY
STATIC PRESSURE (PSI)	82	RESIDUAL PRESSURE (PSI)	72
Comments	de = discharge coefficient straight 2 1/2" butt = 0.9 w/ 45° elbow = 0.75		0.9
	FLOW RATE (GPM) =		1425

NOTE: This information represents the water supply characteristics in the immediate area on the date and time tested. The City of Austin does not guarantee this data will be representative of the water supply characteristics at any time in the future. It is the requesting party's responsibility to ensure that this test information is appropriate to the location of the project in question and that any differences in elevation between the test location and project are accounted for and included in the hydraulic calculations.

HFR# 816348968

AW INFRASTRUCTURE INFORMATION			
PROPOSED PRODUCT TYPE (TO BE INSTALLED)	LENGTH OF PIPE (L.F.)	SIZE OF PIPE (INCH)	NO. OF SERVICES
WATER MAIN		8"	NA
WASTEWATER MAIN		8"	NA
RECLAIMED WATER MAIN	NA	NA	NA
WATER SERVICE		6"	0
WASTEWATER SERVICE		6"	0
RECLAIMED WATER SERVICE	NA	NA	0

AW EXPIRATION STAMP  
THREE YEARS FROM THE DATE OF SIGN-OFF



EXPAND OR REDUCE TABLE AS NEEDED. THE INFORMATION INCLUDED IN THIS TABLE ARE APPROXIMATE VALUES ESTIMATED BASED ON GENERAL ENGINEERING GUIDELINES

**Agent Authorization Form**  
For Required Signature  
Edwards Aquifer Protection Program  
Relating to 30 TAC Chapter 213  
Effective June 1, 1999

I David Gregorcyk  
Print Name

Vice President of General Partner  
Title - Owner/President/Other

of Lakeline Avery Partners, LP  
Corporation/Partnership/Entity Name

have authorized Candace Craig, PE  
Print Name of Agent/Engineer

of Nora Engineering & Planning LLC  
Print Name of Firm

to represent and act on the behalf of the above named Corporation, Partnership, or Entity for the purpose of preparing and submitting this plan application to the Texas Commission on Environmental Quality (TCEQ) for the review and approval consideration of regulated activities.

I also understand that:

1. The applicant is responsible for compliance with 30 Texas Administrative Code Chapter 213 and any condition of the TCEQ's approval letter. The TCEQ is authorized to assess administrative penalties of up to \$10,000 per day per violation.
2. For those submitting an application who are not the property owner, but who have the right to control and possess the property, additional authorization is required from the owner.
3. Application fees are due and payable at the time the application is submitted. The application fee must be sent to the TCEQ cashier or to the appropriate regional office. The application will not be considered until the correct fee is received by the commission.
4. A notarized copy of the Agent Authorization Form must be provided for the person preparing the application, and this form must accompany the completed application.
5. No person shall commence any regulated activity on the Edwards Aquifer Recharge Zone, Contributing Zone or Transition Zone until the appropriate application for the activity has been filed with and approved by the Executive Director.

SIGNATURE PAGE:

*[Handwritten Signature]*

Applicant's Signature

6/5/23

Date

THE STATE OF TEXAS §

County of Travis §

BEFORE ME, the undersigned authority, on this day personally appeared \_\_\_\_\_ known to me to be the person whose name is subscribed to the foregoing instrument, and acknowledged to me that (s)he executed same for the purpose and consideration therein expressed.

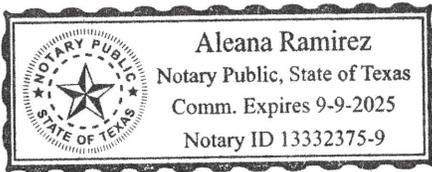
GIVEN under my hand and seal of office on this 5<sup>th</sup> day of June, 2023

*[Handwritten Signature]*

NOTARY PUBLIC

Aleana Ramirez

Typed or Printed Name of Notary



MY COMMISSION EXPIRES: 9/9/2025

**Agent Authorization Form**  
For Required Signature  
Edwards Aquifer Protection Program  
Relating to 30 TAC Chapter 213  
Effective June 1, 1999

I SCOTT Herndon  
Print Name

Chief Financial Officer  
Title - Owner/President/Other

of Ascension Seton  
Corporation/Partnership/Entity Name

have authorized Candace Craig, PE  
Print Name of Agent/Engineer

of Nora Engineering & Planning LLC  
Print Name of Firm

to represent and act on the behalf of the above named Corporation, Partnership, or Entity for the purpose of preparing and submitting this plan application to the Texas Commission on Environmental Quality (TCEQ) for the review and approval consideration of regulated activities.

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SIGNATURE PAGE:

[Signature]  
Applicant's Signature

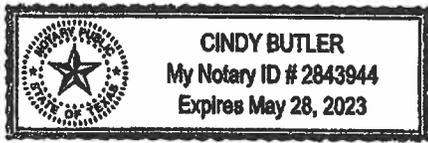
7/14/2022  
Date

THE STATE OF TEXAS §

County of Travis §

BEFORE ME, the undersigned authority, on this day personally appeared Scott Herndon known to me to be the person whose name is subscribed to the foregoing instrument, and acknowledged to me that (s)he executed same for the purpose and consideration therein expressed.

GIVEN under my hand and seal of office on this 4<sup>th</sup> day of July, 2022



[Signature]  
NOTARY PUBLIC

Cindy Butler  
Typed or Printed Name of Notary

MY COMMISSION EXPIRES: 5/28/2023

# Application Fee Form

## Texas Commission on Environmental Quality

Name of Proposed Regulated Entity: Avery Oaks Park

Regulated Entity Location: 9204 North Lake Creek Pkwy

Name of Customer: Lakeline Avery Partners, LP

Contact Person: Candace Craig, PE

Phone: (737) 264-3081

Customer Reference Number (if issued): CN 605737105

Regulated Entity Reference Number (if issued): RN \_\_\_\_\_

### Austin Regional Office (3373)

Hays

Travis

Williamson

### San Antonio Regional Office (3362)

Bexar

Medina

Uvalde

Comal

Kinney

Application fees must be paid by check, certified check, or money order, payable to the **Texas Commission on Environmental Quality**. Your canceled check will serve as your receipt. **This form must be submitted with your fee payment.** This payment is being submitted to:

Austin Regional Office

San Antonio Regional Office

Mailed to: TCEQ - Cashier

Overnight Delivery to: TCEQ - Cashier

Revenues Section

Mail Code 214

P.O. Box 13088

Austin, TX 78711-3088

12100 Park 35 Circle

Building A, 3rd Floor

Austin, TX 78753

(512)239-0357

### Site Location (Check All That Apply):

Recharge Zone

Contributing Zone

Transition Zone

<i>Type of Plan</i>	<i>Size</i>	<i>Fee Due</i>
Water Pollution Abatement Plan, Contributing Zone Plan: One Single Family Residential Dwelling	Acres	\$
Water Pollution Abatement Plan, Contributing Zone Plan: Multiple Single Family Residential and Parks	Acres	\$
Water Pollution Abatement Plan, Contributing Zone Plan: Non-residential	Acres	\$
Sewage Collection System	L.F.	\$
Lift Stations without sewer lines	Acres	\$
Underground or Aboveground Storage Tank Facility	Tanks	\$
Piping System(s)(only)	Each	\$
Exception	1 Each	\$ 500
Extension of Time	Each	\$

Signature: 

Date: 05/16/2023

# Application Fee Schedule

## Texas Commission on Environmental Quality

Edwards Aquifer Protection Program 30 TAC Chapter 213 (effective 05/01/2008)

*Water Pollution Abatement Plans and Modifications*

*Contributing Zone Plans and Modifications*

<b>Project</b>	<b>Project Area in Acres</b>	<b>Fee</b>
One Single Family Residential Dwelling	< 5	\$650
Multiple Single Family Residential and Parks	< 5	\$1,500
	5 < 10	\$3,000
	10 < 40	\$4,000
	40 < 100	\$6,500
	100 < 500	\$8,000
	≥ 500	\$10,000
Non-residential (Commercial, industrial, institutional, multi-family residential, schools, and other sites where regulated activities will occur)	< 1	\$3,000
	1 < 5	\$4,000
	5 < 10	\$5,000
	10 < 40	\$6,500
	40 < 100	\$8,000
	≥ 100	\$10,000

*Organized Sewage Collection Systems and Modifications*

<b>Project</b>	<b>Cost per Linear Foot</b>	<b>Minimum Fee- Maximum Fee</b>
Sewage Collection Systems	\$0.50	\$650 - \$6,500

*Underground and Aboveground Storage Tank System Facility Plans and Modifications*

<b>Project</b>	<b>Cost per Tank or Piping System</b>	<b>Minimum Fee- Maximum Fee</b>
Underground and Aboveground Storage Tank Facility	\$650	\$650 - \$6,500

*Exception Requests*

<b>Project</b>	<b>Fee</b>
Exception Request	\$500

*Extension of Time Requests*

<b>Project</b>	<b>Fee</b>
Extension of Time Request	\$150



TCEQ Use Only

# TCEQ Core Data Form

For detailed instructions regarding completion of this form, please read the Core Data Form Instructions or call 512-239-5175.

## SECTION I: General Information

<b>1. Reason for Submission</b> (If other is checked please describe in space provided.)		
<input checked="" type="checkbox"/> New Permit, Registration or Authorization (Core Data Form should be submitted with the program application.)		
<input type="checkbox"/> Renewal (Core Data Form should be submitted with the renewal form)	<input type="checkbox"/> Other	
<b>2. Customer Reference Number</b> (if issued)	<a href="#">Follow this link to search for CN or RN numbers in Central Registry**</a>	<b>3. Regulated Entity Reference Number</b> (if issued)
CN 605737105		RN

## SECTION II: Customer Information

<b>4. General Customer Information</b>	<b>5. Effective Date for Customer Information Updates</b> (mm/dd/yyyy)		5/5/2022	
<input type="checkbox"/> New Customer <input type="checkbox"/> Update to Customer Information <input checked="" type="checkbox"/> Change in Regulated Entity Ownership <input type="checkbox"/> Change in Legal Name (Verifiable with the Texas Secretary of State or Texas Comptroller of Public Accounts)				
<b>The Customer Name submitted here may be updated automatically based on what is current and active with the Texas Secretary of State (SOS) or Texas Comptroller of Public Accounts (CPA).</b>				
<b>6. Customer Legal Name</b> (If an individual, print last name first: eg: Doe, John)			If new Customer, enter previous Customer below:	
Lakeline Avery Partners,, LP				
<b>7. TX SOS/CPA Filing Number</b>	<b>8. TX State Tax ID</b> (11 digits)	<b>9. Federal Tax ID</b> (9 digits)	<b>10. DUNS Number</b> (if applicable)	
0803721079	32075453350	85-2532220	N/A	
<b>11. Type of Customer:</b>	<input type="checkbox"/> Corporation	<input type="checkbox"/> Individual	Partnership: <input type="checkbox"/> General <input checked="" type="checkbox"/> Limited	
Government: <input type="checkbox"/> City <input type="checkbox"/> County <input type="checkbox"/> Federal <input type="checkbox"/> State <input type="checkbox"/> Other	<input type="checkbox"/> Sole Proprietorship		<input type="checkbox"/> Other:	
<b>12. Number of Employees</b>		<b>13. Independently Owned and Operated?</b>		
<input checked="" type="checkbox"/> 0-20 <input type="checkbox"/> 21-100 <input type="checkbox"/> 101-250 <input type="checkbox"/> 251-500 <input type="checkbox"/> 501 and higher		<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		
<b>14. Customer Role</b> (Proposed or Actual) – as it relates to the Regulated Entity listed on this form. Please check one of the following				
<input checked="" type="checkbox"/> Owner <input type="checkbox"/> Operator <input type="checkbox"/> Owner & Operator <input type="checkbox"/> Occupational Licensee <input type="checkbox"/> Responsible Party <input type="checkbox"/> Voluntary Cleanup Applicant <input type="checkbox"/> Other:				
<b>15. Mailing Address:</b>	1000 N Lamar Blvd			
	Suite 400			
	City	Austin	State	TX      ZIP      78703      ZIP + 4
<b>16. Country Mailing Information</b> (if outside USA)			<b>17. E-Mail Address</b> (if applicable)	
<b>18. Telephone Number</b>		<b>19. Extension or Code</b>		<b>20. Fax Number</b> (if applicable)
( 512 ) 247-7000				(   ) -

## SECTION III: Regulated Entity Information

<b>21. General Regulated Entity Information</b> (If 'New Regulated Entity' is selected below this form should be accompanied by a permit application)
<input checked="" type="checkbox"/> New Regulated Entity <input type="checkbox"/> Update to Regulated Entity Name <input type="checkbox"/> Update to Regulated Entity Information
<b>The Regulated Entity Name submitted may be updated in order to meet TCEQ Agency Data Standards (removal of organizational endings such as Inc, LP, or LLC).</b>
<b>22. Regulated Entity Name</b> (Enter name of the site where the regulated action is taking place.)
Avery Oaks Park

23. Street Address of the Regulated Entity: <i>(No PO Boxes)</i>	9204 North Lake Creek Pkwy						
	City	Austin	State	TX	ZIP	78717	ZIP + 4
24. County	Williamson						

Enter Physical Location Description if no street address is provided.

25. Description to Physical Location:	Address Provided - Not Required						
26. Nearest City	Austin			State	TX	Nearest ZIP Code	
27. Latitude (N) In Decimal:	30.484328			28. Longitude (W) In Decimal:	-97.800693		
Degrees	Minutes	Seconds	Degrees	Minutes	Seconds		
29. Primary SIC Code (4 digits)	0		30. Secondary SIC Code (4 digits)	N/A		31. Primary NAICS Code (5 or 6 digits)	None
						32. Secondary NAICS Code (5 or 6 digits)	N/A
33. What is the Primary Business of this entity? <i>(Do not repeat the SIC or NAICS description.)</i>							
Public Park							
34. Mailing Address:	1000 N Lamar Blvd, Ste, 400						
	City	Austin	State	TX	ZIP	78703	ZIP + 4
35. E-Mail Address:	ggill@journeymanco.com						
36. Telephone Number	( 512 ) 247-7000		37. Extension or Code	( ) -		38. Fax Number <i>(if applicable)</i>	

39. TCEQ Programs and ID Numbers Check all Programs and write in the permits/registration numbers that will be affected by the updates submitted on this form. See the Core Data Form instructions for additional guidance.

<input type="checkbox"/> Dam Safety	<input type="checkbox"/> Districts	<input checked="" type="checkbox"/> Edwards Aquifer	<input type="checkbox"/> Emissions Inventory Air	<input type="checkbox"/> Industrial Hazardous Waste
<input type="checkbox"/> Municipal Solid Waste	<input type="checkbox"/> New Source Review Air	<input type="checkbox"/> OSSF	<input type="checkbox"/> Petroleum Storage Tank	<input type="checkbox"/> PWS
<input type="checkbox"/> Sludge	<input type="checkbox"/> Storm Water	<input type="checkbox"/> Title V Air	<input type="checkbox"/> Tires	<input type="checkbox"/> Used Oil
<input type="checkbox"/> Voluntary Cleanup	<input type="checkbox"/> Waste Water	<input type="checkbox"/> Wastewater Agriculture	<input type="checkbox"/> Water Rights	<input type="checkbox"/> Other:

#### SECTION IV: Preparer Information

40. Name:	Candace Craig		41. Title:	President
42. Telephone Number	43. Ext./Code	44. Fax Number	45. E-Mail Address	
( 737 ) 264-3081		( ) -	ccraig@noraeng.com	

#### SECTION V: Authorized Signature

46. By my signature below, I certify, to the best of my knowledge, that the information provided in this form is true and complete, and that I have signature authority to submit this form on behalf of the entity specified in Section II, Field 6 and/or as required for the updates to the ID numbers identified in field 39.

Company:	Nora Engineering & Planning LLC	Job Title:	President
Name <i>(In Print)</i> :	Candace Craig	Phone:	( 737 ) 264- 3081
Signature:		Date:	05/16/2023