Texas Commission on Environmental Quality

Edwards Aquifer Application Cover Page

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.

1. Regulated Entity Name: Violet Crown Trailhead-Mile Zero						**2. Regulated Entity No.:**			
3. Customer Name: Hill Country Conservancy						**4. Customer No.:** CN603578816			
5. Project Type: **(Please circle/check one)**	New		Modification			Extension		Exception	
6. Plan Type: **(Please circle/check one)**	(WPAP)	CZP	SCS	UST	AST	(EXP)	EXT	Technical Clarification	Optional Enhanced Measures
7. Land Use: **(Please circle/check one)**	Residential		(Non-residential)			**8. Site (acres):**		2.6 Acres	
9. Application Fee:	$500		**10. Permanent BMP(s):**			Rain Garden for roadway treatment			
11. SCS (Linear Ft.):	N/A		**12. AST/UST (No. Tanks):**			N/A			
13. County:	Travis		**14. Watershed:**			Barton 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

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

Austin Region			
County:	**Hays**	**Travis**	**Williamson**
Original (1 req.)	___	___	___
Region (1 req.)	___	___	___
County(ies)	___	___	___
Groundwater Conservation District(s)	___Edwards Aquifer Authority ___Barton Springs/ Edwards Aquifer ___Hays Trinity ___Plum Creek	_X_Barton Springs/ Edwards Aquifer	NA
City(ies) Jurisdiction	___Austin ___Buda ___Dripping Springs ___Kyle ___Mountain City ___San Marcos ___Wimberley ___Woodcreek	_X_Austin ___Bee Cave ___Pflugerville ___Rollingwood ___Round Rock ___Sunset Valley ___West Lake Hills	___Austin ___Cedar Park ___Florence ___Georgetown ___Jerrell ___Leander ___Liberty Hill ___Pflugerville ___Round Rock

San Antonio Region					
County:	**Bexar**	**Comal**	**Kinney**	**Medina**	**Uvalde**
Original (1 req.)	___	___	___	___	___
Region (1 req.)	___	___	___	___	___
County(ies)	___	___	___	___	___
Groundwater Conservation District(s)	___ Edwards Aquifer Authority ___Trinity-Glen Rose	___Edwards Aquifer Authority	___Kinney	___EAA ___Medina	___EAA ___Uvalde
City(ies) Jurisdiction	___Castle Hills ___Fair Oaks Ranch ___Helotes ___Hill Country Village ___Hollywood Park ___San Antonio (SAWS) ___Shavano Park	___Bulverde ___Fair Oaks Ranch ___Garden Ridge ___New Braunfels ___Schertz	NA	___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. Jessica Powers
Print Name of Customer/Authorized Agent Jessica Powers Digitally signed by Jessica Powers DN: C=US, E=jpowers@dunaway.com, CN=Jessica Powers Date: 2024.07.11 11:13:49-05'00' 7/11/2024
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: Jessica Powers

Date: 7/11/2024

Signature of Customer/Agent:

Jessica Powers Digitally signed by Jessica Powers
DN: C=US, E=jpowers@dunaway.com, CN=Jessica Powers
Date: 2024.07.11 11:15:53-05'00'

Project Information

1. Regulated Entity Name: Violet Crown Trailhead-Mile Zero
2. County: Travis
3. Stream Basin: Barton Creek
4. Groundwater Conservation District (If applicable): Barton Creek
5. Edwards Aquifer Zone:

   [X] Recharge Zone
   [ ] Transition Zone

6. Plan Type:

   [X] WPAP
   [ ] SCS
   [ ] Modification
   [ ] AST
   [ ] UST
   [X] Exception Request

7. Customer (Applicant):

Contact Person: Hill Country Conservancy
Entity: Trail Conservator/applicant
Mailing Address: 1601 S MoPac Expy Suite 150C
City, State: Austin,TX Zip: 78746
Telephone: 512-328-2481 FAX: _____
Email Address: _____

8. Agent/Representative (If any):

Contact Person: Jessica Powers
Entity: Agent
Mailing Address: 5707 Southwest Pkwy. Bldg. 2 Ste. 250
City, State: Austin,TX Zip: 78735
Telephone: 512-399-5378 FAX: _____
Email Address: jpowers@dunaway.com

9. Project Location:

[X] 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. [X] 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.

William Barton Drive, Austin, Texas 78746 (At the southwest intersection of William Barton Drive and Columbus Drive)

11. [X] **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. [X] **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. [X] **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. Acknowledged. GA is exempt. Refer to TCEQ Form 0585 for details.

[ ] Survey staking will be completed by this date: _____

14. [X] **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:

- [X] 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
- [X] Existing paved and/or unpaved roads
- [ ] Undeveloped (Cleared)
- [X] Undeveloped (Undisturbed/Uncleared)
- [ ] Other: _____

William Barton Drive within the Limits of Construction. The remainder is open space with low covering vegetation and trees. Refer to Attachment C at end of this form.

Prohibited Activities

16. [X] 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. [X] 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 GA is exempt. Refer to TCEQ Form 0585 for details.
- ☐ 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.

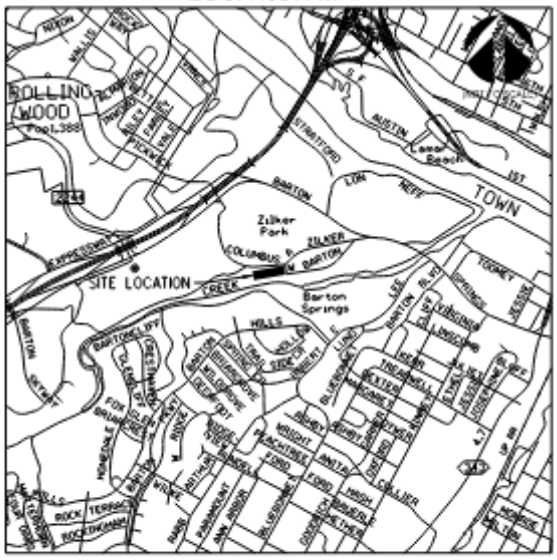
21. ☒ No person shall commence any regulated activity until the Edwards Aquifer Protection Plan(s) for the activity has been filed with and approved by the Executive Director.

Acknowledged.

ATTACHMENT A – ROAD MAP

WILLIAM BARTON DR.
AUSTIN TX 78746

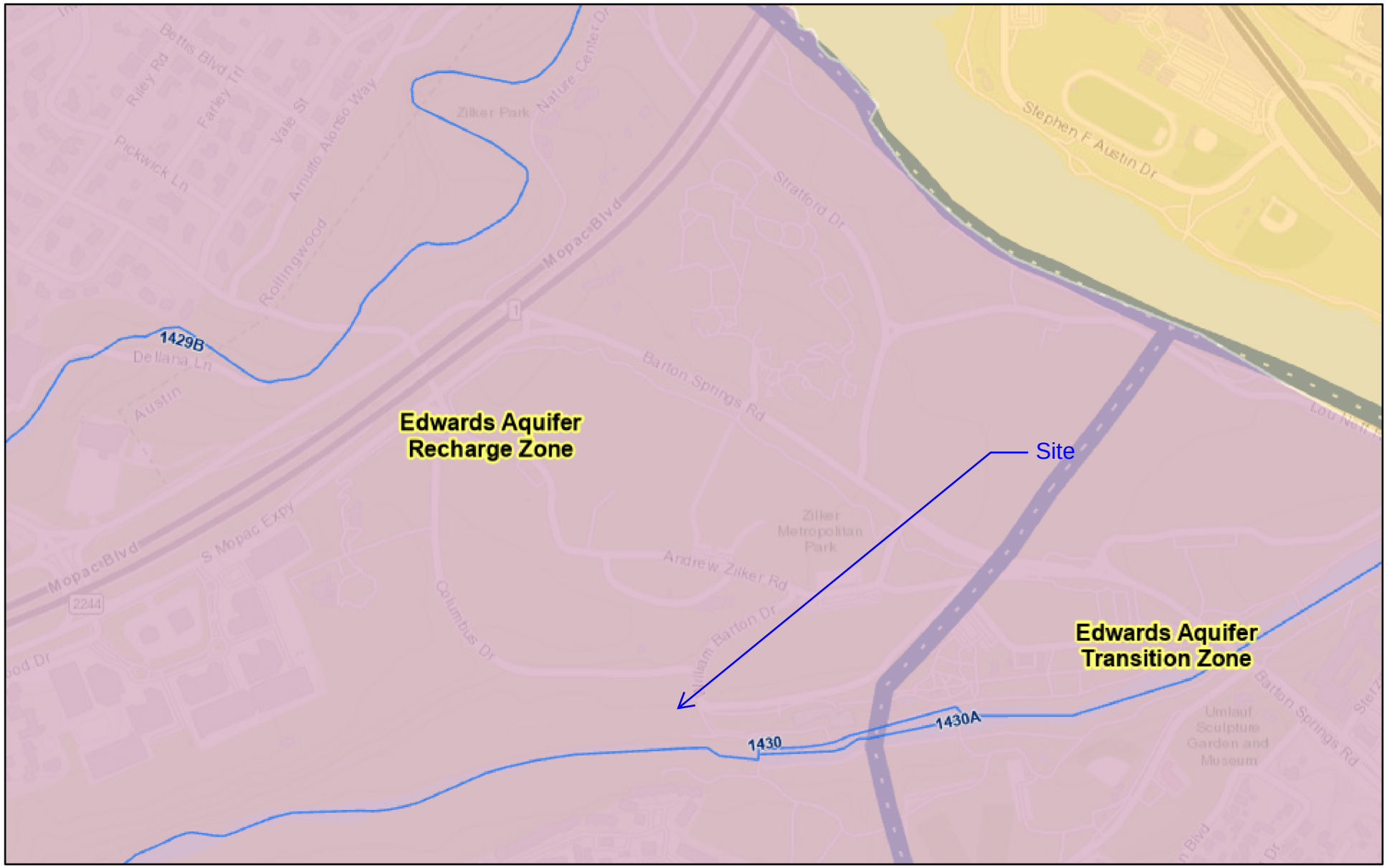
LOCATION MAP



COA GRID: G22, MAPSCO PG: 584X

ATTACHMENT B – USGS / EDWARDS RECHARGE ZONE MAP

Violet Crown Trail - TCEQ EA Map



7/2/2024, 11:00:16 AM

1:9,028

0 0.05 0.1 0.2 mi

0 0.1 0.2 0.4 km

- Segments (Streams)
- Edwards Aquifer Label
- Edwards Aquifer Boundary
- Edwards Aquifer Boundary central line
- City/Place
- Groundwater Conservation Districts
- Barton Springs/Edwards Aquifer CD
- TX Counties
- 7.5 Minute Quad Grid
- TCEQ_EDWARDS_OFFICIAL_MAPS

TCEQ, Austin Community College, City of Austin, Texas Parks & Wildlife, Esri, HERE, Garmin, INCREMENT P, Intermap, USGS, METI/NASA, EPA,

Web AppBuilder for ArcGIS

TCEQ | Austin Community College, City of Austin, Texas Parks & Wildlife, Esri, HERE, Garmin, INCREMENT P, Intermap, USGS, METI/NASA, EPA, USDA |

ATTACHMENT C – PROJECT DESCRIPTION

The Site is approximately 2.57 acres. The Site is partially undeveloped and consists of an internal road, trees, and low covering vegetation. The Site is open space parkland.

The existing conditions of the surrounding adjacent offsite drainage areas are composed of Columbus Drive to the North, William Barton Drive to the East, and low covering vegetation, trees to the West and South. There is only 2.35 acres (drainage basin OS) of offsite stormwater that originates upgradient from the site. OS is partially developed with Columbus Drive, trees, and low covering vegetation. This stormwater sheet flows onto the Site. The Site is located in drainage basin V. Drainage area maps have been provided in this submittal package section identified as Permanent Stormwater Section-TCEQ-0600, attachment F.

The Site currently has an existing 480 linear feet gravel multi-use trail that is approximately 8 feet wide. Approximately 190 linear feet of William Barton Drive. The full width of the roadway in this section has a pavement width of 40 feet, of which 20 feet runs through the Site's LOC.

The total existing impervious cover of the 2.57 acre tract is 0.11 acres or 4 %.

Proposed improvements will include constructing approximately 620 linear feet of a 12-foot wide decomposed granite multi-use trail, approximately 200 linear feet of 5-foot wide decomposed granite multi-use trail, 2 outdoor facilities, 25 linear feet of 5-foot concrete multi-use trail, and reconstruction of 24 linear feet of 5-feet of concrete maintenance path. Both the decomposed granite and concrete multi-use trails will be constructed to Americans with Disabilities compliance. The existing multi-use trail will be demolished, and the width of William Barton Drive will be reduced from 40 feet down to 24 feet, inside the LOC. The reduction in width will be on the west side of the road.

The total proposed impervious cover is 0.02 acres or 1 %. This is a net decrease of 0.09 acres.

Permanent BMPs are as follows WQ will be in the form of a dual storm water control measure (SCM) of a biofiltration pond and irrigation field. The SCMs will be located outside of the Critical Water Quality Zone (CWQZ) and 100-Year floodplain, approximately 250 feet northeast of the intersection of Columbus Drive and William Barton Drive. A portion of William Barton Drive, located outside of the CWQZ will be treated by the SCMs.

Stormwater detention is not required as the proposed improvements/ Site will be reducing the existing impervious cover from 4% down to 1%. Detention is also not required due to its proximity to Barton Creek and Lady Bird Lake watersheds.

Refer to the Drainage Area Maps, Water Quality plan sheets from the Site Plan Set. Refer to Attachment F- Construction Plans in TCEQ Form 600. The pond will return discharges to sheet flow, which will continue to sheet flow to Barton Creek. No construction activities will be in the creek area.

N/A Please refer to email from James Slone with TCEQ Edwards Aquifer Protection Program- dated June 10, 2024 attached at the end of this document.

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: _____ Telephone: _____

Date: _____ Fax: _____

Representing: _____ (Name of Company and TBPG or TBPE registration number)

Signature of Geologist:

_____

Regulated Entity Name: _____

Project Information

1. Date(s) Geologic Assessment was performed: _____
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(feet)

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

9. Method of collecting positional data:

   ☐ Global Positioning System (GPS) technology.
   ☐ Other method(s). Please describe method of data collection: _____

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 are _____ (#) wells present on the project site and the locations are 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.

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.

GEOLOGIC ASSESSMENT

NOT APPLICABLE - PLEASE REFER TO EMAIL FROM JAMES SLONE, GEOSCIENTIST WITH TCEQ EDWARDS AQUIFER PROTECTION PROGRAM, DATED JUNE 10, 2024 ATTACHED BELOW.

Michael Mullone

From: James Slone <james.slone@tceq.texas.gov>
Sent: Monday, June 10, 2024 9:17 AM
To: Michael Mullone
Subject: RE: [EXTERNAL]RE: Violet Crown Trailhead WPAP Requirement Inquiry

Michael,
I can give you the Exception the Geologic Assessment. Please note, if we find any features when we perform our site assessment, you may be required to conduct a Geologic Assessment. Retain this email for you records and provide it during plan submittal.
Have a good week,
Bo

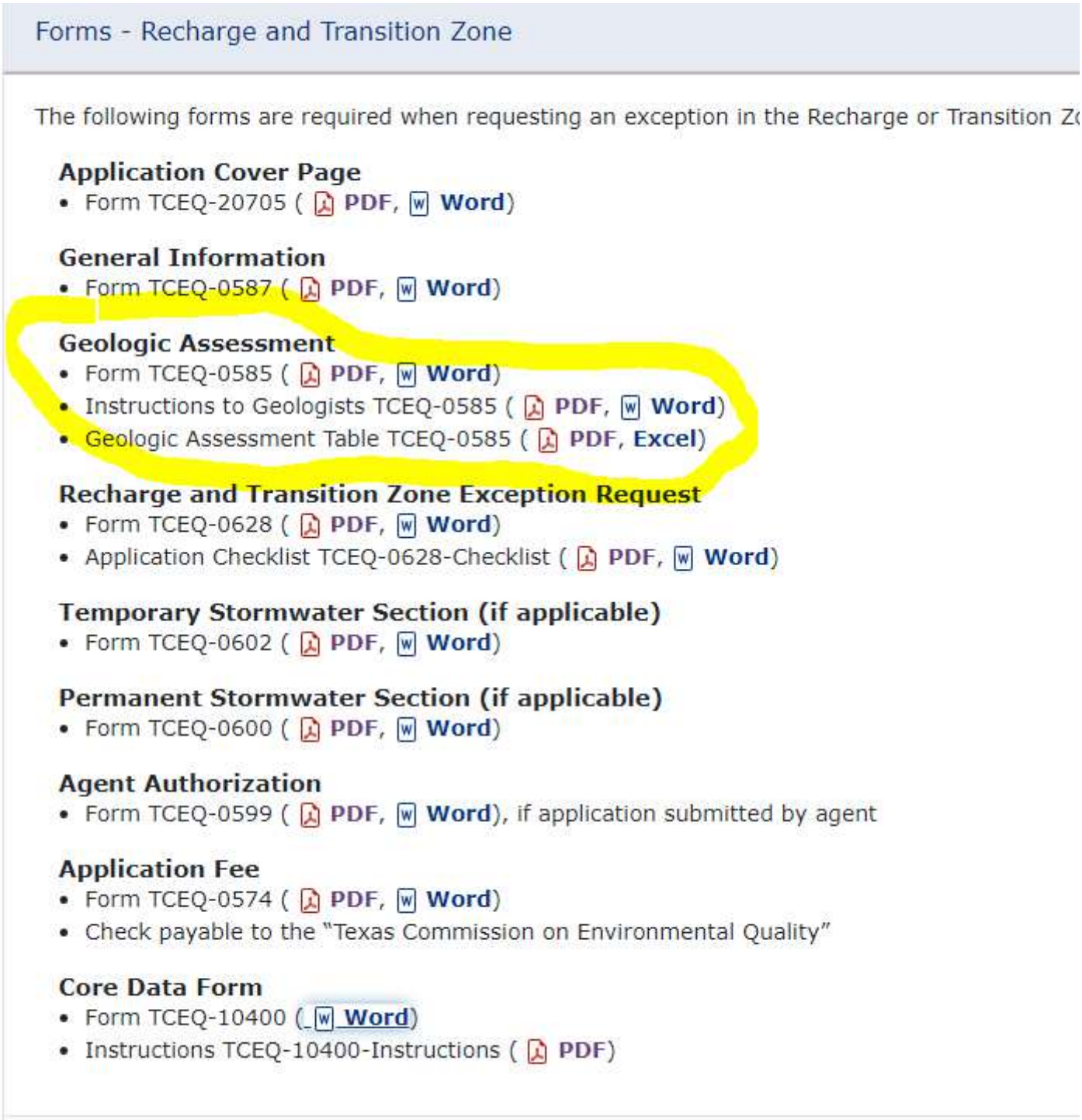
James “Bo” Slone, P.G.
Geoscientist
Edwards Aquifer Protection Program
Texas Commission on Environmental Quality
(512) 239-6994

From: Michael Mullone <MMullone@dunaway.com>
Sent: Sunday, June 9, 2024 6:44 PM
To: James Slone <james.slone@tceq.texas.gov>
Subject: RE: [EXTERNAL]RE: Violet Crown Trailhead WPAP Requirement Inquiry

Bo,

Thanks for the below. In looking at the website for exception, are all of the below required? Especially on the Geological Assessment?

Thanks,



Forms - Recharge and Transition Zone

The following forms are required when requesting an exception in the Recharge or Transition Z

Application Cover Page
- Form TCEQ-20705 (PDF, Word)

General Information
- Form TCEQ-0587 (PDF, Word)

Geologic Assessment
- Form TCEQ-0585 (PDF, Word)
- Instructions to Geologists TCEQ-0585 (PDF, Word)
- Geologic Assessment Table TCEQ-0585 (PDF, Excel)

Recharge and Transition Zone Exception Request
- Form TCEQ-0628 (PDF, Word)
- Application Checklist TCEQ-0628-Checklist (PDF, Word)

Temporary Stormwater Section (if applicable)
- Form TCEQ-0602 (PDF, Word)

Permanent Stormwater Section (if applicable)
- Form TCEQ-0600 (PDF, Word)

Agent Authorization
- Form TCEQ-0599 (PDF, Word), if application submitted by agent

Application Fee
- Form TCEQ-0574 (PDF, Word)
- Check payable to the "Texas Commission on Environmental Quality"

Core Data Form
- Form TCEQ-10400 (Word)
- Instructions TCEQ-10400-Instructions (PDF)

Michael Mullone
Discipline Lead II | Associate
Dunaway
T 512.306.8252 **D** 512-399-5373

From: James Slone <james.slone@tceq.texas.gov>
Sent: Friday, June 7, 2024 3:02 PM
To: Michael Mullone <MMullone@dunaway.com>
Subject: RE: [EXTERNAL]RE: Violet Crown Trailhead WPAP Requirement Inquiry

Michael,
You can submit this as an WPAP Exception which will require a smaller fee ($500). Please retain this email for you records and provide it with your application to show you can submit as a WPAP Exception.
Have a great weekend,
Bo

James “Bo” Slone, P.G.
Geoscientist
Edwards Aquifer Protection Program
Texas Commission on Environmental Quality
(512) 239-6994

From: Michael Mullone <MMullone@dunaway.com>
Sent: Friday, June 7, 2024 1:15 PM
To: James Slone <james.slone@tceq.texas.gov>
Subject: RE: [EXTERNAL]RE: Violet Crown Trailhead WPAP Requirement Inquiry

Bo,

Thank you so much for getting back to me. Here is the requested information.

The Site is about 2.5 acers. It currently has an existing 480 linear feet gravel multi-use trail that is approximately
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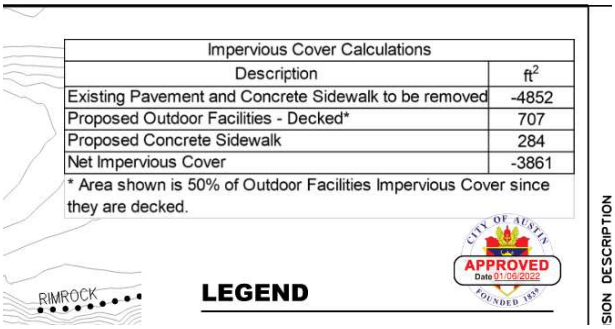

Impervious Cover Calculations	
Description	ft^2
Existing Pavement and Concrete Sidewalk to be removed	-4852
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Net Impervious Cover	-3861

* Area shown is 50% of Outdoor Facilities Impervious Cover since they are decked.

The COA still requires WQ treatment for the new impervious cover even though we are reducing the amount in our Site. The site is in the Barton Springs 100-year floodplain and Critical Water Quality Zone

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I have attached some sheets for visual help.

Michael Mullone, PE, CFM, CESSWI, CPESC
Senior Project Engineer | Associate
Dunaway
T 512.306.8252 **D** 512-399-5373

From: James Slone <james.slone@tceq.texas.gov>
Sent: Friday, June 7, 2024 8:08 AM
To: Michael Mullone <MMullone@dunaway.com>
Subject: [EXTERNAL]RE: Violet Crown Trailhead WPAP Requirement Inquiry

Michael,
A WPAP is required in this part of Austin. If it was on the other side of the river, it would not be required. Depending on the size of the project, we might allow a WPAP Exception Plan submittal, rather than a standard WPAP, but an approval would still be required. Can you give me some details on the project of a draft site plan?
Bo

James "Bo" Slone, P.G.
Geoscientist
Edwards Aquifer Protection Program
Texas Commission on Environmental Quality
(512) 239-6994

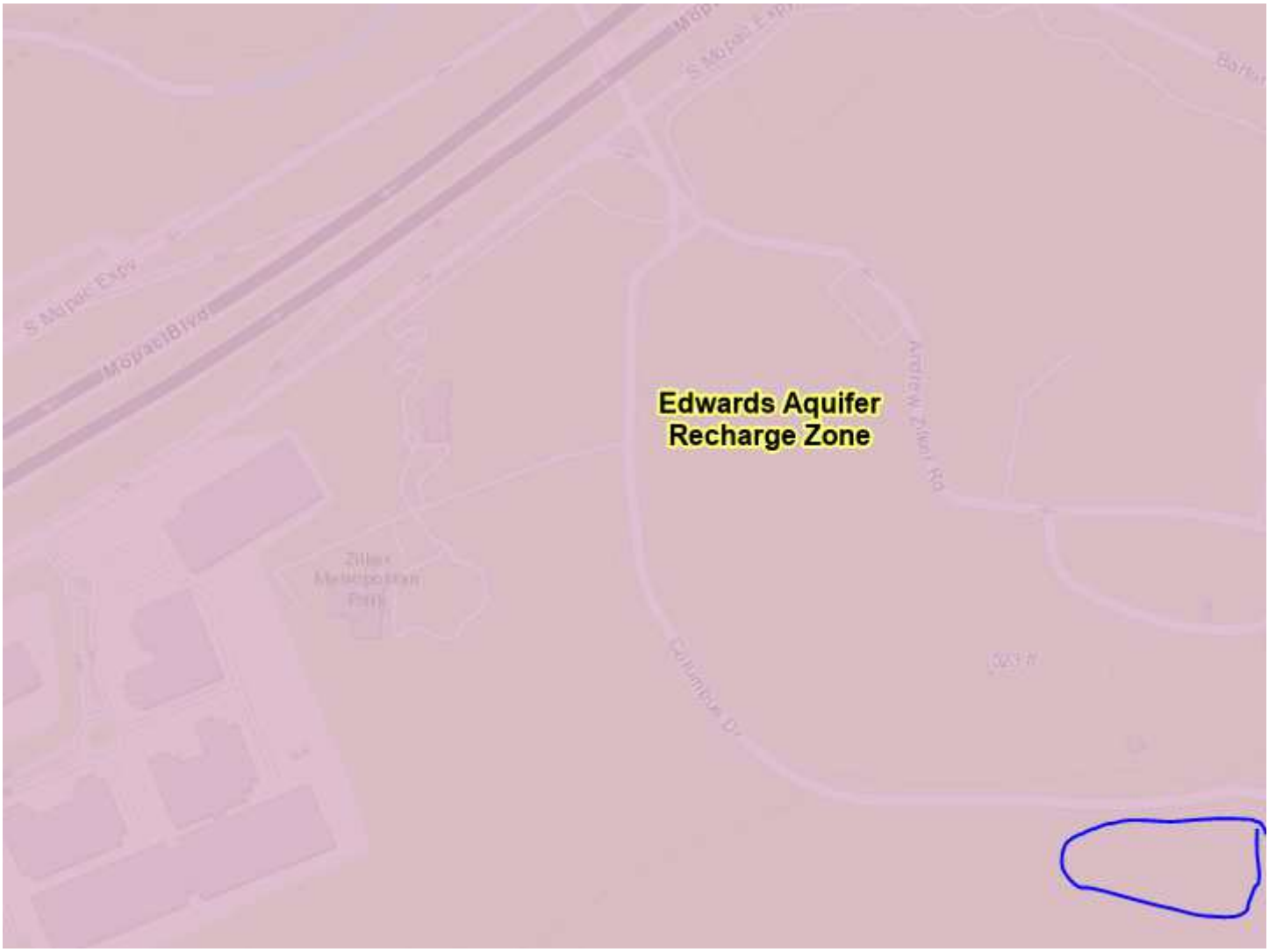
From: Michael Mullone <MMullone@dunaway.com>
Sent: Thursday, June 6, 2024 2:10 PM
To: James Slone <james.slone@tceq.texas.gov>
Subject: Violet Crown Trailhead WPAP Requirement Inquiry

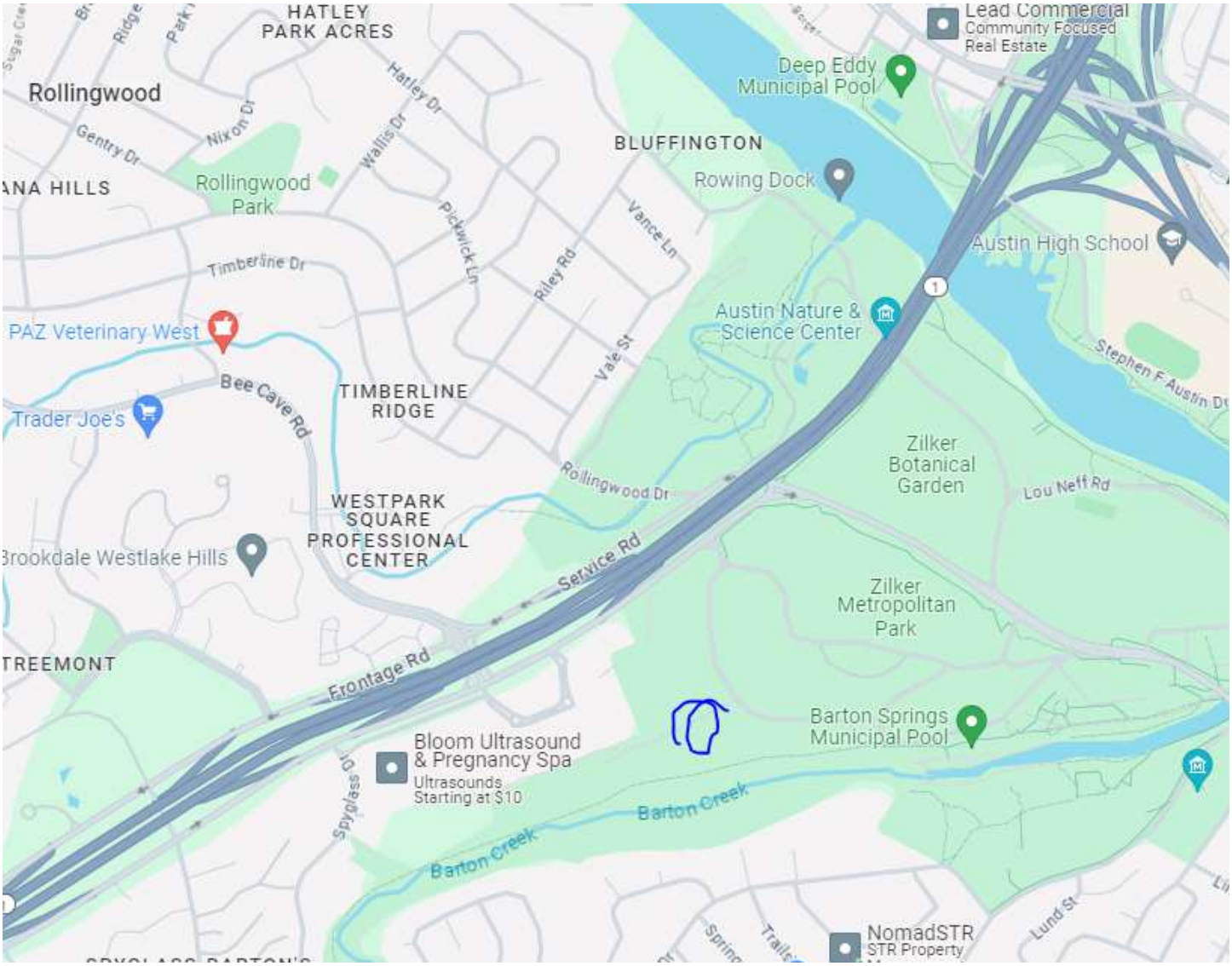
Good afternoon Bo,

I work with Caleb Milligan at Dunaway and he mentioned you were a good resource to inquire about this. I have a Park and Trail project located in Zilker Park in Austin Texas. It is in the City of Austin City Limits, Barton Creek watershed, and in the Edwards aquifer recharge zone. I was curious if we have to submit a

WPAP for a project? The owner we told they may need one but I didn't think that TCEQ requires a WPAP if it is located within this part of Austin. See below. Can you let me know if we need to submit anything please?

Thanks,





Michael Mullone, PE, CFM, CESSWI, CPESC
Senior Project Engineer | Associate

DUNAWAY

T 512.306.8252 **D** 512-399-5373
dunaway.com

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: Jessica Powers
Date: 7/11/2024
Signature of Customer/Agent:

Jessica Powers Digitally signed by Jessica Powers
DN: C=US, E=jpowers@dunaway.com, CN=Jessica Powers
Date: 2024.07.11 11:17:57-05'00'

Regulated Entity Name: _____

Exception Request

1. [X] **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.
2. [X] **Attachment B - Documentation of Equivalent Water Quality Protection**. Documentation demonstrating equivalent water quality protection for the Edwards Aquifer is attached.

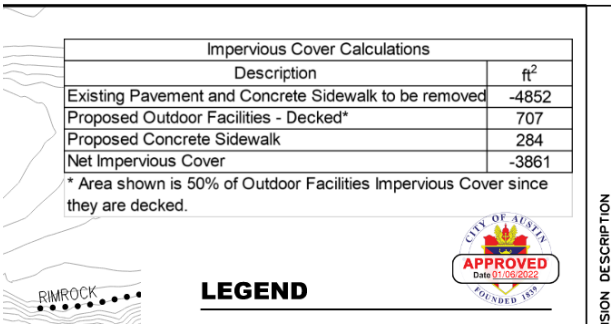
Administrative Information

3. [ ] 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.
4. [X] The applicant understands that no exception will be granted for a prohibited activity in Chapter 213. Acknowledged.
5. [X] The applicant understands that prior approval under this section must be obtained from the executive director for the exception to be authorized. Acknowledged.

ATTACHMENT A – NATURE OF EXCEPTION

Not Applicable - please refer to email from James Slone, Geoscientist with TCEQ Edwards aquifer protection program, dated June 10, 2024 attached below.

The Site is about 2.5 acers. It currently has an existing 480 linear feet gravel multi-use trail that is approximately 8 feet wide. It is bordered on the east by 190 linear feet by 40 feet wide pavement of William Barton Drive. Proposed improvements will include constructing approximately 620 linear feet of a 12-foot wide decomposed granite multi-use trail, 200 linear feet of 5-foot wide decomposed granite (DG) multi-use trail, 2 outdoor facilities, 25 linear feet of 5-foot concrete multi-use trail, and reconstruction of 24 linear feet of 5-feet of concrete maintenance path. The existing multi-use trail will be demolished, and the width of the William Barton Drive will be reduced from 40 feet down to 24 feet, inside the Limits of Construction (LOC). We are actually removing more impervious cover than what we are placing inside the LOC.



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* Area shown is 50% of Outdoor Facilities Impervious Cover since they are decked.

The existing impervious cover for the 2.57 acre LOC/Site is 0.11 acres or 4%. Proposed impervious cover is 0.02 acres or 1%. The proposed improvements are allowed in the Critical Water Quality Zone (CWQZ) per the Environmental Criteria Manual (ECM), Section 1.5.3 Development Allowed in the CWQZ.

The City of Austin (COA) still requires WQ treatment for the new impervious cover even though we are reducing the amount in our Site. The site is in the Barton Springs 100-year floodplain and Critical Water Quality Zone (CWQZ). The COA does not allow WQ controls in the floodplain or CWQZ. The COA instead had us treat an equivalent amount of impervious cover from an existing roadway that matched our proposed impervious cover square footage.

WQ will be in the form of a dual storm water control measure (SCM) of a biofiltration pond and irrigation field. The SCMs will be located outside of the CWQZ, approximately 250 feet northeast of the intersection of Columbus Drive and William Barton Drive. A portion of William Barton Drive, located outside of the CWQZ will be treated by the SCMs.

Michael Mullone

From: James Slone <james.slone@tceq.texas.gov>
Sent: Monday, June 10, 2024 9:17 AM
To: Michael Mullone
Subject: RE: [EXTERNAL]RE: Violet Crown Trailhead WPAP Requirement Inquiry

Michael,
I can give you the Exception the Geologic Assessment. Please note, if we find any features when we perform our site assessment, you may be required to conduct a Geologic Assessment. Retain this email for you records and provide it during plan submittal.
Have a good week,
Bo

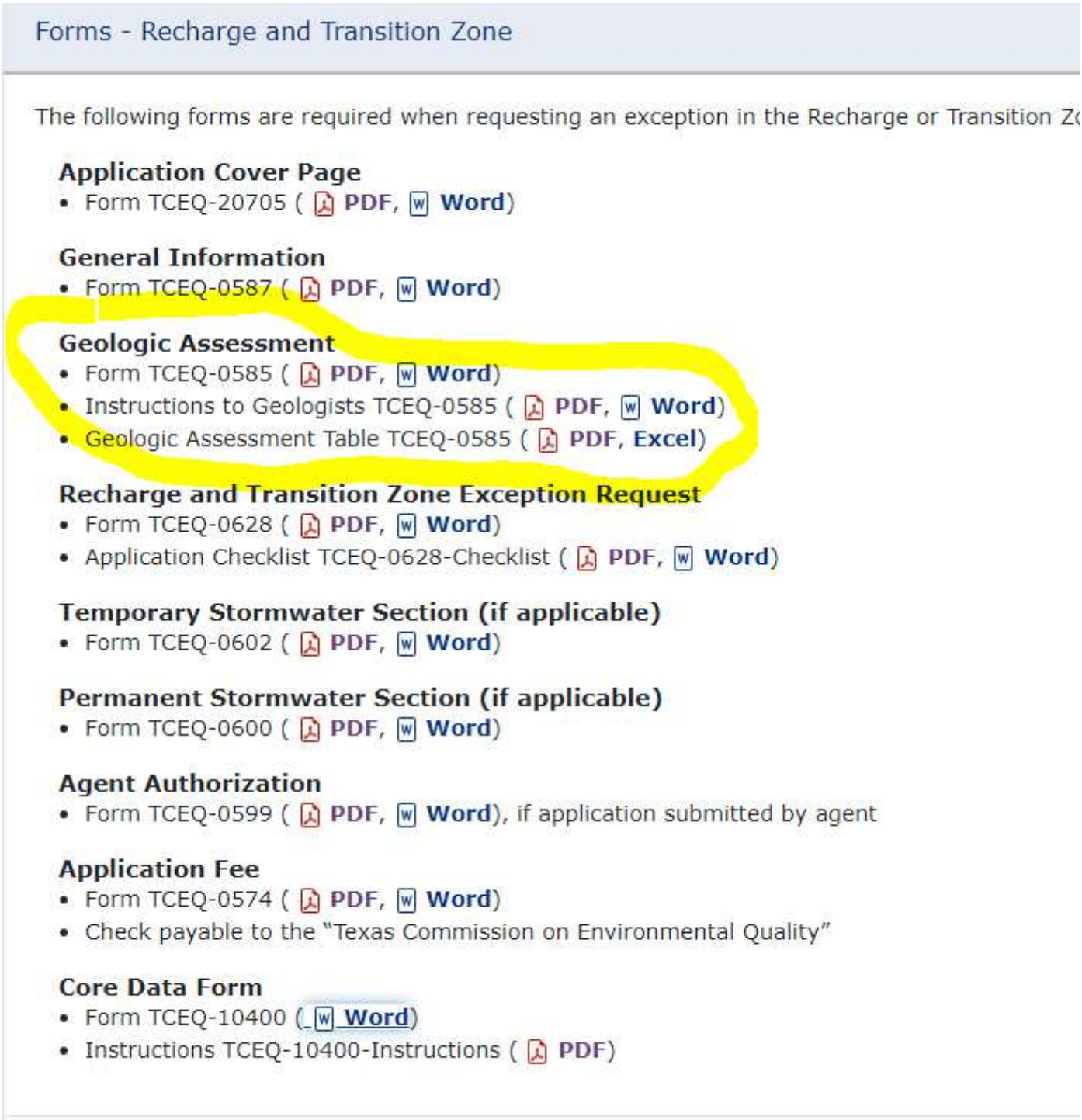
James “Bo” Slone, P.G.
Geoscientist
Edwards Aquifer Protection Program
Texas Commission on Environmental Quality
(512) 239-6994

From: Michael Mullone <MMullone@dunaway.com>
Sent: Sunday, June 9, 2024 6:44 PM
To: James Slone <james.slone@tceq.texas.gov>
Subject: RE: [EXTERNAL]RE: Violet Crown Trailhead WPAP Requirement Inquiry

Bo,

Thanks for the below. In looking at the website for exception, are all of the below required? Especially on the Geological Assessment?

Thanks,



Forms - Recharge and Transition Zone

The following forms are required when requesting an exception in the Recharge or Transition Z

Application Cover Page
- Form TCEQ-20705 (PDF, Word)

General Information
- Form TCEQ-0587 (PDF, Word)

Geologic Assessment
- Form TCEQ-0585 (PDF, Word)
- Instructions to Geologists TCEQ-0585 (PDF, Word)
- Geologic Assessment Table TCEQ-0585 (PDF, Excel)

Recharge and Transition Zone Exception Request
- Form TCEQ-0628 (PDF, Word)
- Application Checklist TCEQ-0628-Checklist (PDF, Word)

Temporary Stormwater Section (if applicable)
- Form TCEQ-0602 (PDF, Word)

Permanent Stormwater Section (if applicable)
- Form TCEQ-0600 (PDF, Word)

Agent Authorization
- Form TCEQ-0599 (PDF, Word), if application submitted by agent

Application Fee
- Form TCEQ-0574 (PDF, Word)
- Check payable to the "Texas Commission on Environmental Quality"

Core Data Form
- Form TCEQ-10400 (Word)
- Instructions TCEQ-10400-Instructions (PDF)

Michael Mullone
Discipline Lead II | Associate
Dunaway
T 512.306.8252 **D** 512-399-5373

From: James Slone <james.slone@tceq.texas.gov>
Sent: Friday, June 7, 2024 3:02 PM
To: Michael Mullone <MMullone@dunaway.com>
Subject: RE: [EXTERNAL]RE: Violet Crown Trailhead WPAP Requirement Inquiry

Michael,
You can submit this as an WPAP Exception which will require a smaller fee ($500). Please retain this email for you records and provide it with your application to show you can submit as a WPAP Exception.
Have a great weekend,
Bo

James “Bo” Slone, P.G.
Geoscientist
Edwards Aquifer Protection Program
Texas Commission on Environmental Quality
(512) 239-6994

From: Michael Mullone <MMullone@dunaway.com>
Sent: Friday, June 7, 2024 1:15 PM
To: James Slone <james.slone@tceq.texas.gov>
Subject: RE: [EXTERNAL]RE: Violet Crown Trailhead WPAP Requirement Inquiry

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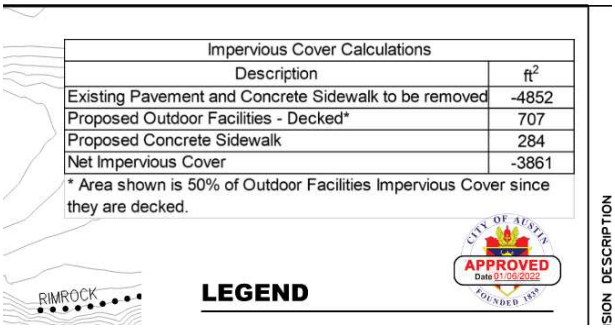

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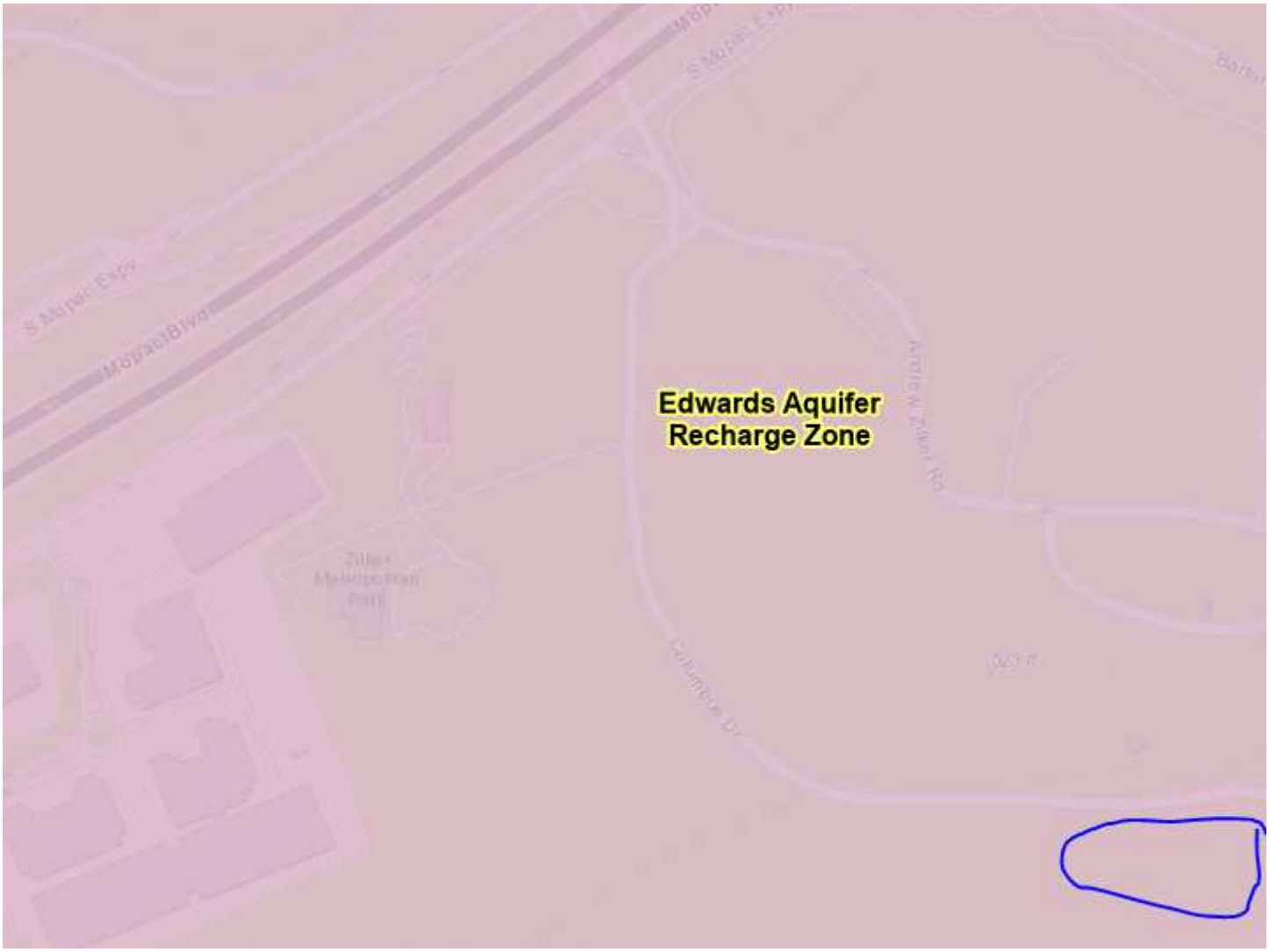

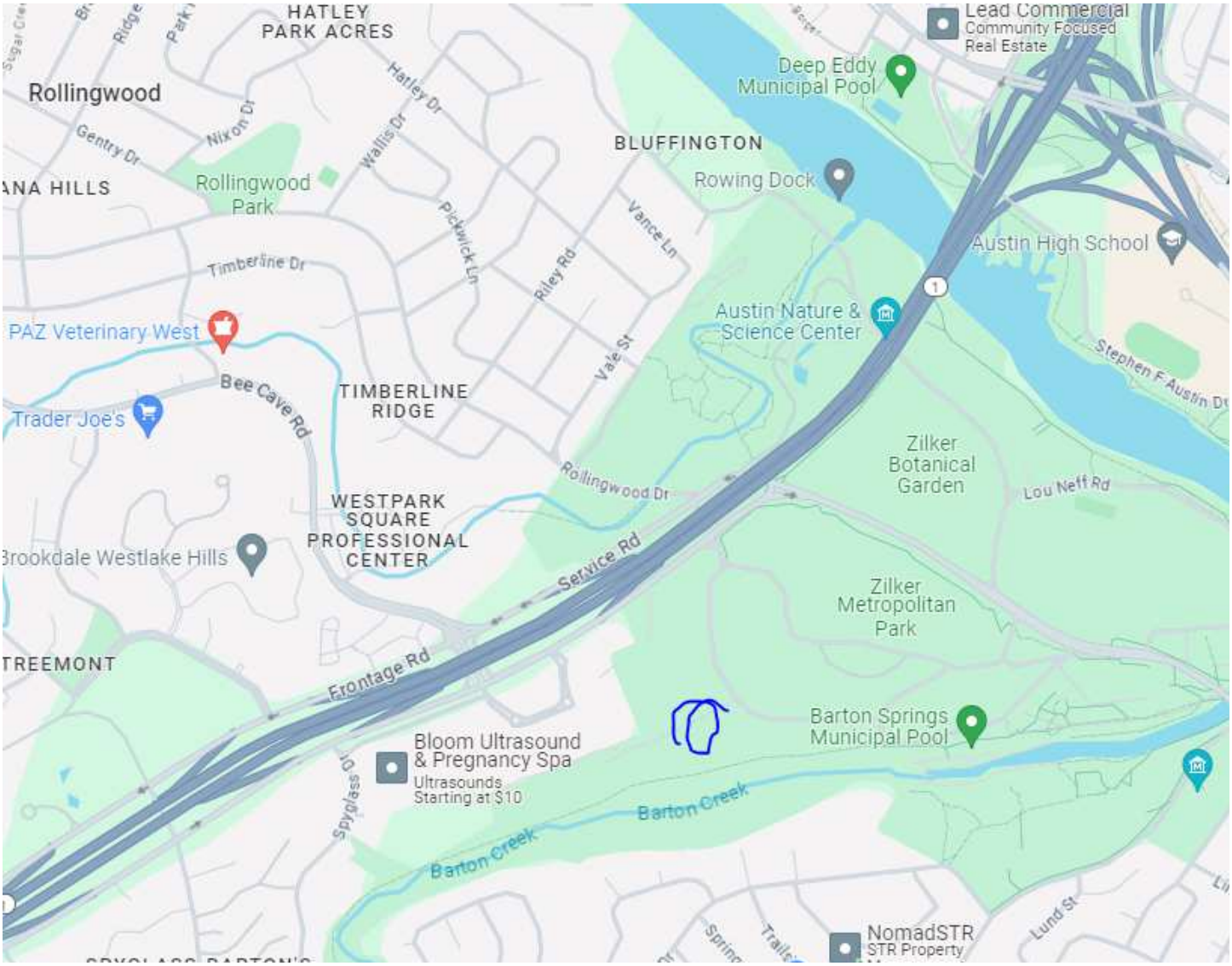

Michael Mullone, PE, CFM, CESSWI, CPESC
Senior Project Engineer | Associate

DUNAWAY

T 512.306.8252 **D** 512-399-5373
dunaway.com

ATTACHMENT B – DOCUMENTATION OF EQUIVALENT WATER QUAILITY PROTECTION

The City of Austin (COA) still requires WQ treatment for the new impervious cover even though we are reducing the amount in our Site. The site is in the Barton Springs 100-year floodplain and Critical Water Quality Zone (CWQZ). The COA does not allow WQ controls in the floodplain or CWQZ. The COA instead had us treat an equivalent amount of impervious cover from an existing roadway that matched our proposed impervious cover square footage.

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Refer to Attachment F- Construction Plans in TCEQ Form 0600 and Attachment C – Project Description in Form TCEQ 0587.

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.

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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: Jessica Powers

Date: 7/11/2024

Signature of Customer/Agent:

Jessica Powers Digitally signed by Jessica Powers
DN: C=US, E=jpowers@dunaway.com, CN=Jessica Powers
Date: 2024.07.11 11:19:34-05'00'

Regulated Entity Name: _____

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: _____

N/A- no Fuels will be stored on-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.

N/A- no storage tanks on site

☐ 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.

N/A- no storage tanks on site

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: Barton Creek

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:

- [X] 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.
- [X] 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. [X] 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.
   - [X] There will be no temporary sealing of naturally-occurring sensitive features on the site.

9. [X] **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.
    - [X] 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.

[X] 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.

    [X] N/A

12. [X] **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. [X] 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. [X] 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. [X] 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. [X] 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. [X] **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. [X] 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. [X] Stabilization practices must be initiated as soon as practicable where construction activities have temporarily or permanently ceased.

Administrative Information

20. [X] All structural controls will be inspected and maintained according to the submitted and approved operation and maintenance plan for the project.

21. [X] 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. [X] 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.

ATTACHMENT A – SPILL RESPONSE ACTIONS

All major equipment/vehicle fueling and maintenance will be performed off-site.
.All sediment spilled, dropped, washed or tracked onto public rights of way must be removed immediately by contractor.

All hazardous waste materials such as oil filters, petroleum products, paint, and equipment maintenance fluids will be stored in structurally sound and sealed shipping containers in a hazardous-materials storage area located within the limits of construction and segregated from other non-waste materials. Secondary containment will be provided for all materials in the hazardous materials storage area and will consist of commercially available spill pallets. Additionally, all hazardous materials will be disposed of in accordance with federal, state, and municipal regulations. Hazardous waste materials will not be disposed of into the onsite dumpsters. All personnel will be instructed, during training sessions, regarding proper procedures for hazardous waste disposal. Notices that state these procedures will be posted in the office trailer and the individual who manages day-to-day site operations will be responsible for seeing that these procedures are followed.

An erosion and sedimentation control (ESC) plan and a Stormwater Pollution Prevention Plan (SWPPP) will be used to minimize the impact of grading and construction activities.

Stormwater Best Management Practice

Spill Prevention and Control Measures

Minimum Measure: Construction Site Stormwater Runoff Control
Subcategory: Good Housekeeping/Materials Management

Description

Liquid and solid products may enter the environment when they leak or spill from containers during use or transfer. These materials may then directly enter nearby storm drains or receiving waters, or stormwater may carry them there (WES, 2008). Federal requirements for the construction and development industry require that any stormwater discharge permit for construction sites include requirements to "minimize the discharge of pollutants from spills and leaks and implement chemical spill and leak prevention and response procedures" (40 CFR §450.21(d)(3)). Most state Construction General Permits (CGPs) and EPA's CGP require that stormwater pollution prevention plans (SWPPPs) identify measures to prevent, contain, clean up and dispose of material leaks or spills. Managers of small municipal separate storm sewer systems (MS4) should develop, implement and enforce a program to reduce stormwater pollutants from any construction activity within the MS4 that results in a land disturbance of greater than or equal to one acre, as well as any construction activity that is part of a larger common plan of development or sale that would disturb one acre or more. Managers should share these procedures with construction personnel as part of the program and examine those procedures when doing inspections/reviews.

Applicability

Spill prevention and control measures apply to construction sites that store or use materials such as pesticides, paints, cleaners, petroleum products, fertilizers, concrete wash, metals, solvents, soil stabilizers and binders, and contaminated groundwater. Construction staff should develop spill prevention and control measures for material storage areas, refueling stations (both mobile and stationary), material transfer locations, storm drain inlet and outlet locations, and waterways (WES, 2008). The spill prevention, control and countermeasure (SPCC) rule (40 CFR §112) covers every site with a total aboveground oil storage capacity greater than 1,320 gallons or a buried oil storage capacity greater than 42,000 gallons of petroleum products. The SPCC rule requires every such site to prepare and implement an SPCC plan, which may differ from SWPPP requirements for spill prevention and control measures (U.S. EPA, 2007).

Skill kit at a construction site.

Siting and Design Considerations

As the name implies, spill prevention and control measures consist of pollution prevention measures and measures to control and minimize impact if a spill does occur. Prevention measures should be routinely implemented by construction staff while spill control measures are generally included within a spill plan such as an SPCC plan. All construction staff should be familiar with both prevention and control measures.

When developing spill prevention and control measures, construction staff should identify areas where spills are likely to occur, such as loading and unloading areas, storage and processing areas, places where dust or particulate matter is generated or handled, areas where

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equipment maintenance and fueling occur, chemical storage areas, and areas designated for waste disposal. Construction staff should also evaluate the spill potential for stationary facilities—including manufacturing areas, warehouses, service stations, parking lots and access roads—during the project planning phase and re-evaluate that potential during each phase of construction. Designing projects to minimize or use the right amount of herbicides, fertilizers and petroleum-based fuels can also be an important way to reduce stormwater pollutants (PWD, 2018). If construction staff need any of these materials on-site, they should use them as quickly as possible upon delivery to minimize the risk of a spill.

The most successful spill prevention and control measures include both structural and operational controls. Routine prevention measures include (SPU, 2017a, 2017b; U.S. EPA, 2019):

- Recycling, reclaiming or reusing materials, thereby reducing the amount of process materials that are brought on-site.
- Installing leak detection devices, overflow controls and diversion berms.
- Installing inlet protection on storm drains.
- Performing preventative maintenance on storm tanks, valves, pumps, pipes and other equipment.
- Using material transfer procedures or filling procedures for tanks and other equipment that minimize spills.
- Substituting less toxic or non-toxic materials for toxic materials.
- Storing materials in covered areas and within adequate secondary containment structures.
- Leaving hazardous materials in original, labeled containers and keeping Safety Data Sheets on-site.
- Storing materials off the bare ground and away from vehicular traffic and drainage pathways.
- Maintaining a clearly labeled and prominently displayed spill kit that includes, at a minimum, absorbent pads, sorbent booms or socks, absorbent granular material, protective clothing (such as latex gloves and safety glasses), thick plastic garbage bags, and drain covers.
- Following good housekeeping practices at project sites, such as appropriately disposing of unwanted or unused waste material and immediately cleaning up spills or debris.

In the event of a spill, it is critical that a plan and appropriate equipment be in place and responsible parties be identified to carry out control measures immediately. A spill plan, such as an SPCC plan, should include components such as (SPU, 2017a, 2017b; U.S. EPA, 2019):

- Identification of individuals responsible for implementing control measures as well as personnel to contact in case of a spill.
- Identification of spill response procedures for small, medium and worst-case discharges, as appropriate.
- Definition of safety measures for each kind of waste.
- Instructions for how to notify appropriate authorities, such as police and fire departments, hospitals, or municipal sewage treatment facilities, for assistance.
- Description of procedures approved by state and local governments for containing, diverting, isolating and cleaning up spills.
- Description of spill response equipment to use, including safety and cleanup equipment, location of spill kits, and proper disposal methods for used materials.

For any spill, construction staff should avoid the use of water for cleaning to prevent contaminated stormwater from reaching storm drains; dry spills can be swept up while wet spills can be contained and absorbed using the equipment included in standard spill kits.

Limitations

Training is necessary to ensure that all workers are aware of and knowledgeable about spill prevention and control measures. All staff on-site should receive training on spill prevention and control measures, including regular refresher training. Construction staff should make equipment and materials for cleanup readily accessible and mark them clearly so workers can follow procedures quickly and effectively.

Maintenance Considerations

Construction staff should update the spill prevention and control measures regularly to accommodate any changes to the site, procedures or responsible staff (this

may include a site diagram showing the locations of spill kits, drainage pathways and evacuation routes). They should regularly inspect areas where spills may occur to ensure that procedures are posted and cleanup equipment is readily available. They should also replace spill kit materials as soon as workers use them and ensure spill kits always remain easily accessible.

Effectiveness

Spill prevention and control measures can be highly effective at reducing the risk of surface and groundwater contamination; however, to ensure workers follow the procedures, construction staff should provide worker training, appropriate materials and equipment for cleanup, and adequate staff time. If a spill occurs, prompt action is the most effective measure to limit environmental harm and cleanup costs.

Cost Considerations

Spill prevention and control measures can be inexpensive to implement; however, construction staff need adequate time and resources to properly handle and dispose of spills. Good housekeeping is the cheapest and most cost-effective way to control a spill. Once a spill has occurred, the cost of cleanup can be significant.

. Additional Information

Additional information on related practices and the Phase II MS4 program can be found at EPA's National Menu of Best Management Practices (BMPs) for Stormwater website

References

Philadelphia Water Department (PWD). (2018). *Stormwater retrofit guidance manual.* Philadelphia, PA: City of Philadelphia.

Seattle Public Utilities (SPU). (2017a). *City of Seattle stormwater manual* (Vol. 2).

Seattle Public Utilities (SPU). (2017b). *City of Seattle stormwater manual* (Vol. 4).

U.S. Environmental Protection Agency (U.S. EPA). (2007). *Developing your stormwater pollution prevention plan: A guide for construction sites* (EPA-833-R-06-004).

U.S. Environmental Protection Agency (U.S. EPA). (2019). *Oil spills prevention and preparedness regulations.*

Water Environment Services (WES). (2008). *Erosion prevention and sediment control: Planning and design manual.*

Stormwater Best Management Practice

Spill Response and Prevention

Minimum Measure: Pollution Prevention/Good Housekeeping for Municipal Operations
Subcategory: Municipal Facilities

Description

Accidental spills of hazardous materials, petroleum products or common chemicals/ can endanger public health or the environment if they reach waterways. Spill response and prevention practices can help to prevent spills from happening and can minimize impacts when a spill does occur. A key practice is creating and implementing a spill response and prevention plan, which should clearly state how to prevent spills, stop the source of a spill, how to contain and clean up a spill, how to dispose of contaminated materials, and how to train personnel to prevent and control future spills.

Applicability

See the Hazardous Materials Storage fact sheet and Materials Management fact sheet for more information on storing and managing hazardous materials.

Spill response and prevention practices apply to any facility that uses or stores hazardous materials. Hazardous materials include petroleum products, pesticides, paints, cleaners, fertilizers and solvents. Applicable facilities may include manufacturing areas, warehouses, service stations, roadways and parking lots. These facilities may be on public or private property, so municipal spill response and prevention practices pertain to both municipal activities on public properties and spill response procedures for private properties.

Implementation

A municipality may implement spill response and prevention practices individually, within a stormwater management plan, or within a spill prevention and control plan. Being proactive to implement practices to prevent spills in the first place is pivotal. Instituting effective and coordinated response measures is key to responding quickly to prevent or limit any impacts that could occur from a spill.

Prevention Practices

Municipalities should define material handling procedures and storage requirements and take actions to reduce the potential for spills. They can achieve this by:

Spills should be responded to swiftly and according to established response plans.

Photo Credit: Mark Herlihy/U.S. Air Force

- Recycling, reclaiming or reusing process materials, thereby reducing the amount of process materials they bring into facilities.
- Installing leak detection devices, overflow controls and diversion berms.
- Disconnecting drains from processing areas that lead to the storm sewer.
- Performing preventative maintenance on storm tanks, valves, pumps, pipes and other equipment.
- Using material transfer or filling procedures that minimize spills from tanks and other equipment.
- Replacing toxic materials with less or non-toxic products.

Spill Response Plan

When a spill happens, it is critical to have a detailed plan in place. The plan should be clear and concise and should outline step-by-step instructions for spill containment, material cleanup and disposal, documentation, reporting, and follow-up procedures. The spill response plan can be in the form of a procedural handbook or a sign and should include the following components (EPA, 2007):

- Identification of potential spill or source areas such as loading and unloading, storage, and processing areas and areas designated for waste disposal.

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- Identification of individuals responsible for implementing the plan.
- Description of safety measures to take with each kind of waste.
- Procedures for notifying appropriate authorities, such as police and fire departments, hospitals, or publicly owned treatment works.
- Procedures for containing, diverting, isolating and cleaning up the spill.
- Description of spill response equipment that staff should use, including safety and cleanup equipment.
- Storage of spill response supplies in easily accessible locations and in staff vehicles.
- Identification of a contractor for larger spill response.
- For spills on private property, procedures to collect cleanup and abatement costs from the responsible party.
- Procedures to document spills and spill response.

To make a spill response plan effective, municipalities need to make sure their staff understand it. They should also routinely train staff on best practices. In addition, municipalities should develop inspection checklists and response forms as part of the recordkeeping process.

A well-conceived plan reduces the likelihood of accidental spills and helps speed effective response if spills do occur.

Public Education

In addition to the procedures described above, public education is essential for reducing spills outside municipal facilities. By informing the public of actions they can take to reduce spill potential, a municipality can reduce or prevent spills. Some municipalities have set up phone numbers that citizens can use to report spills. This helps ensure that municipalities can clean up spills safely, properly and promptly.

Limitations

Municipalities need to plan their spill response and prevention programs well, define them clearly and execute them properly. One limitation of spill response and prevention is that municipalities are often largely reactive, focusing on response rather than prevention. Proper spill prevention requires that municipal staff participate in training and maintenance programs, and that plans have a strong public education component. Proper spill response also requires a proactive approach and enough funding to implement practices before a spill occurs. This includes staff training and having proper equipment and materials on hand, readily accessible and clearly marked so workers can respond according to plan.

Maintenance Considerations

To prevent spills, staff should properly maintain potential sources of spills and leaks, keeping them in good operating condition. They should also regularly inspect areas where spills might occur to ensure that spill response procedures are in view and adequate stocks of cleanup equipment are readily accessible. If facility management changes any procedures or sites, it should update the spill prevention and response plan to reflect these changes.

Cost Considerations

Costs of spill response and prevention include the cost of training municipal employees, purchasing spill kits or other on-site spill response equipment, and developing a public education program. This program will need a varying investment of staff hours and materials, depending on its extent. Spill response and prevention practices can be expensive—though arguably less so than cleaning up toxic spills that have already contaminated downstream waters and ecosystems.

Additional Information

Additional information on related practices and the Phase II MS4 program can be found at EPA's National Menu of Best Management Practices (BMPs) for Stormwater website

References

U.S. Environmental Protection Agency (EPA). (2007). *MS4 program evaluation guidance.*

Disclaimer

This fact sheet is intended to be used for informational purposes only. These examples and references are not intended to be comprehensive and do not preclude the use of other technically sound practices. State or local requirements may apply.

ATTACHMENT B – POTENTIAL SOURCES OF CONTAMINATION

Potential sources of sediment to stormwater runoff will include earthwork for drainage conveyance and erosion control, sidewalks, and access driveway improvements.

Potential pollutants and sources, other than sediment, to stormwater runoff will include concrete, grout mix, batteries, cleaning solvents, paint, asphalt mix, motor oil, gasoline, and diesel fuel.

ATTACHMENT C – SEQUENCE OF MAJOR ACTIVITIES

1. Call 811 for existing utilities prior to any work on the Site.
2. Temporary erosion and sedimentation controls are to be installed, as indicated on the approved Site Plan and in accordance with a signed and sealed SWPPP, prior to any clearing and grubbing. Install tree protection. Post SWPPP on the Site.
3. Environmental project manager or site supervisor must contact the Environmental Inspection at the City of Austin, at 512-974-2278, 72 hours prior to the scheduled date of the required on-site preconstruction meeting.
4. Evaluate erosion control installation and review construction schedule with erosion control plan. Inspect and maintain controls weekly and prior to rainfall events, and after rainfall events. If a disturbed area is not to be worked on for more than 14 days, disturbed area needs to be stabilized by re-vegetation or mulching.
5. Begin site clearing/construction (or demolition) activities.
6. Rough grade site.
7. Rough grade rain garden area with temporary outlet. The rain garden will act as temporary sedimentation basins during construction.
8. Begin construction.
9. Place compacted base material in parking/driving areas.
10. Install curbing and place asphalt.
11. Install sidewalk and plaza area.
12. Construct rain garden with irrigation field.
13. Complete, construction, and begin re-vegetation and installing landscaping.
14. Project engineer and landscape architect inspect job and writes concurrence letters and submit letters to the City. Final inspection is scheduled upon receipt of the concurrence letters from each the engineer and the architect.
15. After final inspection has been approve by City inspector, temporary erosion controls and tree protection is removed. Perform final revegetation resulting from removal of erosion controls as necessary.

ATTACHMENT D – TEMPORARY BEST MANAGEMENT AND PRACTICES

Silt fence and mulch sock will be located just down slope of all disturbed areas. Trees located inside the limits of construction will be protected by tree fencing.

See Erosion and Sedimentation Control (ESC) Plan from the Site Plan for locations of Best Management Practices and Details. Refer to Attachment F-Construction Plans in TCEQ Form 600.

A signed and sealed Stormwater Pollution Prevention Plan (SWPPP) will be required prior beginning any construction activities. The SWPPP in addition to the ESCs will be used to minimize the impact of grading and construction activities.

ATTACHMENT E – REQUEST TO TEMPORARILY SEAL A FEATURE (IF REQUESTED)

Not Applicable – No Features to Seal.

ATTACHMENT F – STRUCTURAL PRACTICES

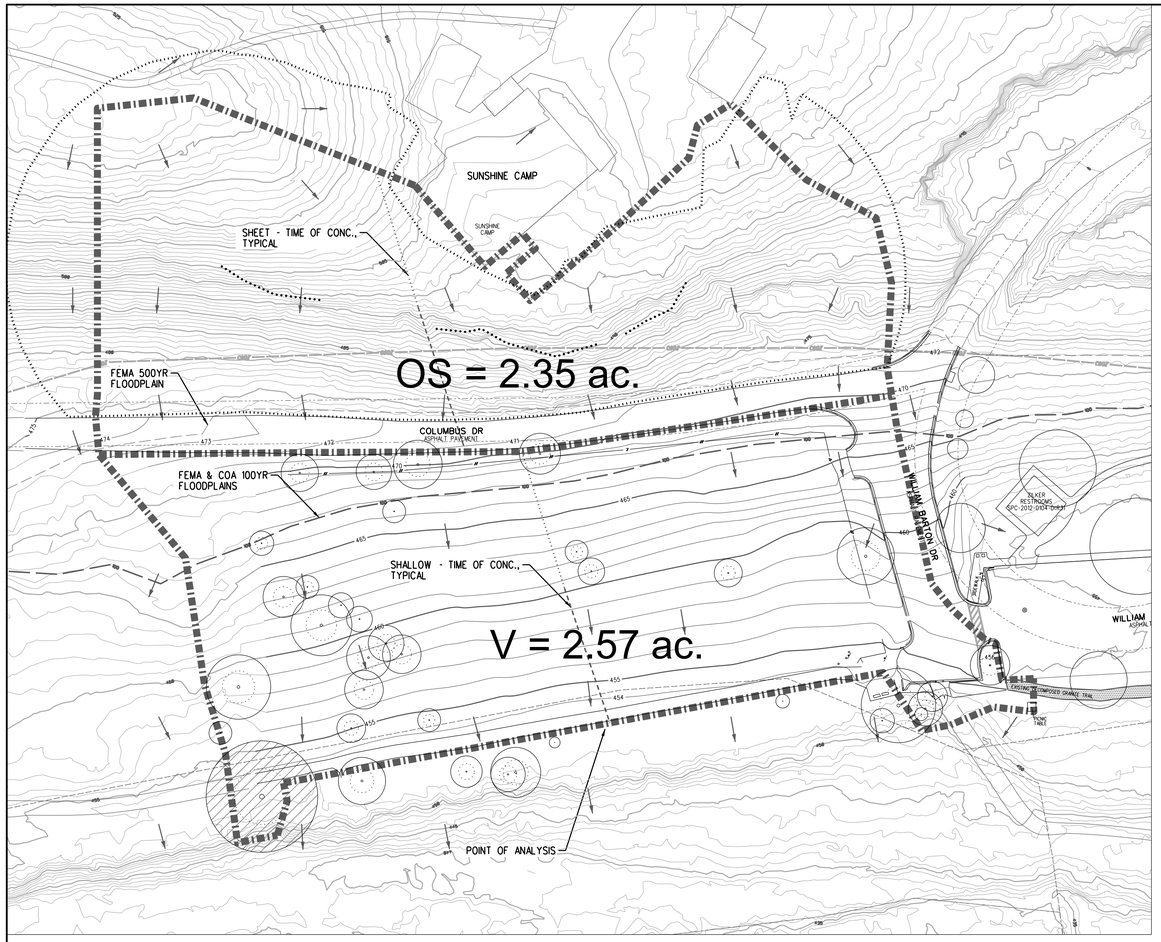
All discharge from rain garden and Site will be in the form of sheet flow. Rock riprap and/or energy dissipators have been provided at rain garden outfall.

The existing impervious cover for the 2.57 acre LOC/Site is 0.11 acres or 4%. Proposed impervious cover is 0.02 acres or 1%. The proposed improvements are allowed in the Critical Water Quality Zone (CWQZ) per the Environmental Criteria Manual (ECM), Section 1.5.3 Development Allowed in the CWQZ.

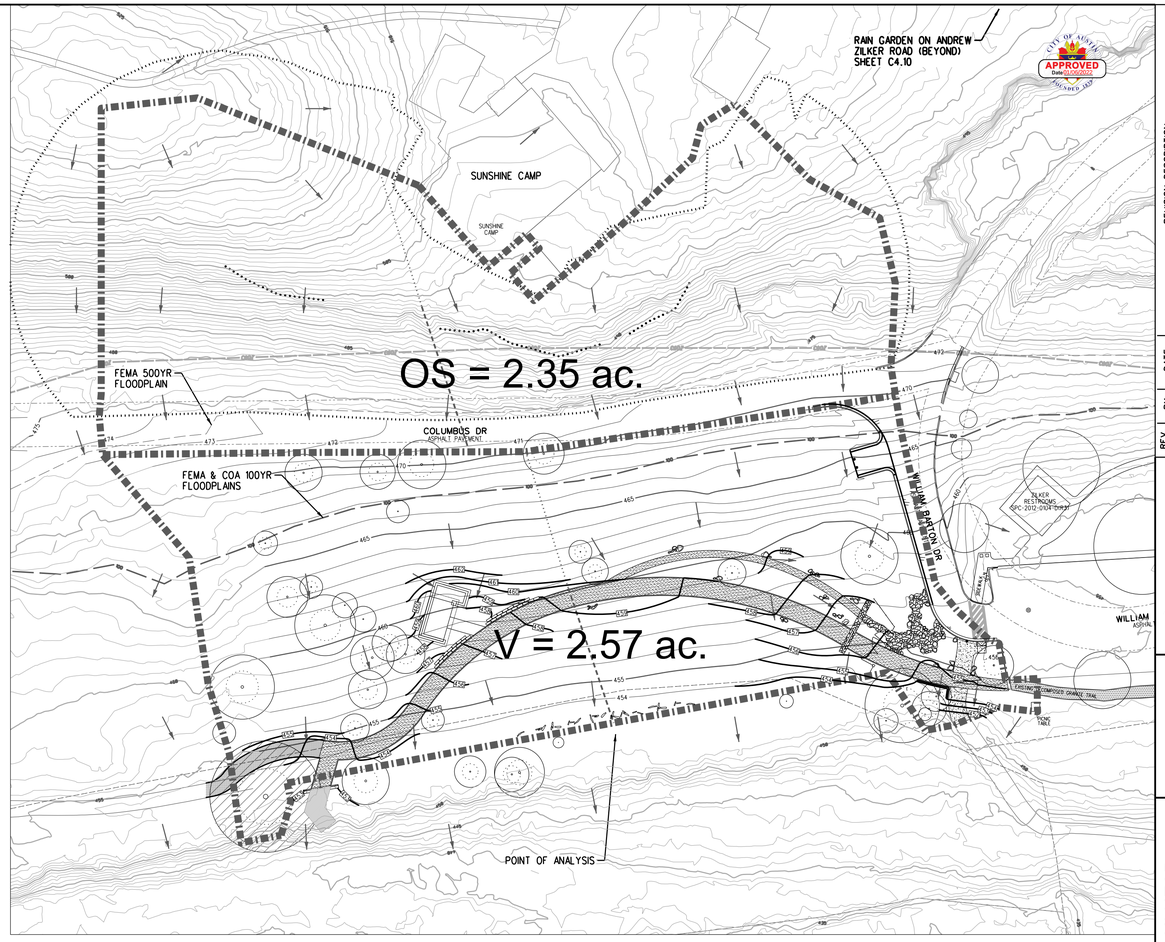
The City of Austin (COA) still requires WQ treatment for the new impervious cover even though we are reducing the amount in our Site. The site is in the Barton Springs 100-year floodplain and Critical Water Quality Zone (CWQZ). The COA does not allow WQ controls in the floodplain or CWQZ. The COA instead had us treat an equivalent amount of impervious cover from an existing roadway that matched our proposed impervious cover square footage.

WQ will be in the form of a dual storm water control measure (SCM) of a biofiltration pond and irrigation field. The SCMs will be located outside of the CWQZ, approximately 250 feet northeast of the intersection of Columbus Drive and William Barton Drive. A portion of William Barton Drive, located outside of the CWQZ will be treated by the SCMs. These ponds will be rough graded as described in Attachment C above, to act as temporary sedimentation basins during construction. The ponds will be fully constructed as Permanent BMPs. Refer to the Drainage Area Maps, Water Quality plan sheets from the Site Plan Set. Refer to Attachment F- Construction Plans in TCEQ Form 600.

ATTACHMENT G – DRAINAGE AREA MAP



EXISTING DRAINAGE MAP



PROPOSED DRAINAGE MAP

LEGEND

- X = XX ac. — DRAINAGE AREA ID
- DRAINAGE AREA
- XXX — CONTOUR- EXISTING
- XXX — CONTOUR- PROPOSED
- FLOW ARROW- EXISTING
- FLOW ARROW- PROPOSED

Time of Concentration Calculations								
Basin ID	Area	Z_4	Z_3	Z_2	Z_1	L^{sheet}	$L^{shallow}$	$L^{channel}$
-	ac	ft	ft	ft	ft	ft	ft	ft
OS1	2.35	512	498	471	0	100	107	0
V	2.57	470	459	454	0	100	99	0
Sheet Flow Calculations								
P_2	3.44	t^{sheet}	$(0.007((n*L)^{.8})/(((P_2)^{.5})*(s^{.4}))*60$					
Basin ID	Z_4	Z_3	L^{sheet}	s^{sheet}	n^{sheet}	t^{sheet}		
-	ft	ft	ft	-	-	min		
OS1	512	498	100	0.140	0.15	4.3		
V	470	459	100	0.110	0.15	4.8		
Shallow Flow Calculations								
$t^{shallow}$			$t^{unpaved}$ = L/(60(16.1345)(s)0.5)		tpaved = L/(60(20.3282)(s)0.5)			
Basin ID	Z_3	Z_2	$L^{shallow}$	$s^{shallow}$	$t^{shallow}$			
-	ft	ft	ft	-	min			
OS1	498	471	107	0.252	0.2			
V	459	454	99	0.051	0.5			
*All basins -unpaved								
Channel Flow Calculations								
$t^{channel}$	L/(60*v)		$v^{channel}$	$(1.49*(r^{.667})*(s^{.5}))/n$				
Basin ID	Z_2	Z_1	$L^{channel}$	$s^{channel}$	r	$n^{channel}$	$v^{channel}$	$t^{channel}$
-	ft	ft	ft	-	ft	-	ft/s	min
OS1	471	0	0	N/A	0.500	0.012	N/A	0
V	454	0	0	N/A	0.750	0.012	N/A	0
Time of Concentration Summary								
Basin ID	Area		t^{Total}		t^{lag}			
-	ac		min		min			
OS1	2.35		5		3			
V	2.57		5		3			
*OS1 had an assumed Time of Concentration of 5 minutes.								

Existing Hydrologic Summary								
Basin ID	Area	Impervious	CN weighted	ToC	Q^2	Q^{10}	Q^{25}	Q^{100}
-	ac.	%	-	min.	ft^3/s	ft^3/s	ft^3/s	ft^3/s
OS1	2.4	13	82.3	5	9	17	22	31
V	2.6	4	62.6	5	4	11	16	26

Proposed Hydrologic Summary								
Basin ID	Area	Impervious	CN weighted	ToC	Q^2	Q^{10}	Q^{25}	Q^{100}
-	ac.	%	-	min.	ft^3/s	ft^3/s	ft^3/s	ft^3/s
OS1	2.35	13	82.3	5	9	17	22	31
V	2.57	1	61.3	5	3	10	16	25

Point of Analysis - To Barton Creek	Q^2	Q^{10}	Q^{25}	Q^{100}
Existing	13.0	27.8	38.5	56.8
Proposed	12.6	27.2	37.9	56.1
Proposed - Existing	-0.4	-0.6	-0.6	-0.7

R5

NEW SHEET

SITE PLAN APPROVAL — SHEET 226 OF 239
FILE NUMBER: ____ APPLICATION DATE: ____
APPROVED BY COMMISSION ON: ____ UNDER SECTION 112 OF CHAPTER 25-5 OF THE CITY OF AUSTIN CODE.
EXPIRATION DATE (25-5-81, LDC) ____ CASE MANAGER: ____
PROJECT EXPIRATION DATE (OED #970905-A) N/A DWPZ ____ DDZ ____
Director, Development Services Department
RELEASED FOR GENERAL COMPLIANCE: ____ ZONING: ____
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.

REV. NO.	BY	DATE	REVISION DESCRIPTION

STATE OF TEXAS
MICHAEL C. MULLONE
127850
LICENSED
PROFESSIONAL ENGINEER
Mike Mullone
12/16/2021

SCALE 1" = 50'
0 25 50

VIOLET CROWN TRAILHEAD
WILLIAM BARTON DR.
AUSTIN TX 78746

EXISTING & PROPOSED DRAINAGE MAPS

DUNAWAY LUD
TX Registered Engineering Firm #F-1114
TBPLS Firm No. 10065900
5707 Southwest Parkway
Building 2, Suite 250
Austin, TX 78735
Phone: 512-306-8252

C4.00

JOB NO. B005344.001

SPC-2012-0104D(R5)

SHEET NUMBER 226 OF 239

12/8/2021

G:\Production\4000\005300\5344\001\Civil\CAD\(Plans) Site Plan\Sheets\VCT-S-DRG MAP.dgn

ATTACHMENT H – TEMPORARY SEDIMENT PONDS PLANS AND CALCULATIONS

Not Applicable – Refer to Attachments C and F about permanent pond structures.

ATTACHMENT I – INSPECTION AND MAINTENANCE FOR BMPS

- Silt Fence - Inspect prior to forecast rain, daily during extended rain events, after rain events, weekly during the rainy season, and at two-week intervals during the non-rainy season. Repair or replace split, torn, slumping, or weathered fabric. Silt fences that are damaged and become unsuitable for the intended purpose should be removed from the site of work, disposed of, and replaced with new silt fence barriers. Sediment that accumulates in the silt fence must be periodically removed in order to maintain silt fence effectiveness. Sediment should be removed when the sediment accumulation reaches approximately one-half of the fence height (one foot) on the silt fence. Sediment removed during maintenance may be incorporated into earthwork on the site or disposed at an appropriate location. Upon removal of silt fence, accumulated sediment must also be removed and disposed of properly. Silt fences should be left in place until the upstream area is permanently stabilized. Holes, depressions, or other ground disturbance caused by the removal of the silt fences should be backfilled and repaired.

- Mulch Sock - Inspect mulch socks after installation for gaps under the mulch socks and for gaps between the joints of adjacent ends of mulch socks. Inspect every 7-days and within 24-hours of a rainfall event of 0.5-inches or greater event and replace or repair if necessary. Sediment retained by the sock shall be removed when it has reached 1/3 of the exposed height of the sock. Alternatively, the sediment and sock can be stabilized with vegetation at the end of construction.

- Triangular Sediment Filter Dike - Inspect prior to forecast rain, daily during extended rain events, after rain events, weekly during the rainy season, and at two-week intervals during the non-rainy season. Repair or replace split, torn, or weathered fabric. Triangular sediment filter dike that are damaged and become unsuitable for the intended purpose should be removed from the site of work, disposed of, and replaced. Sediment that accumulates in the triangular sediment filter dike must be periodically removed in order to maintain effectiveness.

- Stabilized Construction Entrance - The entrance shall be maintained in a condition which will prevent tracking or flowing of sediment onto public rights of way. This may require periodic top dressing with additional stone as conditions

demand and repair and/or clean out of any measures used to trap sediment. All sediment spilled, dropped, washed or tracked onto public rights of way must be removed immediately by contractor. When necessary, wheels must be cleaned to remove sediment prior to entrance onto public right of way. When washing is required, it shall be done on an area stabilized with crushed stone which drains into an approved sediment trap or sediment basin. All sediment shall be prevented from entering any storm drain, ditch or watercourse using approved methods.

- Concrete Washout Area : shall be maintained in a condition which will prevent direct discharges to surface waters, groundwater, or to areas that have minimal slope that allow infiltration and filtering of wash out water to prevent direct discharges to surface waters. Wash out of concrete trucks during rainfall events shall be minimized. Concrete washout area shall be emptied when full and prior to rain events.

ATTACHMENT J – SCHEDULE OF INTERIM AND PERMANENT SOIL STABILIZATION PRACTICES

Temporary Soil Stabilization

- Soil Retention Blanket/Sodding - will be used to stabilize exposed soils where construction activities have permanently ceased or be temporarily halted for 14 days or longer. Construction debris, trash and temporary BMPs (including silt fences, tree protection, and inlet protection) will also be removed and any areas disturbed during removal will be seeded immediately.

- Mulching - will be used to stabilize soils where construction activities have temporarily halted for 14 days or longer.

- Tree Protection - will be installed prior to initiation of construction activities. Fencing will be inspected Before and after daily construction activities.

Permanent Soil Stabilization – Refer to Landscape Plan Sheets of Site Plan. Refer to Attachment F- Construction Plans in TCEQ Form 600.

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)(Ii), (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: Jessica Powers

Date: 7/11/2024

Signature of Customer/Agent

Jessica Powers Digitally signed by Jessica Powers
DN: C=US, E=jpowers@dunaway.com, CN=Jessica Powers
Date: 2024.07.11 11:21:37-05'00'

Regulated Entity Name: _____

Permanent Best Management Practices (BMPs)

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

1. [X] Permanent BMPs and measures must be implemented to control the discharge of pollution from regulated activities after the completion of construction.

   [ ] N/A

2. [X] 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.

[X] 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: City of Austin Drainage Criteria Manual - Save Our Springs Design Section and Regulations

[ ] N/A

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

6. [X] **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. [X] **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:

    [X] Prepared and certified by the engineer designing the permanent BMPs and measures
    [ ] Signed by the owner or responsible party
    [X] Procedures for documenting inspections, maintenance, repairs, and, if necessary retrofit
    [X] 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.

    [X] N/A

13. [X] **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. [X] 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.

    [X] N/A

ATTACHMENT A – 20% OR LESS IMPERVIOUS COVER

(IF REQUESTED FOR MULTI-FAMILY, SCHOOL, OR SMALL BUSINESS SITE)

July 1, 2024

20% or Less Impervious Cover Waiver : Violet Crown Trailhead

To whom it may concern:

The existing impervious cover for the 2.57 acre LOC/Site is 0.11 acres or 4%. Proposed impervious cover is 0.02 acres or 1%. The proposed improvements are allowed in the Critical Water Quality Zone (CWQZ) per the Environmental Criteria Manual (ECM), Section 1.5.3 Development Allowed in the CWQZ.

The City of Austin (COA) still requires WQ treatment for the new impervious cover even though we are reducing the amount in our Site. The site is in the Barton Springs 100-year floodplain and Critical Water Quality Zone (CWQZ). The COA does not allow WQ controls in the floodplain or CWQZ. The COA instead had us treat an equivalent amount of impervious cover from an existing roadway that matched our proposed impervious cover square footage.

WQ will be in the form of a dual storm water control measure (SCM) of a biofiltration pond and irrigation field. The SCMs will be located outside of the CWQZ, approximately 250 feet northeast of the intersection of Columbus Drive and William Barton Drive. A portion of William Barton Drive, located outside of the CWQZ will be treated by the SCMs. The ponds will be fully constructed as Permanent BMPs. Refer to the Drainage Area Maps, Water Quality plan sheets from the Site Plan Set. Refer to Attachment F- Construction Plans in TCEQ Form 600.

Respectfully submitted,

DUNAWAY ASSOCIATES, L.P.,
a Texas limited partnership

Mike Mullone, PE, CFM, CESSWI, CPESC

ATTACHMENT B – BMPS FOR UPGRADIENT STOMRWATER

Not Applicable – Upgradient is being treated already by the Off Site itself as it is required by City of Austin.

ATTACHMENT C – BMPS FOR ON-SITE STOMRWATER

WQ will be in the form of a dual storm water control measure (SCM) of a biofiltration pond and irrigation field. The SCMs will be located outside of the CWQZ, approximately 250 feet northeast of the intersection of Columbus Drive and William Barton Drive. A portion of William Barton Drive, located outside of the CWQZ will be treated by the SCMs. These ponds will be rough graded as described in Attachment C above, to act as temporary sedimentation basins during construction. The ponds will be fully constructed as Permanent BMPs. Refer to the Drainage Area Maps, Water Quality plan sheets from the Site Plan Set. Refer to Attachment F- Construction Plans in TCEQ Form 600. The pond will return discharges to sheet flow, which will continue to sheet flow to Barton Creek. No construction activities will be in the creek area.

ATTACHMENT D – BMPS FOR SURFACE STREAMS

- Not Applicable – Refer to Attachment C above.

ATTACHMENT E – REQUEST TO SEAL FEATURES
(IF SEALING A FEATURE)

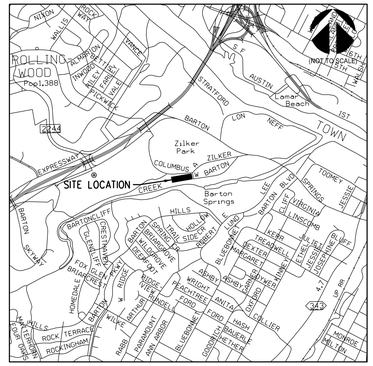
Not Applicable – No Features to Seal.

ATTACHMENT F – CONSTRUCTION PLANS

VIOLET CROWN TRAILHEAD

WILLIAM BARTON DR.
AUSTIN TX 78746

LOCATION MAP



COA GRID: G22, MAPSCO PG: 584X

JURISDICTION
THE SITE IS LOCATED WITHIN THE FULL PURPOSE JURISDICTION OF THE CITY OF AUSTIN.

ZONING
THE SITE IS ZONED "P"

LEGAL DESCRIPTION
-

WATERSHED
1. THIS PROJECT IS LOCATED IN THE BARTON CREEK WATERSHED, A BARTON SPRINGS WATERSHED.

2. THIS SITE IS LOCATED OVER THE EDWARDS AQUIFER RECHARGE ZONE.

FEMA FLOODPLAIN NO.
1. A PORTION OF THIS PROJECT IS LOCATED WITHIN THE 100-YR FLOODPLAIN AS SHOWN ON FEMA PANEL NO. 48453C0445J, EFFECTIVE ON JANUARY 6, 2016

NOTES
APPROVAL OF THESE PLANS BY THE 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.

RETAINING WALLS OVER FOUR FEET IN HEIGHT, MEASURED FROM THE BOTTOM OF THE FOOTING TO THE TOP OF WALL, SHALL BE ENGINEERED AND WILL REQUIRE A SEPARATE PERMIT (UNIFORM BUILDING CODE 106.2.5)

EXISTING CONDITIONS
THE LOCATION OF EXISTING UTILITIES AND STORM SEWER SHOWN ON THE PLAN WERE TAKEN FROM CITY OF AUSTIN RECORDS WHICH MAY NOT HAVE BEEN COMPLETE AND/OR ACCURATE. THEREFORE, THE PRESENCE, LOCATION, AND ELEVATION OF EXISTING UTILITIES AND STORM SEWER IN THE FIELD SHALL BE VERIFIED BY THE CONTRACTOR BEFORE COMMENCING WORK. IT SHALL BE THE DUTY OF THE CONTRACTOR TO ASCERTAIN WHETHER ANY ADDITIONAL FACILITIES OTHER THAN THOSE SHOWN ON THE PLANS MAY BE PRESENT. FAILURE OF AN EXISTING UTILITY OR STORM SEWER TO APPEAR ON THE PLANS OR RECORDS SHALL NOT RELIEVE THE CONTRACTOR OF THEIR RESPONSIBILITY TO PROTECT AND REPAIR, IF THEY DAMAGE, SUCH UTILITIES AND STORM SEWER.

TRAFFIC CONTROL PLAN NOTE
THIS NOTE IS BEING PLACED ON THE PLAN SET IN THE ABSENCE 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 RIGHT OF WAY MANAGEMENT DIVISION. STANDARD DETAILS ARE NOT A TRAFFIC CONTROL PLAN. 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 RIGHT OF WAY MANAGEMENT DIVISION FOR REVIEW.

THE FOLLOWING MUST BE TAKEN INTO CONSIDERATION WHEN DEVELOPING FUTURE TRAFFIC CONTROL STRATEGIES:
* PEDESTRIAN AND BICYCLE TRAFFIC ACCESS MUST BE MAINTAINED AT ALL TIMES, UNLESS OTHERWISE AUTHORIZED BY RIGHT OF WAY MANAGEMENT
* NO LONG-TERM LANE CLOSURES WILL BE AUTHORIZED, UNLESS RIGHT OF WAY MANAGEMENT DETERMINES THAT ADEQUATE ACCOMMODATIONS HAVE BEEN MADE TO MINIMIZE TRAFFIC IMPACT.
* PROJECT SHOULD BE PHASED SO THAT UTILITY INSTALLATION MINIMALLY IMPACTS EXISTING OR TEMPORARY PEDESTRIAN FACILITIES.

SUB-CHAPTER E
THIS SITE PLAN IS SUBJECT TO SUBCHAPTER E OF THE LAND DEVELOPMENT CODE (COMMERCIAL DESIGN STANDARDS).

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 PLAN COMPLIES WITH ALL OTHER LAWS, REGULATIONS, AND RESTRICTIONS WHICH MAY BE APPLICABLE TO THE PROPERTY AND ITS USE.

NO UTILITY CHANGES
NO CHANGES TO EXISTING OR PROPOSED, PUBLIC OR PRIVATE WATER OR WASTEWATER UTILITY INFRASTRUCTURE WILL BE MADE WITH THESE IMPROVEMENTS

ELECTRICAL NOTES
1.) AUSTIN ENERGY HAS THE RIGHT TO PRUNE AND/OR REMOVE TREES, SHRUBBERY AND OTHER OBSTRUCTIONS TO THE EXTENT NECESSARY TO KEEP THE EASEMENTS CLEAR. AUSTIN ENERGY WILL PERFORM ALL TREE WORK IN COMPLIANCE WITH CHAPTER 25-8, SUBCHAPTER B OF THE CITY OF AUSTIN LAND DEVELOPMENT CODE.
2.) **THE OWNER/DEVELOPER OF THIS SUBDIVISION/LOT SHALL PROVIDE** AUSTIN ENERGY WITH ANY EASEMENT AND/OR ACCESS REQUIRED, IN ADDITION TO THOSE INDICATED, FOR THE INSTALLATION AND ONGOING MAINTENANCE OF OVERHEAD AND UNDERGROUND ELECTRIC FACILITIES. THESE EASEMENTS AND/OR ACCESS ARE REQUIRED TO PROVIDE ELECTRIC SERVICE TO THE BUILDING AND WILL NOT BE LOCATED SO AS TO CAUSE THE SITE TO BE OUT OF COMPLIANCE WITH CHAPTER 25-8 OF THE CITY OF AUSTIN LAND DEVELOPMENT CODE.
3.) **THE OWNER SHALL BE RESPONSIBLE** FOR INSTALLATION OF TEMPORARY EROSION CONTROL, REVEGETATION AND TREE PROTECTION. IN ADDITION, THE OWNER SHALL BE RESPONSIBLE FOR ANY INITIAL TREE PRUNING AND TREE REMOVAL THAT IS WITHIN TEN FEET OF THE CENTER LINE OF THE PROPOSED OVERHEAD ELECTRICAL FACILITIES DESIGNED TO PROVIDE ELECTRIC SERVICE TO THIS PROJECT. THE OWNER SHALL INCLUDE AUSTIN ENERGY'S WORK WITHIN THE LIMITS OF CONSTRUCTION FOR THIS PROJECT.
4.) THE OWNER OF THE PROPERTY IS RESPONSIBLE FOR MAINTAINING **CLEARANCES** REQUIRED BY THE NATIONAL ELECTRIC SAFETY CODE, OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA) REGULATIONS, CITY OF AUSTIN RULES AND REGULATIONS AND TEXAS STATE LAWS PERTAINING TO CLEARANCES WHEN WORKING IN CLOSE PROXIMITY TO OVERHEAD POWER LINES AND EQUIPMENT. AUSTIN ENERGY WILL NOT RENDER ELECTRIC SERVICE UNLESS REQUIRED CLEARANCES ARE MAINTAINED. ALL COSTS INCURRED BECAUSE OF FAILURE TO COMPLY WITH THE REQUIRED CLEARANCES WILL BE CHARGED TO THE OWNER.
5.) ANY **RELOCATION** OF ELECTRIC FACILITIES SHALL BE AT LANDOWNER'S/DEVELOPER'S EXPENSE.

DRAINAGE NOTES
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.

ENVIRONMENTAL NOTES
1. THIS PROJECT IS SUBJECT TO THE VOID AND WATER FLOW MITIGATION RULE (COA ECM 1.12.0 AND COA ITEM No. 658S OF THE SSM) PROVISION THAT ALL TRENCHING GREATER THAN 5 FEET DEEP MUST BE INSPECTED BY A GEOLOGIST (TEXAS P.G.) OR A GEOLOGIST'S REPRESENTATIVE.

SHEET INDEX

APPROVALS:
REVIEWED BY:

NA
CITY OF AUSTIN INDUSTRIAL WASTE DEPT. DATE

Ivan Hogenson 12/28/2021
CITY OF AUSTIN WATER UTILITY DATE

M Cerwin Jan. 04, 2022
CITY OF AUSTIN FIRE DEPARTMENT DATE

APPLICABLE WATERSHED ORDINANCE
OPERATING PERMIT WHERE APPLICABLE UNDER 25-8-233

WATERSHED PROTECTION DEPARTEMENT DATE

APPROVAL FOR SITE DEVELOPMENT PERMIT:
REVIEWED BY:

Renee Johns 01/07/22
DEVELOPMENT SERVICES DEPARTMENT DATE

SPC-2012-0104D(R5) P
SITE DEVELOPMENT PERMIT NO. SITE ZONING

SUBMITTAL DATE

R5
NEW SHEET

SITE PLAN APPROVAL SHEET 218 OF 239
FILE NUMBER: APPLICATION DATE:
APPROVED BY COMMISSION ON: 01/07/22 UNDER SECTION 112 OF CHAPTER 25-5 OF THE CITY OF AUSTIN CODE.
EXPIRATION DATE (25-5-81, LDC) CASE MANAGER:
PROJECT EXPIRATION DATE (OED #970905-A) 01/07/25 DWPZ DDZ

Director, Development Services Department
RELEASED FOR GENERAL COMPLIANCE: ZONING:
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.

CITY OF AUSTIN APPROVED Date 01/07/2022

REV. NO.	BY	DATE	REVISION DESCRIPTION

STATE OF TEXAS
MICHAEL C. MULLONE
127850
LICENSED
PROFESSIONAL ENGINEER
Mike Mullone
12/16/2021

DUNAWAY LAND
TX Registered Engineering Firm #F-1114
TBPLS Firm No. 10065900
5707 Southwest Parkway
Building 2, Suite 250
Austin, TX 78735
Phone: 512-306-8252

VIOLET CROWN TRAILHEAD
WILLIAM BARTON DR.
AUSTIN TX 78746

COVER SHEET

C0.00

JOB NO. B005344.001

SPC-2012-0104D(R5)

SHEET NUMBER 218 OF 239

G:\Production4000\005300\5344\00\Civil\CAD\(Plans) Site Plan\Sheets\VCT-S-COVER.dgn

12/16/2021

APPENDIX P-1 - EROSION CONTROL NOTES

1. 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).
2. 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:
 1. Installation sequence of controls (e.g. perimeter controls, then sediment basins, then temporary stabilization, then permanent, etc.)
 2. Project phasing if required (LOC greater than 25 acres)
 3. Sequence of grading operations and notation of temporary stabilization measures to be used
 4. Schedule for converting temporary basins to permanent WQ controls
 5. Schedule for removal of temporary controls
 6. Anticipated maintenance schedule for temporary controls
 Categorize each BMP under one of the following areas of BMP activity as described below:
 3.1 Minimize disturbed area and protect natural features and soil
 3.2 Control Stormwater flowing onto and through the project
 3.3 Stabilize Soils
 3.4 Protect Slopes
 3.5 Protect Storm Drain Inlets
 3.6 Establish Perimeter Controls and Sediment Barriers
 3.7 Retain Sediment On-Site and Control Dewatering Practices
 3.8 Establish Stabilized Construction Exits
 3.9 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.
3. 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.
4. 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, 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.
5. 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.
6. 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.
7. Prior to final acceptance by the City, haul 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.
8. 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.
9. Temporary and Permanent Erosion Control: All disturbed areas shall be restored as noted below:
 A. 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:
1. From September 15 to March 1, seeding shall be with or include a cool season cover crop: (Western Wheatgrass (*Pascopyrum smithii*) at 5.6 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.
2. From March 2 to September 14, seeding shall be with hulled Bermuda at a rate of 45 pounds per acre or a native plant seed mix conforming to Item 604S or 609S.
 A. 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.
 B. Hydromulch shall comply with Table 1, below.
 C. 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.
 D. 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 APPLICATIONS	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	1,500 TO 2,000 LBS PER ACRE

PERMANENT VEGETATIVE STABILIZATION:
1. 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 Bermudagrass or native seed and installed together, understanding that germination of warm-season seed typically requires soil temperatures of 60 to 70 degrees.
2. From March 2 to September 14, seeding shall be with hulled Bermuda at a rate of 45 pounds per acre with a purity of 95% and a minimum pure live seed (PLS) of 0.83. Bermuda 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.
 A. 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.
 B. Hydromulch shall comply with Table 2, below.
 C. 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 seedbed 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.
 D. 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.
 E. 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 APPLICATIONS	APPLICATION RATES
BONDED FIBER MATRIX (BFM)	80% ORGANIC DEFIBRATED FIBERS	-	-	-
10% TACKIFIER	6 MONTHS	ON SLOPES UP TO 2:1 AND EROSIVE SOIL CONDITIONS	2,500 TO 4,000 LBS PER ACRE (SEE MANUFACTURER'S RECOMMENDATIONS)	
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 EROSIVE SOIL CONDITIONS	3,000 TO 4,500 LBS PER ACRE (SEE MANUFACTURER'S RECOMMENDATIONS)

10. Developer Information:
 Owner AUSTIN PARKS AND RECREATION DEPARTMENT
 Phone # 512-974-6700
 Address 200 S LAMAR BLVD. AUSTIN, TX 78704
 Owner's representative responsible for plan alterations: DUNAWAY / UDG
 Phone # 512.306.8252
 Person or firm responsible for erosion/sedimentation control maintenance: ____________
 Phone # ____________
 Person or firm responsible for tree/natural area protection Maintenance: ____________
 Phone # ____________
11. 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.

Source: Rule No. R161-15.13, 1-4-2016 ; Rule No. R161-17.03 , 3-2-2017.

APPENDIX P-2: - CITY OF AUSTIN STANDARD NOTES FOR TREE AND NATURAL AREA PROTECTION

1. All trees and natural areas shown on plan to be preserved shall be protected during construction with temporary fencing.
2. Protective fences shall be erected according to City of Austin Standards for Tree Protection.
3. Protective fences shall be installed prior to the start of any site preparation work (clearing, grubbing or grading), and shall be maintained throughout all phases of the construction project.
4. Erosion and sedimentation control barriers shall be installed or maintained in a manner which does not result in soil build-up within tree drip lines.
5. Protective fences shall surround the trees or group of trees, and will be located at the outermost limit of branches (drip line) , for natural areas, protective fences shall follow the Limit of Construction line, in order to prevent the following:
 A. Soil compaction in the root zone area resulting from vehicular traffic or storage of equipment or materials;
 B. Root zone disturbances due to grade changes (greater than 6 inches cut or fill), or trenching not reviewed and authorized by the City Aborist;
 C. Wounds to exposed roots, trunk or limbs by mechanical equipment;
 D. Other activities detrimental to trees such as chemical storage, cement truck cleaning, and fires.
6. Exceptions to installing fences at tree drip lines may be permitted in the following cases:
 A. Where there is to be an approved grade change, impermeable paving surface, tree well, or other such site development, erect the fence approximately 2 to 4 feet beyond the area disturbed;
 B. Where permeable paving is to be installed within a tree's drip line, erect the fence at the outer limits of the permeable paving area (prior to site grading so that this area is graded separately prior to paving installation to minimized root damage);
 C. Where trees are close to proposed buildings, erect the fence to allow 6 to 10 feet of work space between the fence and the building;
 D. Where there are severe space constraints due to tract size, or other special requirements, contact the City Arborist at 974-1876 to discuss alternatives.
 Special Note: For the protection of natural areas, no exceptions to installing fences at the Limit of Construction line will be permitted.
7. Where any of the above exceptions result in a fence being closer than 4 feet to a tree trunk, protect the trunk with strapped-on planking to a height of 8 ft (or to the limits of lower branching) in addition to the reduced fencing provided.
8. Trees approved for removal shall be removed in a manner which does not impact trees to be preserved.
9. Any roots exposed by construction activity shall be pruned flush with the soil. Backfill root areas with good quality top soil as soon as possible. If exposed root areas are not backfilled within 2 days, cover them with organic material in a manner which reduces soil temperature and minimizes water loss due to evaporation.
10. Any trenching required for the installation of landscape irrigation shall be placed as far from existing tree trunks as possible.
11. No landscape topsoil dressing greater than 4 inches shall be permitted within the drip line of trees. No soil is permitted on the root flare of any tree.
12. Pruning to provide clearance for structures, vehicular traffic and equipment shall take place before damage occurs (ripping of branches, etc.).
13. All finished pruning shall be done according to recognized, approved standards of the industry (Reference the National Arborist Association Pruning Standards for Shade Trees available on request from the City Arborist).
14. Deviations from the above notes may be considered ordinance violations if there is substantial non-compliance or if a tree sustains damage as a result.

DUST CONTROL

Dust shall be controlled on the project site by one of the following methods:

Mulches - Section 1.4.4. Chemical mulch binders may be used instead of asphalt to bind mulch material. Binders such as Curasol or Terra Tack should be used according to manufacturer's recommendations.

Vegetative Cover - See Section 1.4.4.

Spray-on Adhesives - On mineral soils (not effective on muck soils). Keep traffic off these areas.

TABLE 1-5
SPRAY-ON ADHESIVES

Water Dilution	Type of Nozzle	Apply- Gallons/Acre
Anionic asphalt emulsion 7:1	Coarse Spray	1,200
Latex emulsion 121/2:1	Fine Spray	235
Resin-in-water emulsion 4:1	Fine Spray	300

Source: City of Austin

Tillage - to roughen surface and bring clods to the surface. This is an emergency measure which should be used before soil blowing starts. Begin plowing on windward side of site. Chisel- type plows spaced about 12 inches apart, spring-toothed harrows and similar plows are examples of equipment which may produce the desired effect.

Irrigation - This is generally done as an emergency treatment. Site is sprinkled with water until the surface is moist. Repeat as needed.

Barriers - Solid board fences, snow fences, burlap fences, crate walls, bales of hay and similar materials can be used to control air currents and soil blowing. Barriers placed at right angles to prevailing currents at intervals of about 15 times their height are effective in controlling soil blowing.

APPENDIX P-4: - STANDARD SEQUENCE OF CONSTRUCTION

1. Temporary erosion and sedimentation controls are to be installed as indicated on the approved site plan in accordance with the Erosion Sedimentation Control Plan (ESC) that is required to be posted on the site. Install tree protection, initiate tree mitigation measures and conduct "Pre - Construction" tree fertilization (if applicable).
2. 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.
3. 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) 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.
4. 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.
5. 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.
6. Begin site clearing/construction (or demolition) activities.
7. 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.
8. Permanent water quality ponds or controls will be cleaned out and filter media will be installed prior to/concurrently with revegetation of site.
9. Complete construction and start revegetation of the site and installation of landscaping.
10. 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.
11. 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.
12. 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.

Source: Rule No. R161-17.03 , 3-2-2017.

APPENDIX P-6 - REMEDIAL TREE CARE NOTES AERATION AND SUPPLEMENTAL NUTRIENT REQUIREMENTS FOR TREES WITHIN CONSTRUCTION AREAS

As a component of an effective remedial tree care program per Environmental Criteria Manual section 3.5.4, preserved trees within the limits of construction may require soil aeration and supplemental nutrients. Soil and/or foliar analysis should be used to determine the need for supplemental nutrients. The City Arborist may require these analyses as part of a comprehensive tree care plan. Soil pH shall be considered when determining the fertilization composition as soil pH influences the tree's ability to uptake nutrients from the soil. If analyses indicate the need for supplemental nutrients, then humate/nutrient solutions with mycorrhizae components are highly recommended. In addition, soil analysis may be needed to determine if organic material or beneficial microorganisms are needed to improve soil health. Materials and methods are to be approved by the City Arborist (512-974-1876) prior to application. The owner or general contractor shall select a fertilization contractor and iensure coordination with the City Arborist.
Pre-construction treatment should be applied in the appropriate season, ideally the season preceding the proposed construction. Minimally, areas to be treated include the entire critical root zone of trees as depicted on the City approved plans. Treatment should include, but not limited to, fertilization, soil treatment, mulching, and proper pruning.
Post-construction treatment should occur during final revegetation or as determined by a qualified arborist after construction. Construction activities often result in a reduction in soil macro and micro pores and an increase in soil bulk density. To ameliorate the degraded soil conditions, aeration via water and/or air injected into the soil is needed or by other methods as approved by the City Arborist. The proposed nutrient mix specifications and soil and/or foliar analysis results need to be provided to and approved by the City Arborist prior to application (Fax # 512-974-3010).
Construction which will be completed in less than 90 days may use materials at ½ recommended rates. Alternative organic fertilizer materials are acceptable when approved by the City Arborist. Within 7 days after fertilization is performed, the contractor shall provide documentation of the work performed to the City Arborist, Planning and Development Review Department. P.O. Box 1088, Austin, TX 78767. This note should be referenced as item #1 in the Sequence of Construction.

ADDITIONAL SITE MANAGEMENT PRACTICES

1. In addition to the temporary erosion controls shown hereon, the contrctor shall install and maintain throughout the construction period and until final stabilization of disturbed areas other temporary controls interior to the site to prevent soil loss. Such additional controls shall include protection of drainage inlets, silt fences to prevent soil migration onto completed roadways and rock berms in locations with concentrated runnoff.

2. If disturbed area is not to be worked on for more than 14days, the contractor shall stabilize disturbed areas revegetation, mulch, tarp or revegetation matting. [ECM 1.4.4.b.3, Section 5, i.]

3. Environmental inspector has the authority to add and/or modify erosion/sedimentation controls on site to keep project in-compliance with the city of austin rules and regulations. [LDC 25-8-183]

4. Contractor shall utilize dust control measures during site construction such as irrigation trucks and mulching as per ECM 1.4.5 (a), or as directed by the Environmental Inspector.

5. The contractor shall clean up spoils that migrate onto the roads a minimum of once daily. [ECM 1.4.4.d.4]

SPECIAL CONSTRUCTION TECHNIQUES ECM 3.5.4 (D)

In conjunction with remedial care, mitigation for trees removed may include special construction techniques not normally required in standard specifications. Some of these techniques include the following:

- Prior to excavation within tree driplines 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 periods of hot, dry weather. Spray tree crowns with water periodically to reduce dust accumulation on 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.

ADDITIONAL NOTES

If disturbed area is not to be worked on for more than 14 days, disturbed area needs to be stabilized by revegetation, mulch, tarp or revegetation matting. [ECM 1.4.4.B.3, Section 5, I.]

Environmental Inspector has the authority to add and/or modify erosion/sedimentation controls on site to keep project in-compliance with the City of Austin Rules and Regulations. [LDC 25-8-183]

Contractor shall utilize dust control measures during site construction such as irrigation trucks and mulching as per ECM 1.4.5(A), or as directed by the Environmental Inspector.

The contractor will clean up spoils that migrate onto the roads a minimum of once daily.

The contractor is responsible for removing any sediment transported from the LOC to the existing detention / water quality pond(s).

Only rubber tired equipment is allowed within the CWQZ and Floodplain. No track equipment is allowed."

All equipment and spoils are to be removed from the creek, the CWQZ, and 100 year floodplain nightly. [ECM 1.4.4.D.4]

GENERAL CONSTRUCTION NOTES

1. 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.

2. CONTRACTOR SHALL CALL THE ONE CALL CENTER (472-2822) FOR UTILITY LOCATIONS PRIOR TO ANY WORK IN CITY EASEMENTS OR STREET R.O.W.

3. CONTRACTOR SHALL NOTIFY THE CONSTRUCTION INSPECTION DIVISION OF THE CITY'S ONE STOP SHOP (OSS) AT 974-6360 OR 974-7034 AT LEAST 24 HOURS PRIOR TO THE INSTALLATION OF ANY DRAINAGE FACILITY WITHIN A DRAINAGE EASEMENT OR STREET R.O.W. THE METHOD OF PLACEMENT AND COMPACTION OF BACKFILL IN THE CITY'S R.O.W. MUST BE APPROVED PRIOR TO THE START OF BACKFILL OPERATIONS.

4. 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.)

5. ALL SITE WORK MUST ALSO COMPLY WITH ENVIRONMENTAL REQUIREMENTS.

6. UPON COMPLETION OF THE PROPOSED SITE IMPROVEMENTS AND PRIOR TO THE FOLLOWING, THE ENGINEERS HALL 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 ETJ)

7. DEVELOPER INFORMATION

-OWNER: AUSTIN PARKS AND RECREATION DEPARTMENT
ADDRESS: 200 S LAMAR BLVD. AUSTIN, TX 78704
PHONE: (512) 974-6700
-OWNER'S REPRESENTATIVE RESPONSIBLE FOR PLAN ALTERATIONS: DUNAWAY/UDG
(512) 306-8252
-PERSON OR FIRM RESPONSIBLE FOR EROSION/SEDIMENTATION CONTROL MAINTENANCE:
PHONE:
-PERSON OR FIRM RESPONSIBLE FOR TREE/NATURAL AREA PROTECTION MAINTENANCE:
PHONE

8. AUSTIN ENERGY HAS THE RIGHT TO PRUNE AND/OR REMOVE TREES SHRUBBERY AND OTHER OBSTRUCTIONS TO THE EXTENT NECESSARY TO KEEP THE EASEMENTS CLEAR OF OBSTRUCTIONS. AUSTIN ENERGY WILL PERFORM ALL TREE WORK IN COMPLIANCE WITH CHAPTER 25-8, SUBCHAPTER B OF THE CITY OF AUSTIN LAND DEVELOPMENT CODE.

9. THE OWNER/DEVELOPER OF THIS LOT SHALL PROVIDE AUSTIN ENERGY WITH ANY EASEMENT AND/OR ACCESS REQUIRED, IN ADDITION TO THOSE INDICATED, FOR THE INSTALLATION AND ONGOING MAINTENANCE OF OVERHEAD AND UNDERGROUND ELECTRIC FACILITIES TO SERVICE THIS PROPERTY. THESE EASEMENTS AND/OR ACCESS ARE REQUIRED TO PROVIDE ELECTRIC SERVICE TO THE BUILDING, AND WILL NOT BE LOCATED SO AS TO CAUSE THE SITE TO BE OUT OF COMPLIANCE WITH CHAPTER 25-8 OF THE CITY OF AUSTIN LAND DEVELOPMENT CODE.

10. THE OWNER SHALL BE RESPONSIBLE FOR INSTALLATION OF TEMPORARY EROSION CONTROL, RE-VEGETATION, AND TREE PROTECTION. IN ADDITION, THE OWNER SHALL BE RESPONSIBLE FOR ANY INITIAL TREE PRUNING AND TREE REMOVAL THAT IS WITHIN TEN FEET OF THE CENTERLINE OF THE PROPOSED OVERHEAD ELECTRICAL FACILITIES DESIGNED TO PROVIDE ELECTRIC SERVICE TO THIS PROJECT. THE OWNER SHALL INCLUDE AUSTIN ENERGY'S WORK WITHIN THE LIMITS OF CONSTRUCTION FOR THIS PROJECT.

11. THE OWNER OF THE PROPERTY IS RESPONSIBLE FOR MAINTAINING CLEARANCES REQUIRED BY THE NATIONAL ELECTRIC SAFETY CODE, OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA) REGULATIONS, CITY OF AUSTIN RULES AND REGULATIONS AND TEXAS STATE LAWS PERTAINING TO CLEARANCES WHEN WORKING IN CLOSE PROXIMITY TO OVERHEAD POWER LINES AND EQUIPMENT. AUSTIN ENERGY WILL NOT RENDER ELECTRIC SERVICE UNLESS REQUIRED CLEARANCES ARE MAINTAINED. ALL COSTS INCURRED BECAUSE OF FAILURE TO COMPLY WITH THE REQUIRED CLEARANCES WILL BE CHARGED TO THE OWNER.

12. THE CONTRACTOR IS RESPONSIBLE FOR TEMPORARY RIGHT-OF-WAY PERMIT FOR CONSTRUCTION OF SIDEWALKS AND DRIVEWAY(S).

13. OWNER IS RESPONSIBLE FOR ALL COSTS OF RELOCATION OF, OR DAMAGE TO, UTILITIES. ADDITIONAL ELECTRIC EASEMENTS MAY BE REQUIRED AT A LATER DATE. WATER AND WASTEWATER SERVICE WILL BE PROVIDED BY THE CITY OF AUSTIN. ALL EXISTING STRUCTURES SHOWN TO BE REMOVED WILL REQUIRE A DEMOLITION PERMIT FROM THE CITY OF AUSTIN WATERSHED PROTECTION AND DEVELOPMENT REVIEW DEPARTMENT.

14. FOR SLOPES OR TRENCHES GREATER THAN FIVE FEET IN DEPTH, ALL CONSTRUCTION OPERATIONS SHALL BE ACCOMPLISHED IN ACCORDANCE WITH APPLICABLE REGULATIONS OF THE U.S. OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA).

15. 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.

16. ALL CONSTRUCTION WITHIN CITY OF AUSTIN RIGHT-OF-WAY SHALL BE IN ACCORDANCE WITH THE CITY OF AUSTIN STANDARD SPECIFICATIONS.

17. THE CONTRACTOR, AT HIS EXPENSE, WILL REPAIR ANY EXISTING PAVEMENT, CURBS, AND/OR SIDEWALKS DAMAGED OR REMOVED.

18. THE LOCATION OF ANY WATER AND/OR WASTEWATER LINES SHOWN ON THE PLANS MUST BE VERIFIED BY THE WATER AND WASTEWATER DEPARTMENT.

19. ALL STORM SEWER PIPES SHALL BE CLASS III RCP UNLESS NOTED OTHERWISE.

20. TRENCHES WITHIN THE RIGHT-OF-WAY SHALL BE BACKFILLED OR SUFFICIENTLY PROTECTED BY TRAFFIC BEARING PLATES AFTER THE CONCLUSION OF EACH DAYS WORK.

21. PURSUANT TO 15-12-131 OF THE CITY CODE, THE CONTRACTOR MAY NOT BLOCK, DIRECT, IMPEDE, OR REROUTE PEDESTRIAN AND VEHICULAR TRAFFIC, NOR PLACE A BARRICADE OR OTHER TRAFFIC CONTROL DEVICE IN A RIGHT-OF-WAY, WITHOUT FIRST OBTAINING A TEMPORARY USE OF RIGHT-OF-WAY PERMIT FROM THE DEPARTMENT OF PUBLIC WORKS AND TRANSPORTATION.

22. FOR DRIVEWAY CONSTRUCTION: THE OWNER IS RESPONSIBLE FOR ALL COSTS FOR RELOCATION OF, OR DAMAGE TO UTILITIES.

23. SPOILS IN THE RIGHT-OF-WAY MUST BE REMOVED ON A DAILY BASIS. NO SPOILS MAY BE STORED IN THE RIGHT-OF-WAY OVER NIGHT.

R5
NEW SHEET

ACCESSIBILITY SITE NOTES

CITY OF AUSTIN APPROVED Date 01/06/2022 FOUNDED 1839

SITE GRADING SHALL COMPLY WITH THE TEXAS ACCESSIBILITY STANDARDS EXISTING AT THE TIME OF PLAN APPROVAL. GRADING SHOWN ON THE PLANS IS INTENDED TO COMPLY WITH SUCH STANDARDS AND SHOULD THE CONTRACTOR DETERMINE THAT COMPLIANCE WITH THE STANDARDS IS NOT CONSISTENT WITH THE SITE PLAN OR ELEVATIONS, HE/SHE SHALL NOTIFY THE ENGINEER IMMEDIATELY FOR A REMEDY.

ACCESSIBLE ROUTES (SIDEWALKS, PATHS, ETC)

1. 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 BETWEEN 1:16 AND 1:20.

2. CROSS SLOPE SHALL NOT EXCEED 1:50 (2%).

3. GROUND SURFACES SHALL BE RELATIVELY FIRM, STABLE AND SMOOTH. GRANITE PATHS WHERE SHOWN ON THE PLANS SHALL BE SUFFICIENTLY COMPACTED.

4. CHANGES IN LEVEL SHALL NOT EXCEED 1/2 ". 1/2 " CHANGE IN LEVEL MUST HAVE A BEVELED EDGE OF 1:2. 1/4 " CHANGE IN LEVEL OR LESS DOES NOT HAVE TO PROVIDE A BEVELED EDGE.

5. MANEUVERING CLEARANCE (60") AT ACCESSIBLE ENTRANCES SHALL NOT EXCEED 1:50 (2% SLOPE).

6. A 60" X 60" PASSING SPACE SHALL BE PROVIDED EVERY 200' ALONG AN ACCESSIBLE ROUTE.

PARKING

1. SLOPE IN ACCESSIBLE PARKING AREAS (PARKING SPACE AND ACCESS AISLE) SHALL NOT EXCEED 1:50 (2%) SLOPE IN ALL DIRECTIONS.

2. EACH ACCESSIBLE PARKING SPACE SHALL PROVIDE AN ADJACENT ACCESS AISLE (5' FOR STANDARDS ACCESSIBLE SPACES AND 8' FOR VAN ACCESSIBLE SPACES).

3. EVERY ACCESSIBLE PARKING SPACE MUST BE IDENTIFIED BY A SIGN, CENTERED AT THE HEAD OF THE PARKING SPACE. THE SIGN MUST INCLUDE THE INTERNATIONAL SYMBOL OF ACCESSIBILITY AND STATE "RESERVED", OR OTHER EQUIVALENT LANGUAGE. CHARACTERS AND SYMBOLS ON SUCH SIGNS MST BE LOCATED 60" MINIMUM ABOVE THE GROUND SO THAT THEY CANNON BE OBSCURED BY A VEHICLE PARKED IN THE SPACE.

4. WHERE THE ACCESSIBLE ROUTE PASSES IN FRONT OF VEHICLES, WHEEL STOPS SHALL BE PROVIDED TO PREVENT VEHICLES FROM PULLING UP AND BLOCKING THE ACCESSIBLE ROUTE. ENOUGH SPACE SHALL BE ALLOWED TO MAINTAIN A MINIMUM OF 36" WIDE ACCESSIBLE ROUTE.

CURB RAMPS

1. SLOPE SHALL NOT EXCEED 1:12 (8.3%). FLARED SIDES SHALL NOT EXCEED 1:10. CROSS SLOPE SHALL TO EXCEED 1:50 (2%).

2. FULL WIDTH AND DEPTH OF CURB RAMP SURFACES SHALL PROVIDE A CONTRASTING LIGHT REFLECTIVE VALUE (COLOR) AND TEXTURE. TEXTURE MAY CONSIST OF TRUNCATED DOMES OR 3/4 " WIDE GROOVES, 1/4 " DEEP AND 2" APART. COLOR SHALL CONTRAST AT LEAST 70% FROM ADJACENT SURFACES.

3. MINIMUM RAMP WIDTH SHALL BE 36".

4. WHERE AN ACCESSIBLE ROUTE CROSSES A CURB RAMP, IT SHALL CIRCUMVENT THE CURB RAMP SO AS TO NOT REQUIRE THE USER TO CROSS OVER THE CURB RAMP.

5. CURB RAMPS ARE NOT PERMITTED TO PROJECT INTO THE ACCESSIBLE PARKING ACCESS AISLES.

6. TRANSITIONS FROM GUTTER OR STREET TO CURB RAMPS SHALL BE FLUSH.

OTHER RAMPS

1. MAXIMUM SLOPE SHALL BE 1:12 (8.3%).

2. RAMPS OVER 6' IN LENGTH REQUIRE HANDRAILS ON BOTH SIDES.

3. HANDRAIL HEIGHT SHALL BE 34" - 36" ABOVE RAMP SURFACE.

4. HANDRAIL DIAMETER - 1.25" TO 1.5".

5. EDGE PROTECTION IS REQUIRED WHERE DROP OFFS OCCUR.

6. 12 "MINIMUM HANDRAIL EXTENSIONS ARE REQUIRED AT LANDINGS, EXCEPT WHERE HANDRAILS ARE CONTINUOUS. HANDRAIL EXTENSIONS SHALL EXTEND IN THE SAME DIRECTION AS THE RAMP.

7. MAXIMUM RUN BETWEEN LANDINGS SHALL BE 30'.

8. 60" LEVEL (2% MAX. SLOPE) LANDINGS REQUIRED AT TOP AND BOTTOM OF EACH RUN. A 60" X 60" LANDING REQUIRED WHERE A RAMP CHANGES DIRECTION.

TRAFFIC CONTROL NOTES

PURSUANT TO 15-12-131 OF THE CITY CODE, THE CONTRACTOR MAY NOT BLOCK, DIRECT, IMPEDE, OR REROUTE PEDESTRIAN AND VEHICULAR TRAFFIC, NOR PLACE A BARRICADE OR OTHER TRAFFIC CONTROL DEVICE IN A RIGHT-OF-WAY, WITHOUT FIRST OBTAINING A "TEMPORARY USE OF RIGHT-OF-WAY" PERMIT FROM THE TEMPORARY TRAFFIC CONTROL SECTION OF THE DEPARTMENT OF TRANSPORTATION PLANNING AND SUSTAINABILITY.

CONTRACTOR SHALL NOTIFY THE TEMPORARY TRAFFIC CONTROL SECTION OF THE DEPARTMENT OF TRANSPORTATION PLANNING AND SUSTAINABILITY (974-2217) AT LEAST 24 HOURS PRIOR TO THE INSTALLATION OF ANY BARRICADE OR OTHER TRAFFIC CONTROL DEVICE IN A RIGHT-OF-WAY.

SEQUENCE OF CONSTRUCTION

1. COORDINATE WITH OWNER AND "DIG TESS" TO IDENTIFY EXISTING UTILITIES.
2. INSTALL TEMPORARY EROSION CONTROL DEVICES.
3. ARRANGE A PRE-CONSTRUCTION CONFERENCE WITH A CITY OF AUSTIN GENERAL PERMIT INSPECTOR.
4. PERFORM PAVEMENT CONSTRUCTION OF ROADWAY WIDTH REDUCTION, INSTALLATION OF PAVILION AND TREE OUTLOOK DECK, AND FINAL GRADING OF SITE.
5. REVEGETATE ALL DISTURBED AREAS.
6. REMOVE TEMPORARY EROSION CONTROL DEVICES.
7. DRESS UP AND RESTORE ANY AREAS DISTURBED BY ITEM 6 ABOVE.

SITE PLAN APPROVAL SHEET 219 OF 239
FILE NUMBER: ____________ APPLICATION DATE: ____________
APPROVED BY COMMISSION ON: ____________ UNDER SECTION 112 OF
CHAPTER 25-5 OF THE CITY OF AUSTIN CODE.
EXPIRATION DATE (25-5-81, LDC) ________ CASE MANAGER: ____________
PROJECT EXPIRATION DATE (OED #970905-A) N/A DWPZ ____ DDZ ____

Director, Development Services Department
RELEASED FOR GENERAL COMPLIANCE: ________ ZONING: ________
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.

REV. NO.	BY	DATE	REVISION DESCRIPTION

STATE OF TEXAS
MICHAEL C. MULLONE
127850
LICENSED PROFESSIONAL ENGINEER
Mike Mullone
12/16/2021

VIOLET CROWN TRAILHEAD
WILLIAM BARTON DR.
AUSTIN TX 78746

GENERAL NOTES

DUNAWAY | UDG
TX Registered Engineering Firm #F-1114
TBPLS Firm No. 10065900
5707 Southwest Parkway
Building 2, Suite 250
Austin, TX 78735
Phone: 512-306-8252

C0.01

JOB NO. B005344.001

SPC-2012-0104D(R5)

SHEET NUMBER 219 OF 239

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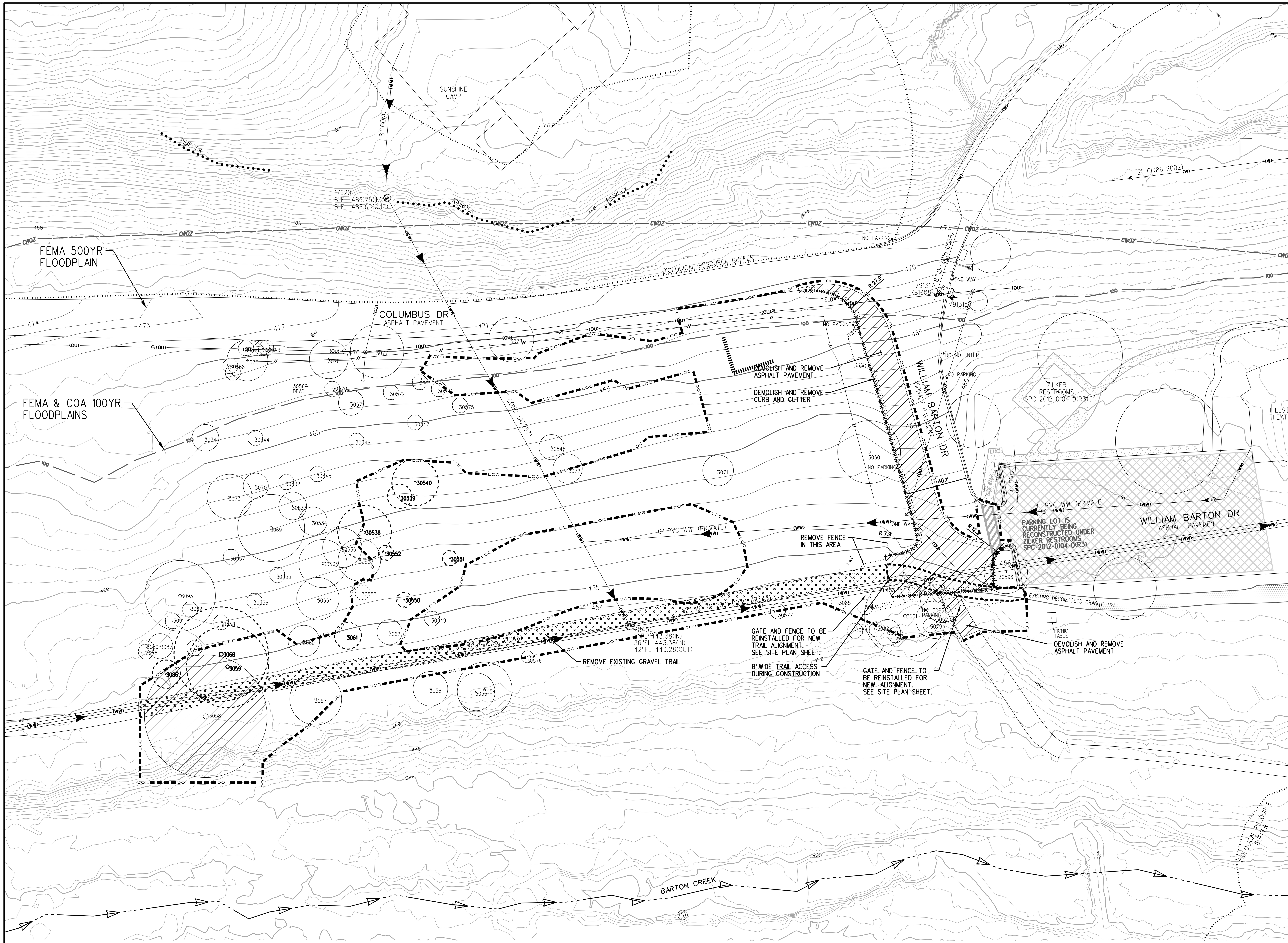
12/16/2021



LEGEND

- LIMIT OF CONSTRUCTION
- CURB & GUTTER DEMO & REMOVAL
- GRAVEL TRAIL REMOVAL
- ASPHALT PAVEMENT DEMO AND REMOVAL
- CURRENT CONSTRUCTION UNDER SPC-2012-0104-D(R3)
- TREE TO REMAIN- 8" OR >
- TREE TO BE REMAIN- < 8"
- TREE TO BE REMOVED
- HERITAGE TREE

CITY OF AUSTIN APPROVED Date 01/06/2022 FOUNDED 1839

NOTES

1. CALL AUSTIN ONE CALL CENTER AT 1-800-545-6005 FOR ALL EXISTING UTILITY LOCATIONS PRIOR TO BEGINNING ANY WORK.

2. THE CONTRACTOR SHALL FIELD VERIFY WATER, WASTEWATER, ELECTRIC, AND OTHER UTILITY LOCATIONS PRIOR TO CONSTRUCTION.

3. ANY PUBLIC UTILITY FOUND TO BE IN CONFLICT WITH PROPOSED IMPROVEMENTS SHALL BE SUBMITTED TO THE PROPER REVIEW AUTHORITY FOR REVIEW AND APPROVAL PRIOR TO ANY UTILITIES BEING RELOCATED.

4. FOR SLOPES OR TRENCHES GREATER THAN FIVE FEET IN DEPTH, ALL CONSTRUCTION OPERATIONS SHALL BE ACCOMPLISHED IN ACCORDANCE WITH APPLICABLE REGULATIONS OF THE U.S. OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA).

5. THE CONTRACTOR SHALL AT HIS EXPENSE, WILL REPAIR ANY EXISTING PAVEMENT, CURBS, FENCES AND SIDEWALKS DAMAGED OR REMOVED.

6. THE CONTRACTOR SHALL FIELD VERIFY PIPE FLOWLINE ELEVATIONS PRIOR TO CONSTRUCTION.

7. A PRECONSTRUCTION MEETING WITH THE ENVIRONMENTAL INSPECTOR IS REQUIRED PRIOR TO ANY SITE DISTURBANCE.

8. DEMOLITION WITHIN THE CRZ OF PROTECTED/HERITAGE TREES TO BE DONE WITH HAND TOOLS OR SMALL EQUIPMENT.

TREE LIST

DATE OF TREE SURVEY: 08/19/2020

TO BE REMOVED	TREE #	(H)ERITAGE (P)ROTECTED	SIZE	SPECIES	INDIVIDUAL TRUNK SIZES
	3050	P	20.0"	PECAN	20.0"
	3051	P	26.0" (M)	WHITE MULLBERRY	20.0" 12.0"
	3052		12.0"	PECAN	12.0"
	3053		10.5"	AMERICAN ELM	10.5"
	3054		17.5" (M)	AMERICAN ELM	12.0" 11.0"
	3055		12.0"	AMERICAN ELM	12.0"
	3056		11.0"	AMERICAN ELM	11.0"
	3057		16.5" (M)	CHINESE PISTACHE	8.0" 4.0" 3.5" 3.5" 3.5" 2.5"
	3058	H	39.0"	PECAN	39.0"
X	3059	P	26.0" (M)	MESQUITE	15.0" 9.0" 6.0" 7.0"
	3060		10.0"	LIVE OAK	10.0"
X	3061		8.5"	LIVE OAK	8.5"
	3062		8.0"	LIVE OAK	8.0"
X	3068	P	30.0" (M)	MESQUITE	19.0" 10.0" 7.0" 5.0"
	3069	P	21.3" (M)	MESQUITE	6.0" 5.0" 5.0" 4.0" 5.0" 4.5" 3.5" 3.5"
	3070		8.0"	LIVE OAK	8.0"
	3071		9.8" (M)	PECAN	8.5" 2.5"
	3072		9.3" (M)	MESQUITE	5.0" 4.5" 4.0"
	3073		14.3" (M)	HACKBERRY	8.5" 6.0" 5.5"
	3074		8.5"	HACKBERRY	8.5"
	3075		13.0"	MESQUITE	13.0"
	3076		12.3" (M)	LIVE OAK	9.0" 6.5"
	3077		17.0"	CEDAR ELM	17.0"
	3078		14.3" (M)	CEDAR ELM	13.0" 2.5"
	3079		4.5"	PECAN	4.5"
	3080		6.5"	HACKBERRY	6.5"
	3081		8.5"	HACKBERRY	8.5"
	3082		7.0" (M)	PECAN	6.0" 2.0"
	3083		6.3" (M)	GREEN ASH	4.5" 3.5"
	3084		6.5" (M)	CHINABERRY	5.0" 3.0"
	3085		4.5"	AMERICAN ELM	4.5"
X	3086		9.0"	CHINESE PISTACHE	9.0"
	3087		8.0"	ASHE JUNIPER	8.0"
	3088		4.0"	MESQUITE	4.0"
	3089		4.0"	CEDAR ELM	4.0"
	3090		5.5"	HACKBERRY	5.5"
	3091		4.0"	HACKBERRY	4.0"
	3092		6.3" (M)	HACKBERRY	4.5" 3.5"
	3093	P	22.5" (M)	MESQUITE	10.0" 9.0" 8.5" 7.5"
	30532		6.8"	CREPE MYRTLE	6.8"
	30533		8.8"	CREPE MYRTLE	8.8"
	30534		9.0"	CREPE MYRTLE	9.0"
	30535		15.3"	CREPE MYRTLE	15.3"
	30536		12.5"	CREPE MYRTLE	12.5"
	30537		13.5"	CREPE MYRTLE	13.5"
X	30538		17.0"	CREPE MYRTLE	17.0"
X	30539		7.8"	CREPE MYRTLE	7.8"
X	30540		14.8"	CREPE MYRTLE	14.8"
	30541		6.0"	LIVE OAK	6.0"
	30542		6.0"	LIVE OAK	6.0"
	30543		5.0"	CEDAR ELM	5.0"
	30544		5.0" (M)	LIVE OAK	2.0" 2.0" 1.5" 1.5" 1.0"
	30545		2.5"	LIVE OAK	2.5"
	30546		4.0"	LIVE OAK	4.0"
	30547		4.0"	LIVE OAK	4.0"
	30548		8.0"	LIVE OAK	8.0"
	30549		7.0"	LIVE OAK	7.0"
X	30550		2.5" (M)	MESQUITE	1.0" 0.5" 0.5" 0.5" 0.5" 0.5" 0.5"
X	30551		5.75" (M)	CHINKAPIN OAK	4.0" 3.5"
X	30552		6.5"	CHINKAPIN OAK	6.5"
	30553		6.0"	CHINKAPIN OAK	6.0"
	30554		13.5" (M)	CHINKAPIN OAK	5.5" 5.0" 4.5" 3.5" 3.0"
	30555		5.0"	CHINKAPIN OAK	5.0"
	30556		4.5"	LIVE OAK	4.5"
	30557		7.0"	LIVE OAK	7.0"
	30558		4.5"	HACKBERRY	4.5"
	30568		3.0"	CEDAR ELM	3.0"
	30569		0.0"	DEAD	
	30570		5.3" (M)	MOUNTAIN LAUREL	2.0" 2.0" 2.0" 1.0" 1.0" 0.5"
	30571		8.0" (M)	MOUNTAIN LAUREL	3.5" 2.0" 2.0" 2.0" 1.0" 1.0" 1.0"
	30572		5.5" (M)	MOUNTAIN LAUREL	1.5" 1.5" 1.5" 1.0" 1.0" 1.0" 1.0" 1.0"
	30573		6.3" (M)	MOUNTAIN LAUREL	3.5" 2.5" 1.0" 1.0" 1.0"
	30574		5.0" (M)	MOUNTAIN LAUREL	2.0" 1.0" 1.0" 1.0" 1.0" 1.0" 1.0"
	30575		3.5" (M)	MOUNTAIN LAUREL	1.5" 1.0" 1.0" 1.0" 1.0"
	30576		3.8"	HACKBERRY	3.8"
	30577		4.8"	HACKBERRY	4.8"
	30590	H	34.5" (M)	LIVE OAK	25.5" 18.0"
	30591	H	28.0"	LIVE OAK	28.0"
	30592	P	21.2"	LIVE OAK	21.2"
	30593		18.1"	LIVE OAK	18.1"
	30594	P	22.4"	LIVE OAK	22.4"
X	30595		6.5" (M)	YAUPON HOLLY	2.0" 3.0" 4.0"
	30596		13.8"	PECAN	13.8"

SCALE 1" = 30'
0 15 30

SITE PLAN APPROVAL SHEET 220 OF 239
FILE NUMBER: ______ APPLICATION DATE: ______
APPROVED BY COMMISSION ON: ______ UNDER SECTION 112 OF
CHAPTER 25-5 OF THE CITY OF AUSTIN CODE.
EXPIRATION DATE (25-5-81, LDC) ______ CASE MANAGER: ______
PROJECT EXPIRATION DATE (OED #970905-A) N/A DWPZ ______ DDZ ______

Director, Development Services Department
RELEASED FOR GENERAL COMPLIANCE: ______ ZONING: ______
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.

REVIEWED
December 28, 2021
Austin Water
Jaron Hogenson

R5

NEW SHEET

REV. NO.	BY	DATE	REVISION DESCRIPTION

STATE OF TEXAS
MICHAEL C. MULLONE
127850
LICENSED PROFESSIONAL ENGINEER
Mike Mullone
12/16/2021

VIOLET CROWN TRAILHEAD
WILLIAM BARTON DR.
AUSTIN TX 78746

EXISTING CONDITIONS & DEMOLITION PLAN

DUNAWAY UDG
TX Registered Engineering Firm #F-1114
TBPLS Firm No. 10065900
5707 Southwest Parkway
Building 2, Suite 250
Austin, TX 78735
Phone: 512-306-8252

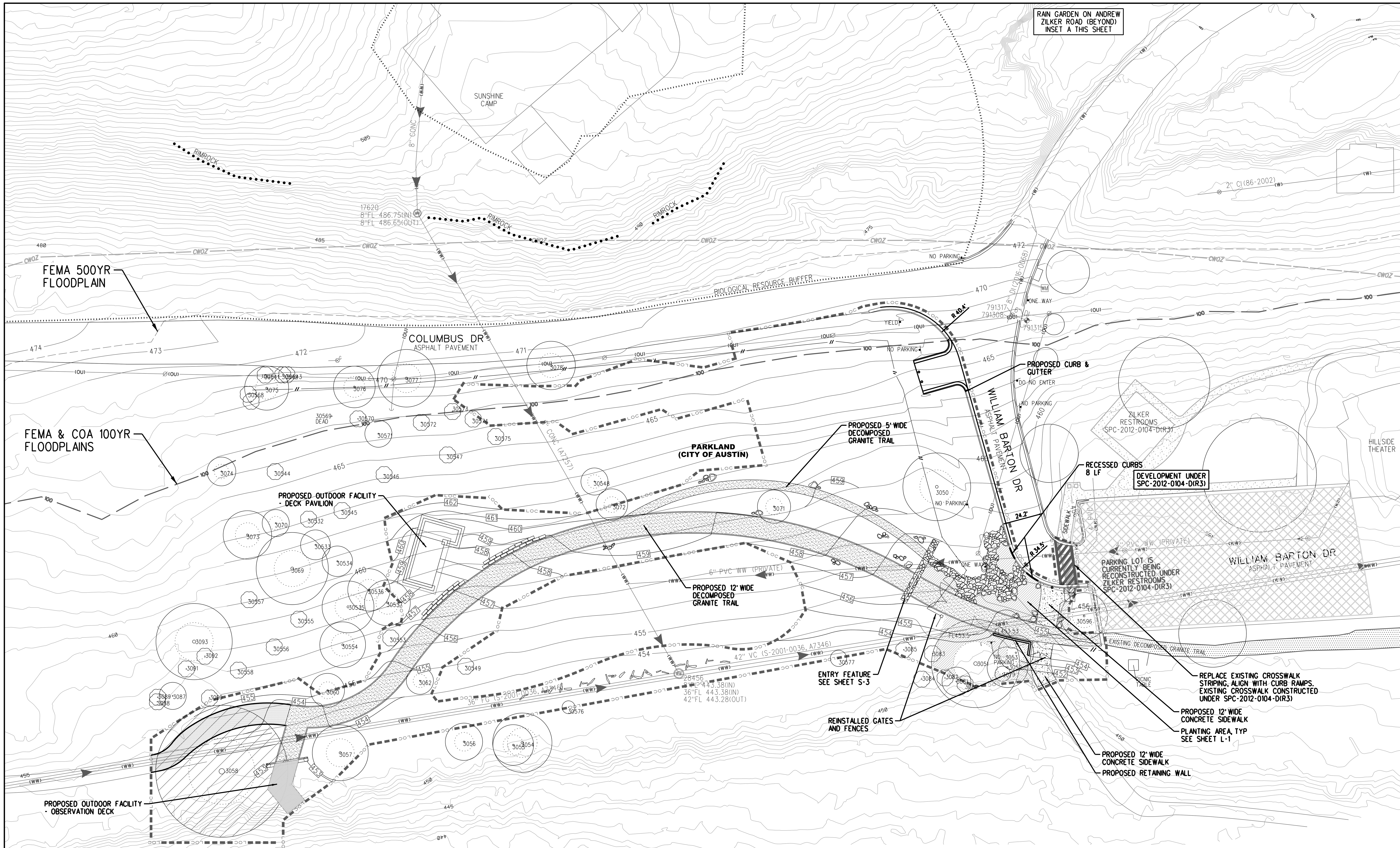
C0.10

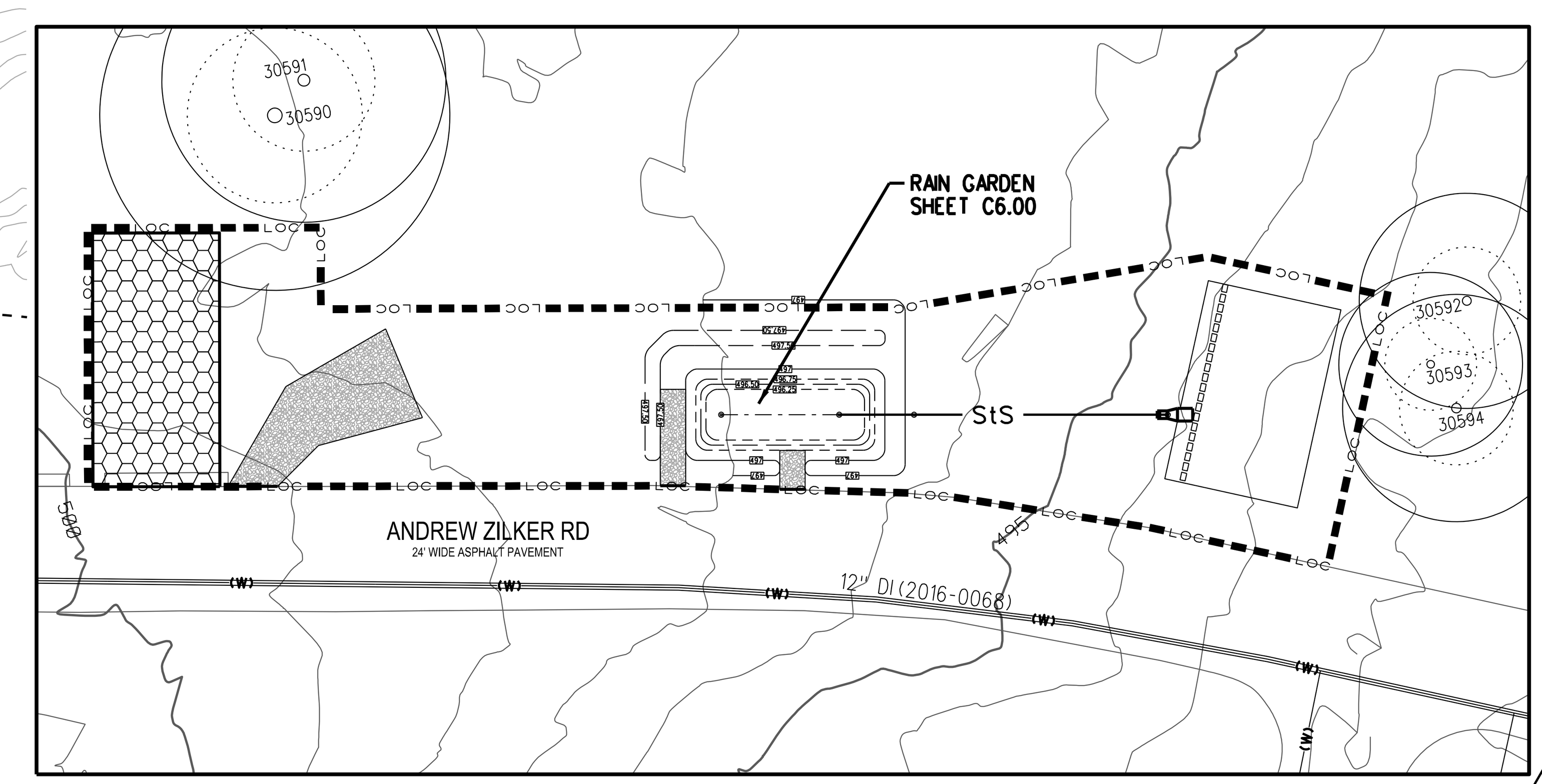
JOB NO. B005344.001

SPC-2012-0104D(R5)

SHEET NUMBER 220 OF 239

G:\Production4000\005300\5344\001\Civil\CAD\Plans\Site Plan\Sheets\VCT-S-EX AND DEMO.dgn
12/16/2021





INSET A
SCALE: 1" = 30'

R5
NEW SHEET

Impervious Cover Calculations	
Description	ft^2
Existing Pavement and Concrete Sidewalk to be removed	-4852
Proposed Outdoor Facilities - Decked*	707
Proposed Concrete Sidewalk	284
Net Impervious Cover	-3861

* Area shown is 50% of Outdoor Facilities Impervious Cover since they are decked.

CITY OF AUSTIN APPROVED Date 01/06/2022 FOUNDED 1839

LEGEND

- SITE PLAN BOUNDARY
- ACCESSIBLE ROUTE
- FIRE LANE
- LIMIT OF CONSTRUCTION
- CRUSHED GRANITE TRAIL
- CONCRETE SIDEWALK
- ACCESSIBLE PARKING W/ SIGN
- PARKING WHEEL STOP
- CURB RAMP
- FFE FINISH FLOOR ELEVATION
- CURRENT CONSTRUCTION UNDER SPC-2012-0104-D(R3)
- PLANTING AREA SEE SHEET L1
- FLAGSTONE WALKWAY SEE SHEET L1
- TREE >8"
- TREE <8"

NOTES

1. ALL EXTERIOR LIGHTING WILL BE FULL CUT-OFF AND FULLY SHIELDED IN COMPLIANCE WITH SUBCHAPTER E 2.5 AND WILL BE REVIEWED DURING BUILDING PLAN REVIEW. ANY CHANGE OR SUBSTITUTION OF LAMP/LIGHT FIXTURES SHALL BE SUBMITTED TO THE DIRECTOR FOR APPROVAL IN ACCORDANCE WITH SECTION 2.5.2.E." INCLUDE FIGURE 34 SHOWING EXAMPLES OF FULLY-SHIELDED FIXTURES:

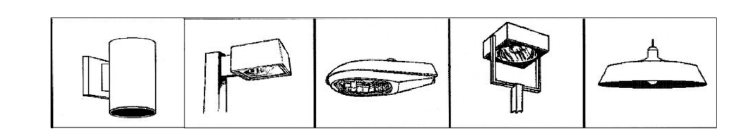


Figure 34:
Examples of fully-shielded light fixtures.

REVISION DESCRIPTION | DATE | BY | REV. NO.

STATE OF TEXAS
MICHAEL C. MULLONE
127850
LICENSED PROFESSIONAL ENGINEER
Mike Mullone
12/16/2021

SCALE 1" = 30'
0 15 30

VIOLET CROWN TRAILHEAD
WILLIAM BARTON DR.
AUSTIN TX 78746

SITE PLAN

REVIEWED
December 28, 2021
Austin Water
Jaron Hogenson

AUSTIN FIRE DEPARTMENT
OUR MISSION GOES BEYOND OUR NAME
ENGINEERING SERVICES REVIEW
REVIEWER: M. Lewis DATE: 01/04/2022

DUNAWAY | UDG
TX Registered Engineering Firm #F-1114
TBPLS Firm No. 10065900
5707 Southwest Parkway
Building 2, Suite 250
Austin, TX 78735
Phone: 512-306-8252

SITE PLAN APPROVAL SHEET 221 OF 239
FILE NUMBER: ______ APPLICATION DATE: ______
APPROVED BY COMMISSION ON: ______ UNDER SECTION 112 OF
CHAPTER 25-5 OF THE CITY OF AUSTIN CODE.
EXPIRATION DATE (25-5-81, LDC) ______ CASE MANAGER: ______
PROJECT EXPIRATION DATE (OED #970905-A) N/A DWPZ ______ DDZ ______

Director, Development Services Department
RELEASED FOR GENERAL COMPLIANCE: ______ ZONING: ______
Rev.1: ______ Correction 1: ______
Rev.2: ______ Correction 2: ______
Rev.3: ______ Correction 3: ______

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C1.00

JOB NO. B005344.001

SPC-2012-0104D(R5)

RAIN GARDEN ON ANDREW ZILKER ROAD (BEYOND) INSET A THIS SHEET

SUNSHINE CAMP

RIMROCK

8" CONC

17620
8"FL 486.75(IN)
8"FL 486.65(OUT)

CWOZ

BIOLOGICAL RESOURCE BUFFER

COLUMBUS DR
ASPHALT PAVEMENT

PARKLAND
(CITY OF AUSTIN)

PROPOSED OUTDOOR FACILITY
- DECK PAVILION

PH II

PROPOSED OUTDOOR FACILITY
- OBSERVATION DECK

PH II

6" PVC WW (PRIVATE)

42" VC (S-2001-0036, A7346)

36"FL 443.38(IN)
42"FL 443.28(OUT)

WILLIAM BARTON DR
ASPHALT PAVEMENT

NO PARKING

ONE WAY

YIELD

DO NOT ENTER

ZILKER RESTROOMS
SPC-2012-0104-D(R3)

DEVELOPMENT UNDER
SPC-2012-0104-D(R3)

HILLSIDE THEATER

PARKING LOT IS CURRENTLY BEING RECONSTRUCTED UNDER ZILKER RESTROOMS SPC-2012-0104-D(R3)

EXISTING DECOMPOSED GRANITE TRAIL

PICNIC TABLE

2" CI (86-2002)

BARTON CREEK

RAIN GARDEN
SHEET C6.00

ANDREW ZILKER RD
24' WIDE ASPHALT PAVEMENT

PH II

A INSET
SCALE: 1" = 30'

R5

NEW SHEET

LEGEND

- SITE PLAN BOUNDARY
- ACCESSIBLE ROUTE
- FIRE LANE
- LOC — LIMIT OF CONSTRUCTION
- CRUSHED GRANITE TRAIL
- CONCRETE SIDEWALK
- ACCESSIBLE PARKING W/ SIGN
- PARKING WHEEL STOP
- CURB RAMP
- FFE — FINISH FLOOR ELEVATION
- CURRENT CONSTRUCTION UNDER SPC-2012-0104-D(R3)
- PLANTING AREA SEE SHEET L1
- FLAGSTONE WALKWAY SEE SHEET L1
- TREE >8"
- TREE <8"

NOTES

PHASE 1 IS ALL SITE WORK EXCLUDING THE PROPOSED OUTDOOR FACILITIES AND WQ POND. THIS WORK IS RESTRICTED TO CONSTRUCTION OF WILLIAM BARTON DRIVE, GRADING, TRAIL, FENCE AND GATE, AND THEIR ASSOCIATED LANDSCAPE. THIS WORK WILL BE SEPARATE FROM THE PROPOSED OUTDOOR FACILITIES AND WQ POND.

PHASE II WILL BE THE PROPOSED OUTDOOR FACILITIES AND WQ POND. THIS WORK WILL INCLUDE WQ POND LANDSCAPING.

CITY OF AUSTIN
APPROVED
Date 01/06/2022
FOUNDED 1839

AUSTIN FIRE DEPARTMENT
OUR MISSION GOES BEYOND OUR NAME
ENGINEERING SERVICES REVIEW
REVIEWER: M. Lewis DATE: 01/04/2022

REV. NO.	BY	DATE	REVISION DESCRIPTION

STATE OF TEXAS
MICHAEL C. MULLONE
127850
LICENSED
PROFESSIONAL ENGINEER
Mike Mullone
12/16/2021

SCALE 1" = 30'
0 15 30

VIOLET CROWN TRAILHEAD
WILLIAM BARTON DR.
AUSTIN TX 78746

PHASING PLAN

DUNAWAY LDG
TX Registered Engineering Firm #F-11114
TBPLS Firm No. 10065900
5707 Southwest Parkway
Building 2, Suite 250
Austin, TX 78735
Phone: 512-306-8252

SITE PLAN APPROVAL SHEET 222 OF 239
FILE NUMBER: APPLICATION DATE:
APPROVED BY COMMISSION ON: UNDER SECTION 112 OF
CHAPTER 25-5 OF THE CITY OF AUSTIN CODE.
EXPIRATION DATE (25-5-81, LDC) CASE MANAGER:
PROJECT EXPIRATION DATE (OED #970905-A) N/A DWPZ DDZ

Director, Development Services Department
RELEASED FOR GENERAL COMPLIANCE: ZONING:
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.

C1.10

JOB NO. B005344.001

SPC-2012-0104D(R5)

SHEET NUMBER 222 OF 239

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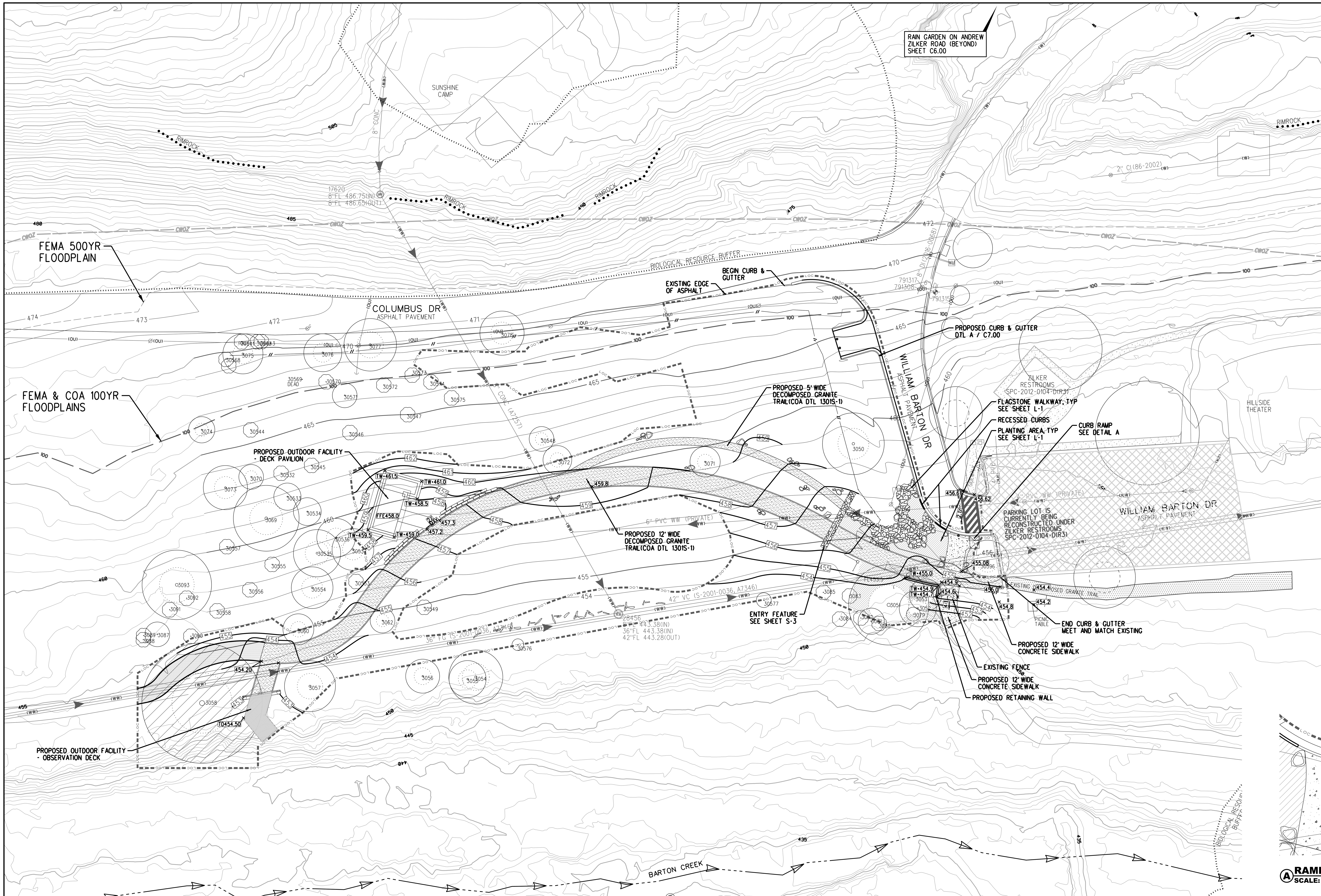
12/16/2021



LEGEND

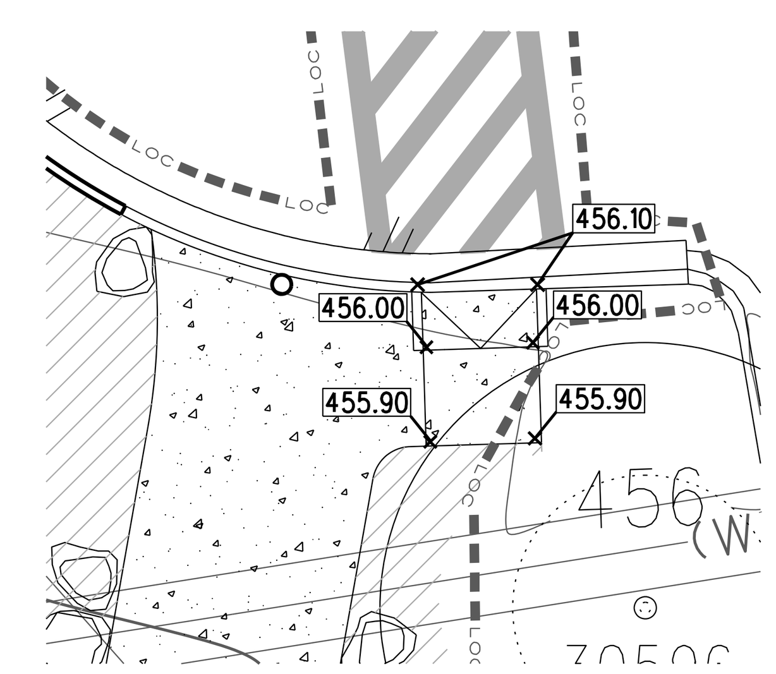
XXX.X	SPOT ELEVATION- EXISTING
XXX.X	SPOT ELEVATION- PROPOSED
XXX	CONTOUR- EXISTING
XXX	CONTOUR- PROPOSED
	FLOW ARROW
(SIS)	STORM SEWER- EXISTING
SIS	STORM SEWER- PROPOSED
	STORM INLET
	SIDEWALK
	RETAINING WALL- PROPOSED
	CURB AND GUTTER- PROPOSED
	FLOWLINE
	PROPOSED BIKE RACK
	HC PARKING SIGN (SEE DTL SHEET C7.00)
TG	TOP OF GRATE INLET
TW	TOP OF WALL
TC	TOP OF CURB
TD	TOP OF DECK
	CURRENT CONSTRUCTION UNDER SPC-2012-0104-D(R3)
	PLANTING AREA SEE SHEET L1
	FLAGSTONE WALKWAY SEE SHEET L1

NOTES

1. CONTRACTOR TO CALL ONE CALL AT 512-344-8377 PRIOR TO ANY WORK IN ROW.
2. GRADING SHALL BE DONE IN ACCORDANCE WITH ACCESSIBILITY NOTES ON SHEET C0.00.
3. ALL SIDEWALKS, PARKING AREAS AND DRIVEWAYS SHALL BE CONCRETE PAVEMENT.
4. ALL RETAINING WALL TALLER THAN 30 INCHES SHALL HAVE SAFETY HANDRAIL. WALL & HANDRAIL DETAILS PER STRUCTURAL DESIGN OF RETAINING WALL BY OTHERS.
5. DATE OF SURVEY OF EXISTING SITE TOPOGRAPHY AND TREES IS FEBRUARY 2020. TOPOGRAPHY OUTSIDE OF LOC IS SUPPLEMENTED WITH 2012 LIDAR DATA.

SCALE 1" = 30'

0 15 30



A RAMP GRADING DETAIL
SCALE: 1"=10'

R5

NEW SHEET

SITE PLAN APPROVAL	SHEET 223 OF 239
FILE NUMBER:	APPLICATION DATE:
APPROVED BY COMMISSION ON:	UNDER SECTION 112 OF
CHAPTER 25-5 OF THE CITY OF AUSTIN CODE.	
EXPIRATION DATE (25-5-81, LDC)	CASE MANAGER:
PROJECT EXPIRATION DATE (OED #970905-A) N/A	DWPZ DDZ
Director, Development Services Department	
RELEASED FOR GENERAL COMPLIANCE:	ZONING:
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.

REV. NO.	BY	DATE	REVISION DESCRIPTION

STATE OF TEXAS
MICHAEL C. MULLONE
127850
LICENSED PROFESSIONAL ENGINEER

Mike Mullone

12/16/2021

VIOLET CROWN TRAILHEAD

WILLIAM BARTON DR.
AUSTIN TX 78746

GRADING PLAN

DUNAWAY UDG
TX Registered Engineering Firm #F-1114
TBPLS Firm No. 10065900
5707 Southwest Parkway
Building 2, Suite 250
Austin, TX 78735
Phone: 512-306-8252

C2.00

JOB NO. B005344.001

SPC-2012-0104D(R5)

SHEET NUMBER 223 OF 239

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12/16/2021

RAIN GARDEN
SHEET C6.00
SEE INSET A THIS SHEET
FOR ESC CONTROLS

TREE 3050: 2"x4"x6" OR GREATER SIZE LUMBER SHALL BE STRAPPED VERTICALLY TO THE TREE AND 8" OF HARDWOOD MULCH SHALL BE APPLIED WITHIN THE FULL CRZ

FEMA 500YR FLOODPLAIN

FEMA & COA 100YR FLOODPLAINS

BIOLOGICAL RESOURCE BUFFER

REVEGETATED MATTING, TYP

COLUMBUS DR
ASPHALT PAVEMENT

WILLIAM BARTON DR
ASPHALT PAVEMENT

SUNSHINE CAMP

RIMROCK

ZILKER RESTROOMS
SPC-2012-0104-D(R3)

HILLSIDE THEATER

PARKING LOT IS CURRENTLY BEING RECONSTRUCTED UNDER ZILKER RESTROOMS SPC-2012-0104-D(R3)

EXISTING DECOMPOSED GRANITE TRAIL

PICNIC TABLE

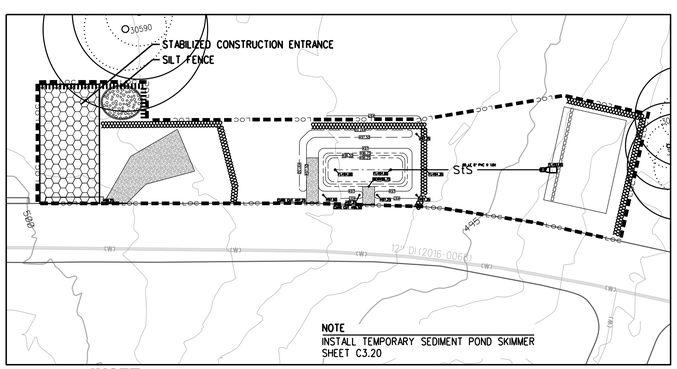
TREE LOCATED OUTSIDE OF LOC WAS SURVEYED AND PART OF TRAILHEAD RESTROOM PROJECT (SPC-2012-0104D(R3)

8' WIDE TRAIL ACCESS DURING CONSTRUCTION

TREE 305: 2"x4"x6" OR GREATER SIZE LUMBER SHALL BE STRAPPED VERTICALLY TO THE TREE AND 8" OF HARDWOOD MULCH SHALL BE APPLIED WITHIN THE FULL CRZ

TREE 3058: 2"x4"x6" OR GREATER SIZE LUMBER SHALL BE STRAPPED VERTICALLY TO THE TREE AND 8" OF HARDWOOD MULCH SHALL BE APPLIED WITHIN THE FULL CRZ. 8" MULCH TO BE TOPPED WITH CONSTRUCTION MATS OR PLYWOOD BEFORE WORKING WITHIN TREE CRZ. NO EQUIPMENT ALLOWED WITHIN TREE 1/2 CRZ.

BARTON CREEK



A INSET
SCALE: 1" = 30'

R5

NEW SHEET

LEGEND

- BIOLOGICAL RESOURCE BUFFER
- RIMROCK
- SPRING / SEEP
- SITE BOUNDARY
- LIMITS OF CONSTRUCTION
- SILT FENCE
- MULCH SOCK - 18 inch
- TREE PROTECTION
- TRIANGULAR FILTER DIKE
- CONSTRUCTION STAGING AREA
- STABILIZED CONSTRUCTION ENTRANCE
- REVEGETATIVE MATTING
- CURRENT CONSTRUCTION UNDER SPC-2012-0104-D(R3)
- TREE TO REMAIN W 1/2 CRZ
- TREE TO REMAIN W/ PLANKING
- TREE <8"
- CONCRETE WASHOUT AREA
- RUNOFF DIRECTION
- SPOILS

NOTES

1. A PRECONSTRUCTION MEETING WITH THE ENVIRONMENTAL INSPECTOR IS REQUIRED PRIOR TO ANY SITE DISTURBANCE. THE ENVIRONMENTAL INSPECTOR HAS THE AUTHORITY TO ADD AND / OR MODIFY EROSION / SEDIMENTATION CONTROLS ON SITE TO KEEP THE PROJECT IN COMPLIANCE WITH THE CITY OF AUSTIN RULES AND REGULATIONS.

2. THE CONTRACTOR SHALL UTILIZE DUST CONTROL MEASURES DURING SITE CONSTRUCTION SUCH AS IRRIGATION TRUCKS AND MULCHING AS PER ECM 1.4.5(A), OR AS DIRECTED BY THE ENVIRONMENTAL INSPECTOR.

3. SILT FENCE TYPE AND INSTALLATION SHALL COMPLY WITH ECM 1.4.2(G).

4. IF DISTURBED AREA IS NOT TO BE WORKED FOR MORE THAN 14 DAYS, THE DISTURBED AREA NEEDS TO BE STABILIZED BY REVEGETATION, MULCH, TARP OR REVEGETATION MATTING. [ECM 1.4.4.B.3, SECTION 5, I.]

6. THE CONTRACTOR WILL CLEAN UP SPOILS THAT MITIGATE ONTO THE ROADS A MINIMUM OF ONCE DAILY. [ECM 1.4.4.D.4]

7. ALL ON-SITE EROSION CONTROL MEASURES TO INCLUDE SILT FENCE AND ROCK BERM ARE NOT REQUIRED PRIOR TO ON-SITE TREE REMOVAL. ONCE ON-SITE TREE REMOVAL IS COMPLETE ALL ON-SITE EROSION CONTROL MEASURES SHALL BE INSTALLED.

8. ALL IMPROVEMENTS ARE LOCATED ON SLOPES LESS THAN 15%

9. CRITICAL ENVIRONMENTAL FEATURE SOURCE- CITY OF AUSTIN GIS

10. ALL DISTURBED AREAS WITHIN LOC AND WITHIN CWQZ REQUIRES NATIVE GRASSLAND SEEDING AND PLANTING PER CITY OF AUSTIN STANDARD SPECIFICATION 609S.6, INCLUDING TOPSOIL AND SEED BED PREPARATION, TEMPORARY IRRIGATION, AND WEED MAINTENANCE.

11. WHEN INSTALLING MULCH, IF DAYLIGHT CAN BE SEEN UNDER MULCH LOG DUE TO TOPOGRAPHIC CHANGES, ADD ADDITIONAL ROWS OF MULCH LOG TO CLOSE GAPS

12. ONLY RUBBER TIRED EQUIPMENT IS ALLOWED WITHIN THE CWQZ AND FLOODPLAIN. NO TRACK EQUIPMENT IS ALLOWED. ALL EQUIPMENT AND SPOILS ARE TO BE REMOVED FROM THE CREEK, THE CWQZ, AND 100 YEAR FLOODPLAIN NIGHTLY.

13. ALL EQUIPMENT AND SPOILS ARE TO BE REMOVED FROM THE CREEK, THE CWQZ, AND 100-YEAR FLOODPLAIN NIGHTLY.

14. WHERE TREE PROTECTION FENCING CANNOT BE INSTALLED AROUND THE FULL CRZ, PLACE THE FENCING AT THE 1/2 CRZ AND ADD 8" OF HARDWOOD MULCH FROM THE 1/2 CRZ TO THE FULL CRZ.

CITY OF AUSTIN APPROVED Date 01/06/2022

REV. NO.	BY	DATE	REVISION DESCRIPTION

STATE OF TEXAS
MICHAEL C. MULLONE
127850
LICENSED
PROFESSIONAL ENGINEER
Mike Mullone
12/16/2021

SCALE 1" = 30'
0 15 30

VIOLET CROWN TRAILHEAD
WILLIAM BARTON DR.
AUSTIN TX 78746

EROSION, SEDIMENTATION CONTROL, & TREE PROTECTION PLAN

DUNAWAY LAND
TX Registered Engineering Firm #F-11114
TBPLS Firm No. 10065900
5707 Southwest Parkway
Building 2, Suite 250
Austin, TX 78735
Phone: 512-306-8252

SITE PLAN APPROVAL — SHEET 224 OF 239
FILE NUMBER: _____ APPLICATION DATE: _____
APPROVED BY COMMISSION ON: _____ UNDER SECTION 112 OF
CHAPTER 25-5 OF THE CITY OF AUSTIN CODE.
EXPIRATION DATE (25-5-81, LDC) _____ CASE MANAGER: _____
PROJECT EXPIRATION DATE (OED #970905-A) N/A DWPZ ____ DDZ ____
Director, Development Services Department
RELEASED FOR GENERAL COMPLIANCE: _____ ZONING: _____
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.

C3.00

JOB NO. B005344.001

SPC-2012-0104D(R5)

SHEET NUMBER 224 OF 239

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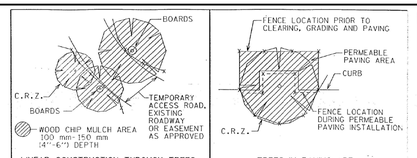
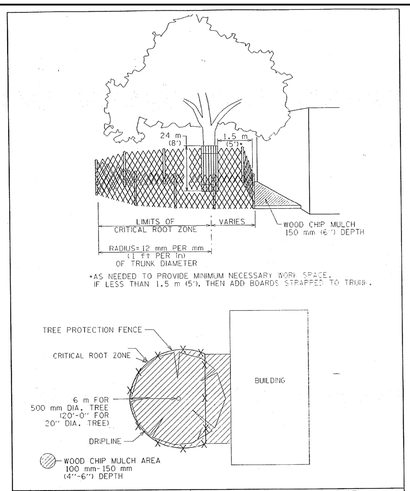
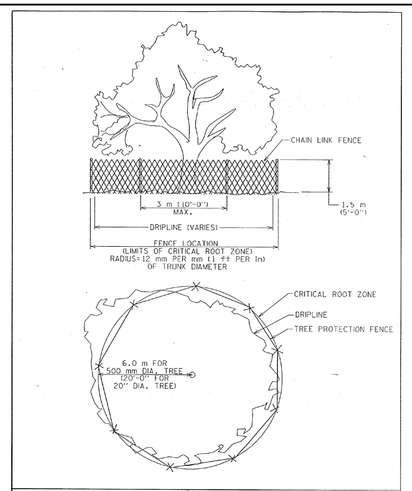
12/16/2021



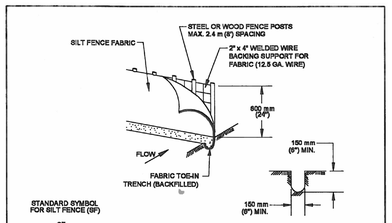
CITY OF AUSTIN WATERSHED PROTECTION DEPARTMENT	TREE PROTECTION FENCE LOCATIONS
ADOPTED 11/16/99	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD. STANDARD NO. 610S-1



CITY OF AUSTIN WATERSHED PROTECTION DEPARTMENT	TREE PROTECTION FENCE MODIFIED TYPE A - CHAIN LINK
ADOPTED 11/16/99	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD. STANDARD NO. 610S-4



CITY OF AUSTIN WATERSHED PROTECTION DEPARTMENT	TREE PROPTECTION FENCE TYPE A - CHAIN LINK
ADOPTED 11/16/99	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD. STANDARD NO. 610S-2



1. STEEL OR WOOD POSTS WHICH SUPPORT THE SILT FENCE SHALL BE INSTALLED ON A SLIGHT ANGLE TOWARD THE ANTICIPATED RUNOFF SOURCE. POST MUST BE EMBEDDED A MINIMUM OF 300 mm (12 INCHES). IF WOOD POSTS CANNOT ACHIEVE 300 mm (12 Inches) DEPTH, USE STEEL POSTS.

2. THE TOE OF THE SILT FENCE SHALL BE TRENCHED IN WITH A SPADE OR MECHANICAL TRENCHER, SO THAT THE DOWNSLOPE FACE OF THE TRENCH IS FLAT AND PERPENDICULAR TO THE LINE OF FLOW.

3. THE TRENCH MUST BE A MINIMUM OF 150 mm (6 Inches) DEEP AND 150 mm (6 Inches) WIDE TO ALLOW FOR THE SILT FENCE FABRIC TO BE LAID IN THE GROUND AND BACKFILLED WITH COMPACTED MATERIAL.

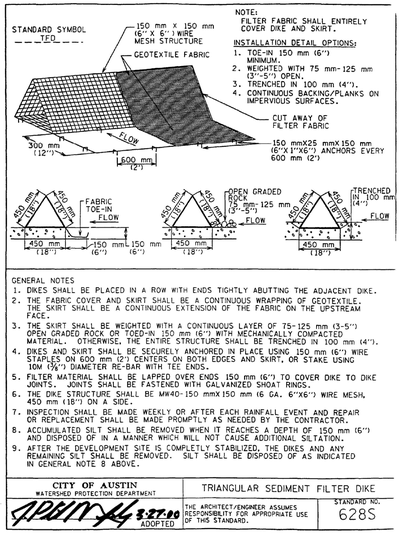
4. SILT FENCE FABRIC SHOULD BE SECURELY FASTENED TO EACH STEEL OR WOOD SUPPORT POST OR TO WOVEN WIRE , WHICH IS IN TURN ATTACHED TO THE STEEL OR WOOD FENCE POST.

5. INSPECTION SHALL BE MADE WEEKLY OR AFTER EACH RAINFALL EVENT AND REPAIR OR REPLACEMENT SHALL BE MADE PROMPTLY AS NEEDED.

6. SILT FENCE SHALL BE REMOVED WHEN THE SITE IS COMPLETELY STABILIZED SO AS NOT TO BLOCK OR IMPEDE STORM FLOW OR DRAINAGE.

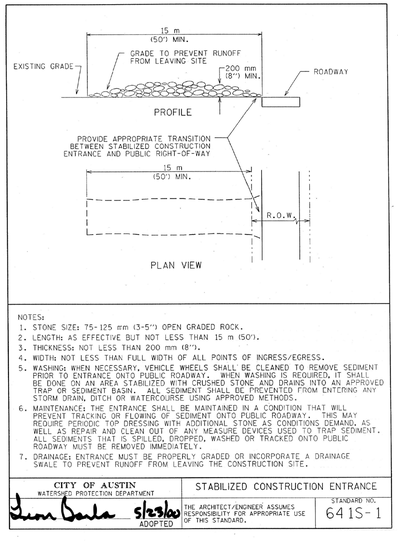
7. ACCUMULATED SILT SHALL BE REMOVED WHEN IT REACHES A DEPTH OF 150 mm (6 Inches). THE SILT SHALL BE DISPOSED OF ON AN APPROVED SITE AND IN SUCH A MANNER THAT WILL NOT CONTRIBUTE TO ADDITIONAL SILTATION.

CITY OF AUSTIN WATERSHED PROTECTION DEPARTMENT	SILT FENCE
ADOPTED 9/1/2001	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD. STANDARD NO. 642S-1



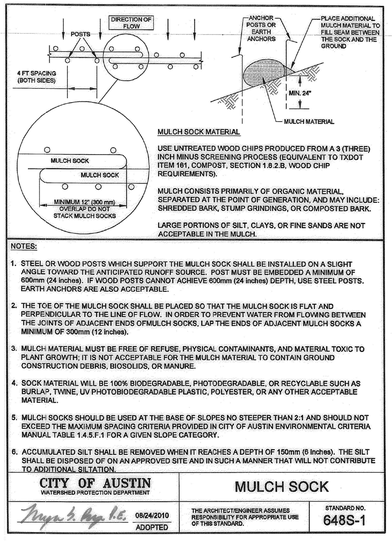
GENERAL NOTES
1. DIKES SHALL BE PLACED IN A ROW WITH ENDS TIGHTLY ABUTTING THE ADJACENT DIKE.
2. THE FABRIC COVER AND SKIRT SHALL BE A CONTINUOUS WRAPPING OF GEOTEXTILE. THE SKIRT SHALL BE A CONTINUOUS EXTENSION OF THE FABRIC ON THE UPSTREAM FACE.
3. THE SKIRT SHALL BE WEIGHTED WITH A CONTINUOUS LAYER OF 75-125 mm (3-5") OPEN GRADED ROCK OR TOED-IN 150 mm (6") WITH MECHANICALLY COMPACTED MATERIAL. OTHERWISE, THE ENTIRE STRUCTURE SHALL BE TRENCHED IN 100 mm (4").
4. DIKES AND SKIRT SHALL BE SECURELY ANCHORED IN PLACE USING 150 mm (6") WIRE STAPLES ON 600 mm (2') CENTERS ON BOTH EDGES AND SKIRT, OR STAKE USING 10M (3/8") DIAMETER RE-BAR WITH TEE ENDS.
5. FILTER MATERIAL SHALL BE LAPPED OVER ENDS 150 mm (6") TO COVER DIKE TO DIKE JOINTS. JOINTS SHALL BE FASTENED WITH GALVANIZED SHOAT RINGS.
6. THE DIKE STRUCTURE SHALL BE MW40-150 mmX150 mm (6 GA. 6"X6") WIRE MESH, 450 mm (18") ON A SIDE.
7. INSPECTION SHALL BE MADE WEEKLY OR AFTER EACH RAINFALL EVENT AND REPAIR OR REPLACEMENT SHALL BE MADE PROMPTLY AS NEEDED BY THE CONTRACTOR.
8. ACCUMULATED SILT SHALL BE REMOVED WHEN IT REACHES A DEPTH OF 150 mm (6") AND DISPOSED OF IN A MANNER WHICH WILL NOT CAUSE ADDITIONAL SILTATION.
9. AFTER THE DEVELOPMENT SITE IS COMPLETLY STABILIZED, THE DIKES AND ANY REMAINING SILT SHALL BE REMOVED. SILT SHALL BE DISPOSED OF AS INDICATED IN GENERAL NOTE 8 ABOVE.

CITY OF AUSTIN WATERSHED PROTECTION DEPARTMENT	TRIANGULAR SEDIMENT FILTER DIKE
ADOPTED 3-27-00	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD. STANDARD NO. 628S



NOTES:
1. STONE SIZE: 75-125 mm (3-5") OPEN GRADED ROCK.
2. LENGTH: AS EFFECTIVE BUT NOT LESS THAN 15 m (50').
3. THICKNESS: NOT LESS THAN 200 mm (8").
4. WIDTH: NOT LESS THAN FULL WIDTH OF ALL POINTS OF INGRESS/EGRESS.
5. 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.
6. 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.
7. DRAINAGE: ENTRANCE MUST BE PROPERLY GRADED OR INCORPORATE A DRAINAGE SWALE TO PREVENT RUNOFF FROM LEAVING THE CONSTRUCTION SITE.

CITY OF AUSTIN WATERSHED PROTECTION DEPARTMENT	STABILIZED CONSTRUCTION ENTRANCE
ADOPTED 5/23/06	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD. STANDARD NO. 641S-1



MULCH SOCK MATERIAL

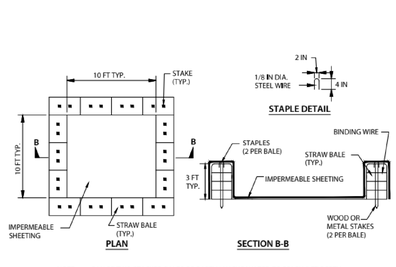
USE UNTREATED WOOD CHIPS PRODUCED FROM A 3 (THREE) INCH MINUS SCREENING PROCESS (EQUIVALENT TO TXDOT ITEM 161, COMPOST, SECTION 1.9.2.B, WOOD CHIP REQUIREMENTS).

MULCH CONSISTS PRIMARILY OF ORGANIC MATERIAL, SEPARATED AT THE POINT OF GENERATION, AND MAY INCLUDE: SHREDDED BARK, STUMP GRINDINGS, OR COMPOSTED BARK.

LARGE PORTIONS OF SILT, CLAYS, OR FINE SANDS ARE NOT ACCEPTABLE IN THIS MULCH.

NOTES:
1. 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.
2. 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 OFMULCH SOCKS, LAP THE ENDS OF ADJACENT MULCH SOCKS A MINIMUM OF 300mm (12 Inches).
3. 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.
4. SOCK MATERIAL WILL BE 100% BIODEGRADABLE, PHOTODEGRADABLE, OR RECYCLABLE SUCH AS BURLAP, TWINE, UV PHOTOBIODEGRADABLE PLASTIC, POLYESTER, OR ANY OTHER ACCEPTABLE MATERIAL.
5. 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 1.4.5.F.1 FOR A GIVEN SLOPE CATEGORY.
6. 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.

CITY OF AUSTIN WATERSHED PROTECTION DEPARTMENT	MULCH SOCK
ADOPTED 08/24/2010	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD. STANDARD NO. 648S-1



NOTE: CAN BE TWO STACKED BALES OR PARTIALLY EXCAVATED TO REACH 3 FT DEPTH

WASHOUT STRUCTURE WITH STRAW BALES

CONSTRUCTION SPECIFICATIONS

1. LOCATE WASHOUT STRUCTURE A MINIMUM OF 50 FEET AWAY FROM OPEN CHANNELS, STORM DRAIN INLETS, SENSITIVE AREAS, WETLANDS, BUFFERS AND WATER COURSES AND AWAY FROM CONSTRUCTION TRAFFIC.
2. SIZE WASHOUT STRUCTURE FOR VOLUME NECESSARY TO CONTAIN WASH WATER AND SOLIDS AND MAINTAIN AT LEAST 4 INCHES OF FREEBOARD. TYPICAL DIMENSIONS ARE 10 FEET X 10 FEET X 3 FEET DEEP.
3. PREPARE SOIL BASE FREE OF ROCKS OR OTHER DEBRIS THAT MAY CAUSE TEARS OR HOLES IN THE LINER. FOR LINER, USE 10 MIL OR THICKER UV RESISTANT, IMPERMEABLE SHEETING, FREE OF HOLES AND TEARS OR OTHER DEFECTS THAT COMPROMISE IMPERMEABILITY OF THE MATERIAL.
4. PROVIDE A SIGN FOR THE WASHOUT IN CLOSE PROXIMITY TO THE FACILITY.
5. KEEP CONCRETE WASHOUT STRUCTURE WATER TIGHT. REPLACE IMPERMEABLE LINER IF DAMAGED (E.G., RIPPED OR PUNCTURED). EMPTY OR REPLACE WASHOUT STRUCTURE THAT IS 75 PERCENT FULL, AND DISPOSE OF ACCUMULATED MATERIAL PROPERLY. DO NOT REUSE PLASTIC LINER. WET-VACUUM STORED LIQUIDS THAT HAVE NOT EVAPORATED AND DISPOSE OF IN AN APPROVED MANNER. PRIOR TO FORECASTED RAINSTORMS, REMOVE LIQUIDS OR COVER STRUCTURE TO PREVENT OVERFLOWS. REMOVE HARDENED SOLIDS, WHOLE OR BROKEN UP, FOR DISPOSAL OR RECYCLING. MAINTAIN RUNOFF DIVERSION AROUND EXCAVATED WASHOUT STRUCTURE UNTIL STRUCTURE IS REMOVED.

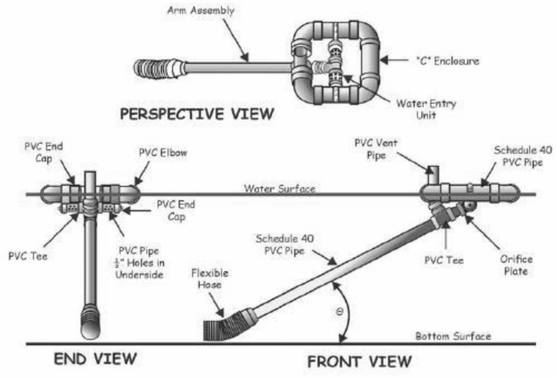


Figure 6.64a Schematic of a skimmer, from Pennsylvania Erosion and Sediment Pollution Control Manual, March, 2000.

R5

NEW SHEET

CITY OF AUSTIN APPROVED Date 01/09/2022 FOUNDED 1839

REV. NO.	BY	DATE	REVISION DESCRIPTION

STATE OF TEXAS — MICHAEL C. MULLONE — 127850 — LICENSED PROFESSIONAL ENGINEER

Mike Mullone 12/16/2021

VIOLET CROWN TRAILHEAD
WILLIAM BARTON DR.
AUSTIN TX 78746

EROSION, SEDIMENTATION CONTROL, & TREE PROTECTION DETAILS

DUNAWAY LUCE
TX Registered Engineering Firm #F-1114
TBPLS Firm No. 10065900
5707 Southwest Parkway
Building 2, Suite 250
Austin, TX 78735
Phone: 512-306-8252

SITE PLAN APPROVAL — SHEET 225 OF 239
FILE NUMBER: _____ APPLICATION DATE: _____
APPROVED BY COMMISSION ON: _____ UNDER SECTION 112 OF CHAPTER 25-5 OF THE CITY OF AUSTIN CODE.
EXPIRATION DATE (25-5-81, LDC) _____ CASE MANAGER: _____
PROJECT EXPIRATION DATE (OED #970905-A) N/A DWPZ _____ DDZ _____
Director, Development Services Department
RELEASED FOR GENERAL COMPLIANCE: _____ ZONING: _____
Rev.1: _____ Correction 1: _____
Rev.2: _____ Correction 2: _____
Rev.3: _____ Correction 3: _____

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C3.20

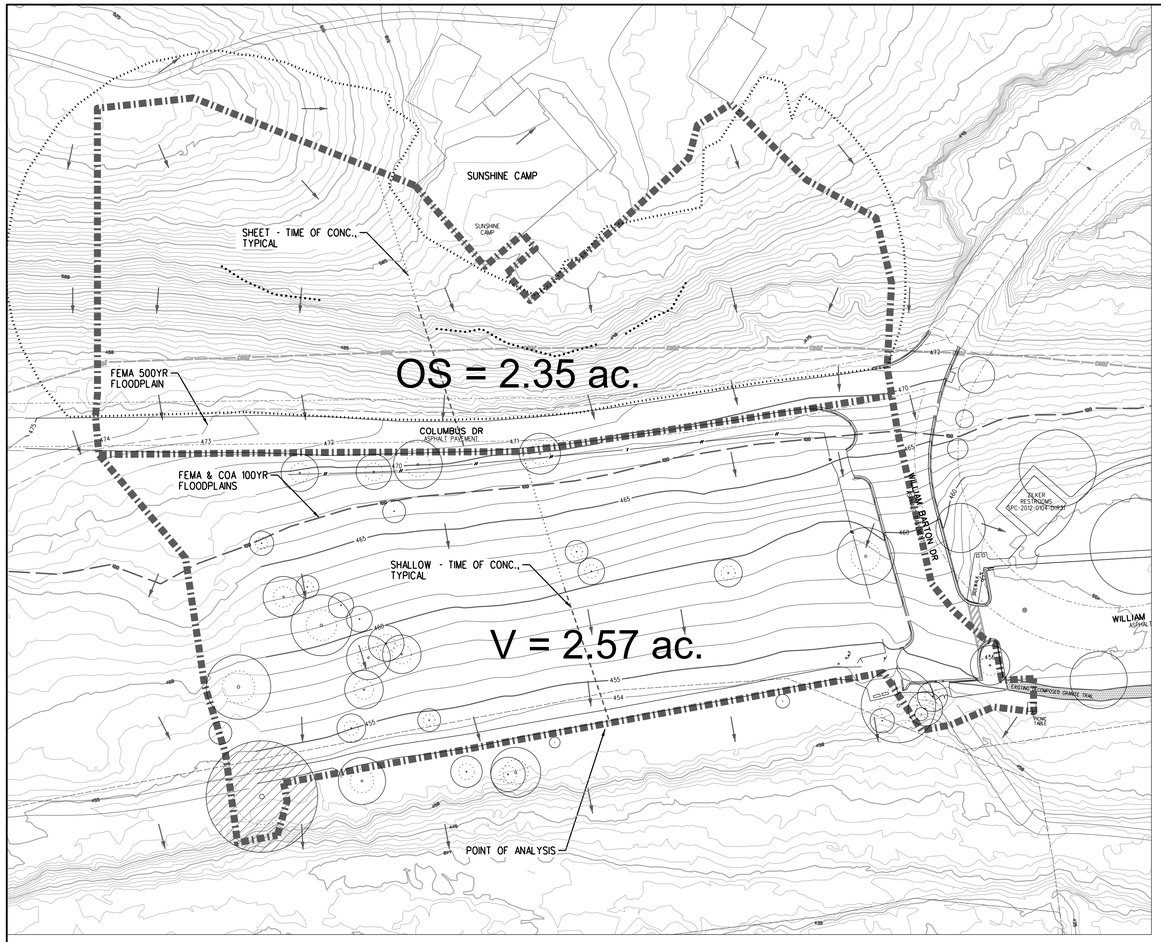
JOB NO. B005344.001

SPC-2012-0104D(R5)

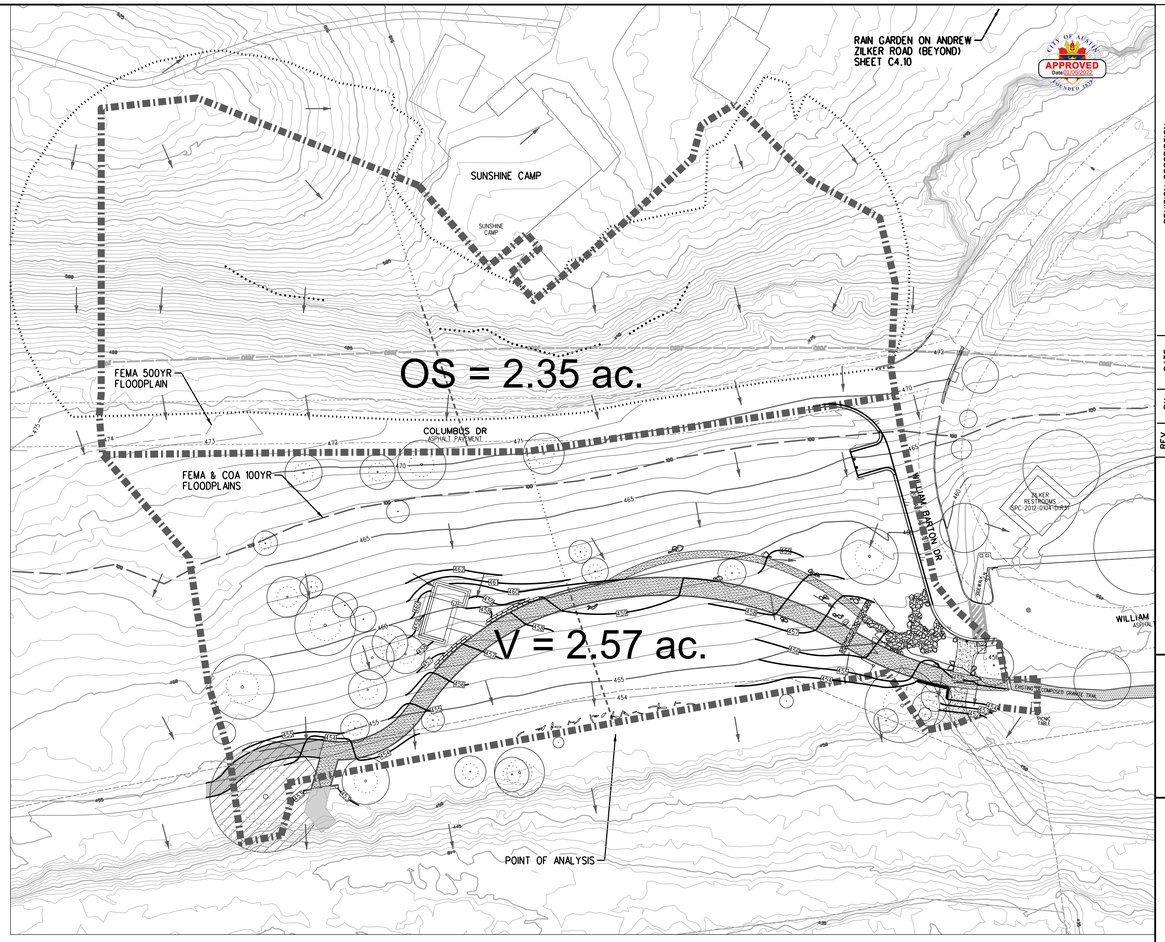
SHEET NUMBER 225 OF 239

12/16/2021

G:\Production4000\005300\5344\00\Civil\CAD\(Plans) Site Plan\Sheets\VCT-S-ESC DTL.dgn



EXISTING DRAINAGE MAP



PROPOSED DRAINAGE MAP

LEGEND

- X = XX ac. — DRAINAGE AREA ID
- DRAINAGE AREA
- XXX — CONTOUR- EXISTING
- XXX — CONTOUR- PROPOSED
- FLOW ARROW- EXISTING
- FLOW ARROW- PROPOSED

Time of Concentration Calculations								
Basin ID	Area	Z_4	Z_3	Z_2	Z_1	L^{sheet}	$L^{shallow}$	$L^{channel}$
-	ac	ft	ft	ft	ft	ft	ft	ft
OS1	2.35	512	498	471	0	100	107	0
V	2.57	470	459	454	0	100	99	0
Sheet Flow Calculations								
P_2	3.44	t^{sheet}	$(0.007((n*L)^{.8})/(((P_2)^{.5})*(s^{.4}))*60$					
Basin ID	Z_4	Z_3	L^{sheet}	s^{sheet}	n^{sheet}	t^{sheet}		
-	ft	ft	ft	-	-	min		
OS1	512	498	100	0.140	0.15	4.3		
V	470	459	100	0.110	0.15	4.8		
Shallow Flow Calculations								
$t^{shallow}$			$t^{unpaved}$ = L/(60(16.1345)(s)0.5)		tpaved = L/(60(20.3282)(s)0.5)			
Basin ID	Z_3	Z_2	$L^{shallow}$	$s^{shallow}$	$t^{shallow}$			
-	ft	ft	ft	-	min			
OS1	498	471	107	0.252	0.2			
V	459	454	99	0.051	0.5			
*All basins -unpaved								
Channel Flow Calculations								
$t^{channel}$	L/(60*v)		$v^{channel}$	$(1.49*(r^{.667})*(s^{.5}))/n$				
Basin ID	Z_2	Z_1	$L^{channel}$	$s^{channel}$	r	$n^{channel}$	$v^{channel}$	$t^{channel}$
-	ft	ft	ft	-	ft	-	ft/s	min
OS1	471	0	0	N/A	0.500	0.012	N/A	0
V	454	0	0	N/A	0.750	0.012	N/A	0
Time of Concentration Summary								
Basin ID	Area		t^{Total}		t^{lag}			
-	ac		min		min			
OS1	2.35		5		3			
V	2.57		5		3			
*OS1 had an assumed Time of Concentration of 5 minutes.								

Existing Hydrologic Summary								
Basin ID	Area	Impervious	CN weighted	ToC	Q^2	Q^{10}	Q^{25}	Q^{100}
-	ac.	%	-	min.	ft^3/s	ft^3/s	ft^3/s	ft^3/s
OS1	2.4	13	82.3	5	9	17	22	31
V	2.6	4	62.6	5	4	11	16	26

Proposed Hydrologic Summary								
Basin ID	Area	Impervious	CN weighted	ToC	Q^2	Q^{10}	Q^{25}	Q^{100}
-	ac.	%	-	min.	ft^3/s	ft^3/s	ft^3/s	ft^3/s
OS1	2.35	13	82.3	5	9	17	22	31
V	2.57	1	61.3	5	3	10	16	25

Point of Analysis - To Barton Creek	Q^2	Q^{10}	Q^{25}	Q^{100}
Existing	13.0	27.8	38.5	56.8
Proposed	12.6	27.2	37.9	56.1
Proposed - Existing	-0.4	-0.6	-0.6	-0.7

R5

NEW SHEET

SITE PLAN APPROVAL — SHEET 226 OF 239
FILE NUMBER: ____ APPLICATION DATE: ____
APPROVED BY COMMISSION ON: ____ UNDER SECTION 112 OF CHAPTER 25-5 OF THE CITY OF AUSTIN CODE.
EXPIRATION DATE (25-5-81, LDC) ____ CASE MANAGER: ____
PROJECT EXPIRATION DATE (OED #970905-A) N/A DWPZ ____ DDZ ____
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REV. NO.	BY	DATE	REVISION DESCRIPTION

STATE OF TEXAS
MICHAEL C. MULLONE
127850
LICENSED
PROFESSIONAL ENGINEER
Mike Mullone
12/16/2021

SCALE 1" = 50'
0 25 50

VIOLET CROWN TRAILHEAD
WILLIAM BARTON DR.
AUSTIN TX 78746

EXISTING & PROPOSED DRAINAGE MAPS

DUNAWAY LUD
TX Registered Engineering Firm #F-1114
TBPLS Firm No. 10065900
5707 Southwest Parkway
Building 2, Suite 250
Austin, TX 78735
Phone: 512-306-8252

C4.00

JOB NO. B005344.001

SPC-2012-0104D(R5)

SHEET NUMBER 226 OF 239

12/8/2021

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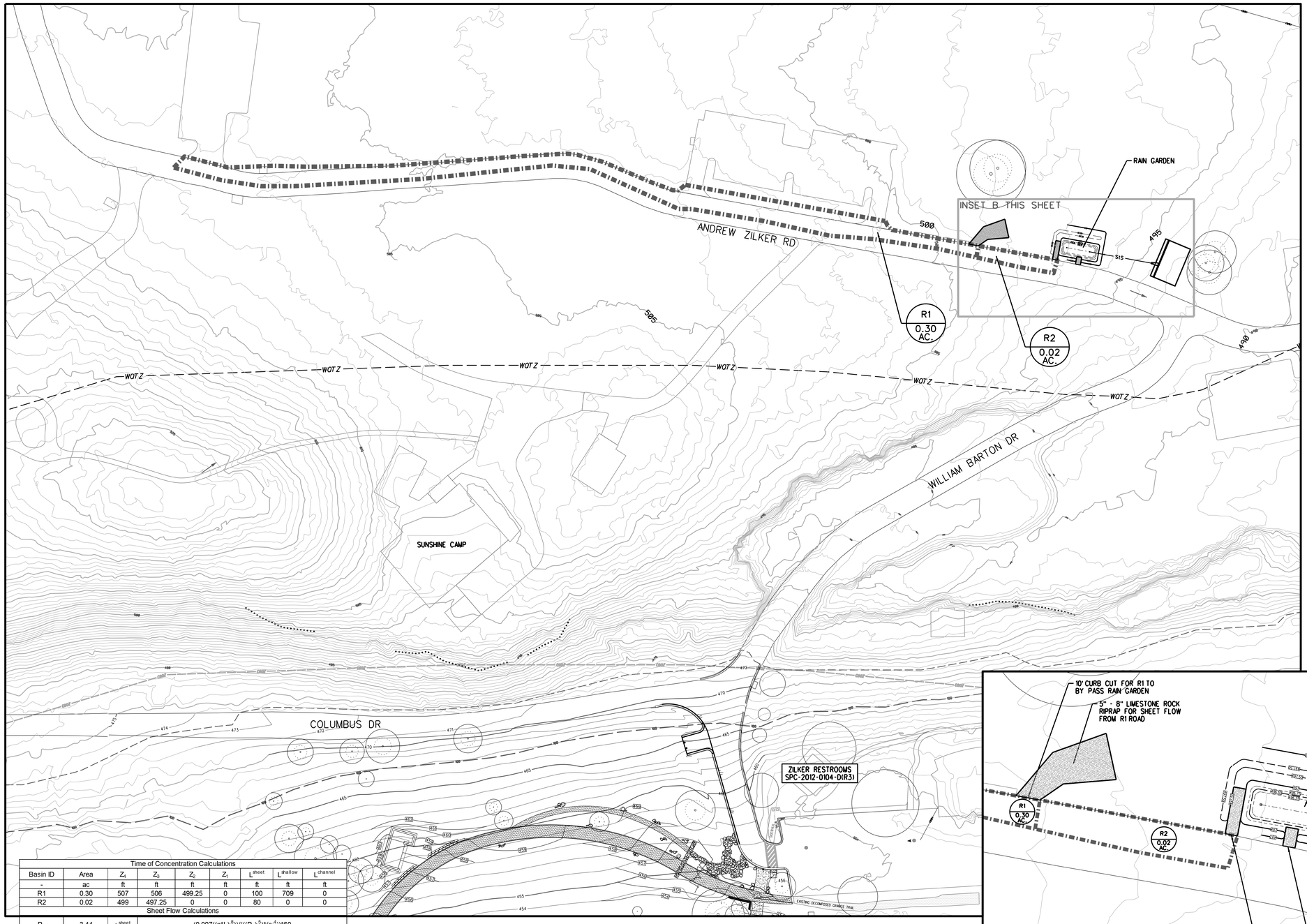
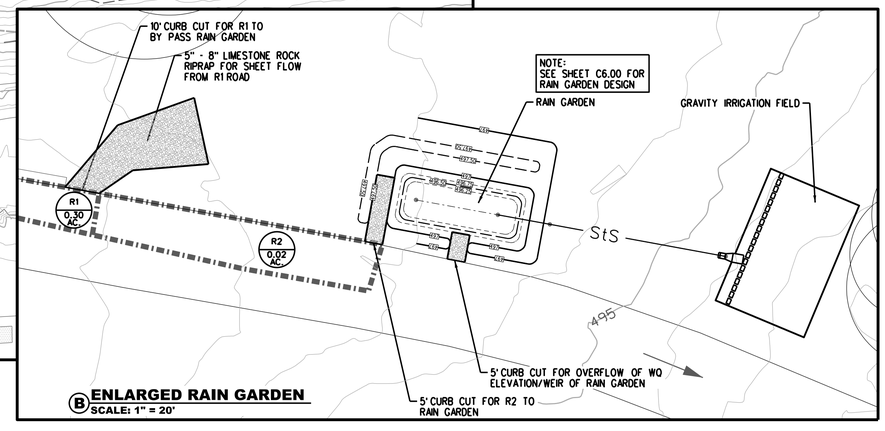


SCALE 1" = 50'

0 25 50

LEGEND

- R1 / 0.30 AC. — DRAINAGE AREA ID / DRAINAGE AREA (ACRES)
- DRAINAGE AREA BOUNDARY
- XXX — CONTOUR- EXISTING
- XXX — CONTOUR- PROPOSED
- FLOW ARROW



B ENLARGED RAIN GARDEN
SCALE: 1" = 20'

Time of Concentration Calculations

Basin ID	Area	Z_4	Z_3	Z_2	Z_1	L^{sheet}	$L^{shallow}$	$L^{channel}$
-	ac	ft	ft	ft	ft	ft	ft	ft
R1	0.30	507	506	499.25	0	100	709	0
R2	0.02	499	497.25	0	0	80	0	0

Sheet Flow Calculations

$t^{sheet} = (0.007((n*L)^{.8}))/(((P_2)^{.5})*(s^{.4}))*60$

P_2 = 3.44

Basin ID	Z_4	Z_3	L^{sheet}	s^{sheet}	n^{sheet}	t^{sheet}
-	ft	ft	ft	-	-	min
R1	507	506	100	0.010	0.011	2
R2	499	497.25	80	0.022	0.011	1

Shallow Flow Calculations

$t^{shallow}$ $t^{unpaved} = L/(60(16.1345)(s)0.5)$ $t^{paved} = L/(60(20.3282)(s)0.5)$

Basin ID	Z_3	Z_2	$L^{shallow}$	$s^{shallow}$	$t^{shallow}$
-	ft	ft	ft	-	min
R1	506	499.25	709	0.010	6
R2	497.25	0	0	#DIV/0!	0

*All basins -paved

Time of Concentration Summary

Basin ID	Area	t^{Total}	t^{lag}
-	ac	min	min
R1	0.30	7	4
R2	0.02	5	3

*R2 have an assumed Time of Concentration of 5 minutes.

Curve Number Calculations

Basin ID	Area	Impervious	Area Composed of: Soil B CN = 61	Soil C CN = 74	Soil D CN = 80	Impervious CN = 98	$CN^{weighted}$
-	ac.	%	ac.	ac.	ac.	ac.	-
R1	0.3	100	0.00	0.00	0.00	0.30	98.0
R2	0.02	100	0.00	0.00	0.00	0.02	98.0

CN Parameters Used :		
Soil B :	Open Space (Good)	CN = 61
Soil C :	Open Space (Good)	CN = 74
Soil D :	Open Space (Good)	CN = 80
Impervious	CN = 98	

Hydrologic Summary

Basin ID	Area	Impervious	$CN^{weighted}$	ToC	Q^2	Q^{10}	Q^{25}	Q^{100}
-	ac.	%	-	min.	ft^3/s	ft^3/s	ft^3/s	ft^3/s
R1	0.30	100	98.0	7	1.6	2.5	3.1	4.0
R2	0.02	100	98.0	5	0.1	0.2	0.2	0.3

R5

NEW SHEET

REV. NO.	BY	DATE	REVISION DESCRIPTION

CITY OF AUSTIN APPROVED Date 01/06/2022 FOUNDED 1839

STATE OF TEXAS
MICHAEL C. MULLONE
127850
LICENSED
PROFESSIONAL ENGINEER

Mike Mullone

12/16/2021

DUNAWAY LDG
TX Registered Engineering Firm #F-1114
TBPLS Firm No. 10065900
5707 Southwest Parkway
Building 2, Suite 250
Austin, TX 78735
Phone: 512-306-8252

VIOLET CROWN TRAILHEAD
WILLIAM BARTON DR.
AUSTIN TX 78746

PROPOSED DRAINAGE AREA MAP
RAIN GARDEN

SITE PLAN APPROVAL — SHEET 227 OF 239
FILE NUMBER: ____ APPLICATION DATE: ____
APPROVED BY COMMISSION ON: ____ UNDER SECTION 112 OF
CHAPTER 25-5 OF THE CITY OF AUSTIN CODE:
EXPIRATION DATE (25-5-81, LDC) ____ CASE MANAGER: ____
PROJECT EXPIRATION DATE (OED #970905-A) N/A DWPZ ____ DDZ ____

Director, Development Services Department
RELEASED FOR GENERAL COMPLIANCE: ____ ZONING: ____
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.

C4.10

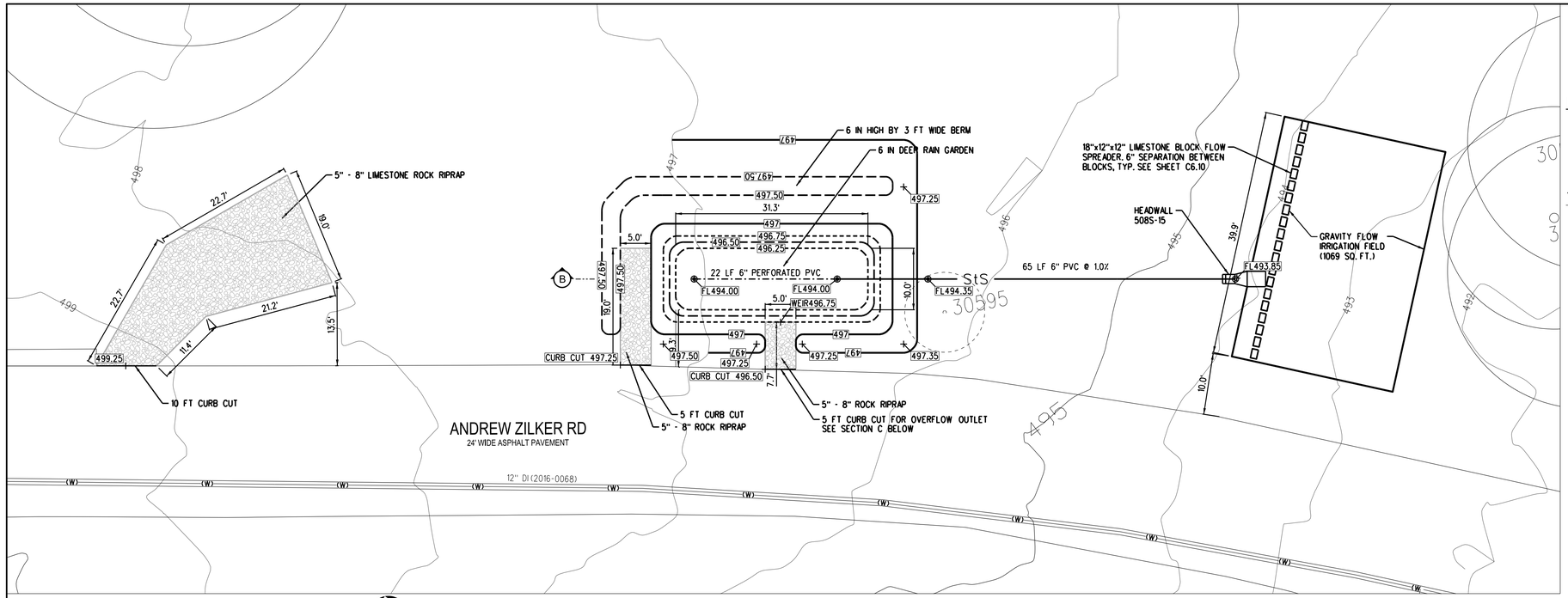
JOB NO. B005344.001

SPC-2012-0104D(R5)

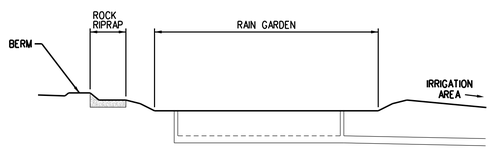
SHEET NUMBER 227 OF 239

G:\Production4000\005300\5344\00\Civil\CAD\(Plans) Site Plan\Sheets\VCT-S-RG DRG MAP.dgn

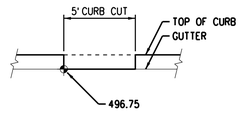
12/8/2021



A RAIN GARDEN PLAN
SCALE: 1" = 10'



B RAIN GARDEN SECTION
SCALE: H1" = 10' V1" = 5'



C RAIN GARDEN OVERFLOW OUTLET
SCALE:

LEGEND

FL	FLOW LINE
WEIR	TOP OF WEIR
XXX.X	ELEVATION
TG	TOP OF GABION
XXX	CONTOUR
◎	CLEANOUT, TYP.
——·——·——	COLLECTOR LINE
——StS——	STORM DRAIN

NOTES

1. SEE POND DETAILS SHEET C5.10
2. WATER QUALITY POND WILL BE PRIVATELY MAINTAINED.
3. BIOFILTRATION MEDIUM SHALL COMPLY WITH ECM 1.3.7.C.4.(A).
4. THE CONTRACTOR SHALL PROVIDE TO DUNAWAY AN AS-BUILT DRAWING SIGNED BY A REGISTERED PUBLIC LAND SURVEYOR OF THE WATER QUALITY POND PRIOR TO ENGINEER'S CONCURRENCE TO THE CITY OF AUSTIN. THE SURVEY SHOULD INCLUDE, BUT IS NOT LIMITED TO, ALL POND DIMENSIONS, TOP OF POND ELEVATIONS, ALL PIPE SIZES AND ELEVATIONS, WEIR DIMENSIONS AND ELEVATIONS, AND ANY OTHER MEASUREMENT NECESSARY TO CONFIRM THAT POND APPURTENANCES WERE BUILT PER APPROVED PLANS.
5. POND PLANTING PLAN ON SHEETS _____.

CITY OF AUSTIN APPROVED Date 01/06/2022 FOUNDED 1839

REV. NO.	BY	DATE	REVISION DESCRIPTION

STATE OF TEXAS · MICHAEL C. MULLONE · 127850 · LICENSED · PROFESSIONAL ENGINEER

Mike Mullone

12/16/2021

COA APPENDIX R-11 RAIN GARDEN CALCULATIONSFOR DEVELOPMENT PERMITS				
Violet Crown Trailhead - R2				
DRAINAGE AREA DATA: R2				
Drainage Area to Control (DA - Maximum 2.0 ac.)	0.02	ac.		
Drainage Area Percent Impervious Cover	100	%		
Capture Depth (CD)	1.30	in.		
Required Capture Depth per SLAT for Barton Springs Zone	*2.54*	*in.*		
WATER QUALITY CONTROL CALCULATIONS:	Required		Provided	
Water Quality Volume (WQV)	184	ft^3	265	ft^3
100 Year Peak Flow Rate to Control (Q100)		ft^3/s		
Filtration Pond Area (A_f)	214	ft^2	308	ft^2
Depth of Ponding (D)	Max. 1.0	ft.	0.50	ft.
Depth of Filtration Media (L)	Min. 1.5	ft.	1.5	ft.
Effective Porosity Water Quality Volume ($WQV_{eff} = 0.24*A_f*L$)			111	ft^3
Ponded Water Quality Volume (WQVponded = WQV - WQV_{eff})			154	ft^3
Provided WQV			265	ft^3
Water Quality Elevation (WQE)			496.75	ft.
Elevation of Splitter/Overflow Weir (minimum WQE)			496.75	ft.
Length of Splitter Weir				ft.
Required Head to Pass Q100			0.08	ft.
Pond Freeboard Provided to Pass Q100	Min. 0.25	ft.	0.42	ft.
FILTRATION RAIN GARDENS				
Rain Garden Pond Drawdown Time (at 0.25 in./hr.)	Min. 48	hr.	48	hr.
Underdrain Orifice Size (Diameter)			0.19	in.
Underdrain Orifice (Area)			0.03	in^2

SLAT STORMWATER LOAD ANALYSIS TOOL 2.0

Quick Guide
1. Enable Macros in the worksheet.
2. Click "Restore Defaults" button to the right.
3. Fill all **yellow cells** with project specifics, moving from top to bottom.
4. Click "View Full Results" button.
5. Project Passes if Green "COMPLIANT" button appears.

Find the **Full User Manual** at austintexas.gov/department/stormwater-management
Questions? **Email** SLAT@austintexas.gov

Click Here To **Restore Defaults** For a New Analysis
Click Here To **View Results**

KEY: Required User Input | **Key User Input** | Internal Calculation | Error | **Calculator Output** | Does Not Apply

Step 1: Input site characteristics in yellow highlighted cells

Violet Crown Trailhead	Mike Mullone	6/3/2021

SLAT 2.0 - 3/2018

Is your site within the Barton Springs Zone (BSZ)?	Yes
How many drainage areas, *n*, does your site have?	1
	Drainage Area A
Drainage area to the control, A_n (acres)	0.02
Base impervious cover of the drainage area, IC_B (%)	0.0
Developed impervious cover of the drainage area, IC_D (%)	100.0

Step 2: Input SCM characteristics in yellow highlighted cells

	Drainage Area A
SCM 1 (First in Series)	*SCM A1*
SCM Type	Biofiltration
Is SCM 1 **off-line**?	Yes (Off-Line)
What is the Water Quality Volume, WQV (inches) [aka Capture Depth]	2.54
Minimum water quality volume allowed (in)	1.30
SCM 1 Actual Volume (ft^3)	184
Do you know the **drawdown time** or the **flow rate**?	Drawdown Time
Drawdown Time, *DDT* **(hrs)** [tot. time to empty full SCM	48
Flow Rate (gpm) [use only for "alternative" controls]	
Treatment Rate, Ω (in/hr)	0.053
Do you already know the **runoff capture efficiency**?	No
User Entered Runoff Capture Efficiency, RCE (%)	
Runoff Capture Efficiency, RCE (%)	96.2%
Conveyance	
How is effluent from SCM 1 discharged?	Pumped
Delay after end of rainfall before discharging SCM 1 (hrs)	12
SCM 2 (Second in Series)	*SCM A2*
SCM Type	Infiltration Field
Do you know the infiltrated or reused water quantity?	No; infiltrate all routed water
User-entered infilt. water quality volume, WQV_{inf} (in)	
-OR- Percent of yearly runoff infiltrated, RCE_{inf} (%)	
Soil infiltration rate (in/hr)	0.1
Ratio of drawdown time / irrigation time, for any zone	2
Approximate Minimum Field Area (Ac)	0.02

Step 3: Input Effluent Data for Alternative SCMs

SLAT STORMWATER LOAD ANALYSIS TOOL 2.0 1/2

Site Name: Violet Crown Trailhead By: Mike Mullone Date: 44350

RESULTS: COMPLIANCE TABLE — SLAT 2.0 - 3/2018

POLLUTANT		DEVELOPED LOAD, WITH CONTROLS				TOTAL LOAD,	EXISTING LOAD	LOAD EQUIV. FACTOR, LEF	COMPLIES ?
		Drainage Area A	*Drainage Area B*	*Drainage Area C*	*Drainage Area D*				
COD	lbs/yr	1.08E-01	0.00E+00	0.00E+00	0.00E+00	1.08E-01	2.30E-01	0.45	YES
E. coli	10^6 MPN/y	1.55E+02	0.00E+00	0.00E+00	0.00E+00	1.55E+02	2.24E+02	0.69	YES
Pb	lbs/yr	2.17E-05	0.00E+00	0.00E+00	0.00E+00	2.17E-05	2.53E-05	0.86	YES
TN	lbs/yr	5.58E-03	0.00E+00	0.00E+00	0.00E+00	5.58E-03	7.03E-03	0.79	YES
TP	lbs/yr	6.96E-04	0.00E+00	0.00E+00	0.00E+00	6.94E-04	7.32E-04	0.95	YES
TSS	lbs/yr	7.80E-02	0.00E+00	0.00E+00	0.00E+00	7.80E-02	9.80E-01	0.08	YES
Zn	lbs/yr	1.38E-04	0.00E+00	0.00E+00	0.00E+00	1.38E-04	1.39E-04	0.99	YES

Results subject to review and approval by COA Development Services Department.

ERROR CHECK PASSED
COMPLIANT

Change Inputs | Print Results | Jump to Loads Removed Table

SUMMARY OF INPUTS

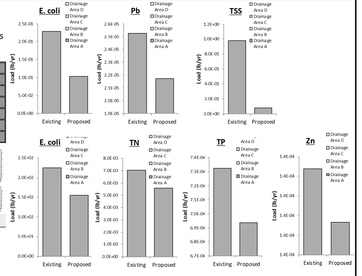
Site Location	Within Barton Springs Zone - Compare to Existing Loads				
	Drainage Area A	*Drainage Area B*	*Drainage Area C*	*Drainage Area D*	TOTALS
Drainage Area, An (Ac)	0.02	N/A	N/A	N/A	0.02
Developed IC_a IC_D (%)	100.0	N/A	N/A	N/A	100%
SCM 1	Biofiltration	N/A	N/A	N/A	
Water Qual. Vol. WQV (in)	2.54	N/A	N/A	N/A	
Actual Volume (ft3)	184	N/A	N/A	N/A	184
Drawdown Time, DDT (hrs)	48	N/A	N/A	N/A	
Flowrate (gpm)	0.48	N/A	N/A	N/A	-
SCM 2	Infiltration Field	N/A	N/A	N/A	-
Infiltration Rate (in/hr)	0.10	N/A	N/A	N/A	-
Appx. Min. Infilt. Field Area (Ac	0.02	N/A	N/A	N/A	0.02
Average Irrigation Rate (gpm)	0.5	N/A	N/A	N/A	-
Error with Input Values?	NO	NO	NO	NO	

Results subject to review and approval by COA Development Services Department.

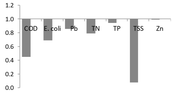
SLAT STORMWATER LOAD ANALYSIS TOOL 2.0 2/2

Site Name: Violet Crown Trailhead By: Mike Mullone Date: 44350

RESULTS: PLOTS — SLAT 2.0 - 3/2018



Load Equivalency Factor



ORIFICE CALCULATION FOR WQ POND DRAWDOWN TIME					
POND:	**Rain Garden**				
WQV = water quality volume (ft^3)		g = gravitational constant = (32.2 ft/s^2)			
t = drawdown time (s)		pi =	3.1415		
Q = flow rate (ft^3/s)		h = $WQV_{elevation}$-$y_{minimum\ elevation\ in\ the\ sedimentation\ pond}$ (ft)			
d = diameter of orifice (ft)		A = area of orifice (ft^2)			
Or_{ice} = orifice centerline elev.		C = orifice coefficient			
WQV (ft^3)	265	t (hr)	48	g (ft/s^2)	32.2
$WQV_{elv.}$ (ft)	496.75	t (s)	172800	Or_{ice} (ft.)	494.10
y_{min} (ft)	496.25	C	0.6		
h (ft)	2.65				
Q = WQV/t = flow rate out of sedimentation pond					
Q (ft^3/s)	0.0015				
Q = CA (2gh)^.5 or A = Q/ C*(2gh)^.5)					
A (ft^2)	0.0002				
A (in^2)	0.03				
A = pi*d^2/4 or d = (4A/pi)^.5					
d (ft)	0.0158				
d (in)	0.19				

Basin ID	Area	Impervious	WQCD	WQV	H = Depth	Minimum A_f
-	ac.	%	in.	ft^3	ft	ft^2
V	0.02	100	1.30	94	1.25	17
R2	0.02	100	1.30	94	1.25	17

IN BASIN V, THERE IS A TOTAL OF 991 sq. ft. OR .02 ACRES OF IMPERVIOUS COVER THAT WOULD BE TREATED BY A WQ FEATURE. WQ FEATURES ARE NOT ALLOWED IN THE CWQZ OF THE BARTON SPRINGS ZONE. THEREFORE A PORTION OF WILLIAM BARTON DRIVE IS BEING TREATED. THIS IS REPRESENTED BY BASIN R. REFER TO EXISTING AND PROPOSED DRAINAGE AREA SHEET AND SITE PLAN SHEET.

R5
NEW SHEET

SITE PLAN APPROVAL — SHEET 228 OF 239
FILE NUMBER: _____ APPLICATION DATE: _____
APPROVED BY COMMISSION ON: _____ UNDER SECTION 112 OF CHAPTER 25-5 OF THE CITY OF AUSTIN CODE.
EXPIRATION DATE (25-5-81, LDC) _____ CASE MANAGER: _____
PROJECT EXPIRATION DATE (OED 0970905-A) N/A DWPZ _____ DDZ _____
Director, Development Services Department
RELEASED FOR GENERAL COMPLIANCE: _____ ZONING: _____
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.

DUNAWAY LAND
TX Registered Engineering Firm #F-1114
TBPLS Firm No. 100659000
5707 Southwest Parkway
Building 2, Suite 250
Austin, TX 78735
Phone: 512-306-8252

VIOLET CROWN TRAILHEAD
WILLIAM BARTON DR.
AUSTIN TX 78746

RAIN GARDEN

C6.00

JOB NO. B005344.001

SPC-2012-0104D(R5)

SHEET NUMBER 228 OF 239

12/8/2021

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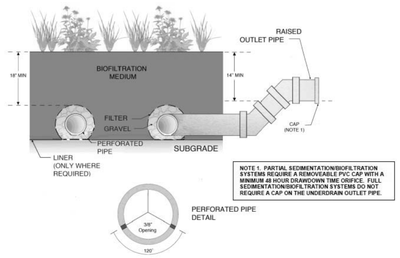
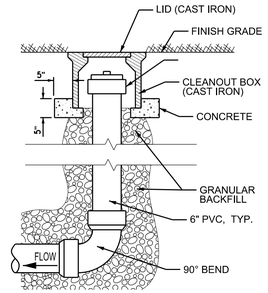
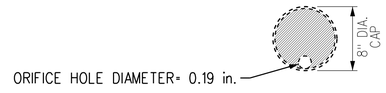


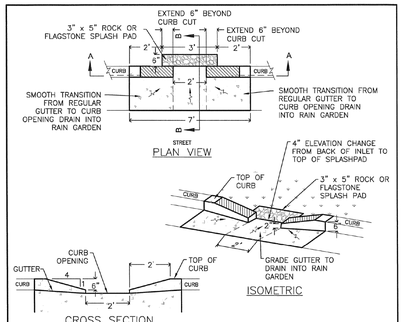
A BIOFILTRATION WITH UNDERDRAIN
NOT TO SCALE



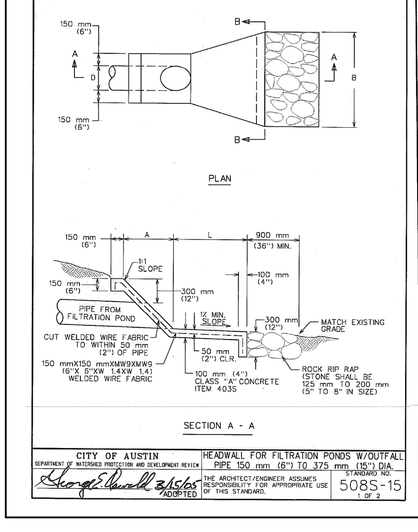
B EXTERIOR CLEANOUT DETAIL FOR WQ POND
NOT TO SCALE



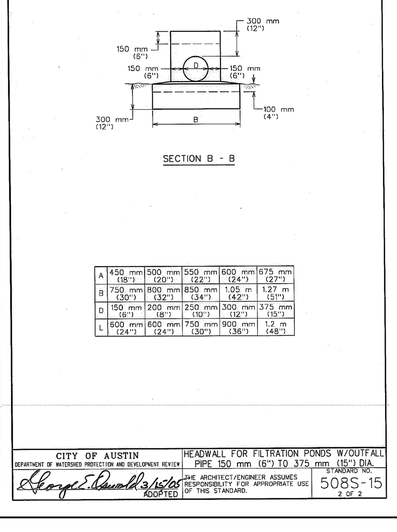
C REMOVABLE 8" CAP W/ ORIFICE
NOT TO SCALE



CITY OF AUSTIN WATERSHED PROTECTION DEPARTMENT	RAIN GARDEN TYPICAL INLET DETAIL 2
	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD. STANDARD NO. SPD 660-4

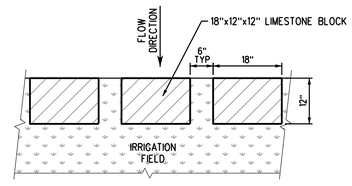


CITY OF AUSTIN DEPARTMENT OF WATERSHED PROTECTION AND DEVELOPMENT REVIEW	HEADWALL FOR FILTRATION PONDS W/OUTFALL PIPE 150 mm (6") TO 375 mm (15") DIA.
ADOPTED 3/15/05	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD. STANDARD NO. 508S-15 1 OF 2

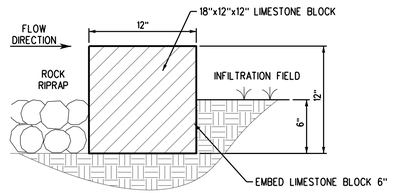


A	450 mm (18")	500 mm (20")	550 mm (22")	600 mm (24")	675 mm (27")
B	750 mm (30")	800 mm (32")	850 mm (34")	1.05 m (42")	1.27 m (51")
D	150 mm (6")	200 mm (8")	250 mm (10")	300 mm (12")	375 mm (15")
L	600 mm (24")	600 mm (24")	750 mm (30")	900 mm (36")	1.2 m (48")

CITY OF AUSTIN DEPARTMENT OF WATERSHED PROTECTION AND DEVELOPMENT REVIEW	HEADWALL FOR FILTRATION PONDS W/OUTFALL PIPE 150 mm (6") TO 375 mm (15") DIA.
ADOPTED 3/15/05	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD. STANDARD NO. 508S-15 2 OF 2



F1 PLAN
NOT TO SCALE



F2 SECTION
NOT TO SCALE

F LIMESTONE BLOCK FLOW LEVEL SPREADER

STANDARD SPECIFICATION 660S - BIOFILTRATION MEDIUM

5/22/2019 Austin, TX Standard Specifications Manual

660S.1 - Description

This item shall govern mixing and placing medium for a biofiltration basin intended to treat storm runoff. This specification is applicable for projects or work involving either inch-pound or SI units. Within the text inch-pound units are given preference followed by SI units shown within parentheses.

(1) Submittals

The submittal requirements of this specification item include:

A. A signed statement provided by the Contractor that:
   1. A laboratory analysis has been conducted by of the actual mixture being proposed, and has been verified as meeting the specifications below. The date of the laboratory analysis must be no more than six months prior to the date of installation of the biofiltration medium. A copy of the laboratory results must be provided.
   2. No "sandy loam" fill material (aka "red death") is included in the mixture.
   3. Report the source of organic matter.

B. Laboratory reports of analyses results documenting that the mixture meets the following specifications:
   1. Particle size distribution performed per ASTM D-422:
      - Coarse fragments + sand content of 70 - 90% by weight
      - Clay content of 3 - 10% by weight
      - Silt + clay content ≤ 27% by weight
   2. Percent organic matter of 0.5 - 5% by weight per ASTM D2974 Method C

C. Contractor's statement that the biofiltration medium has been tested by a laboratory using approved procedures (copy of lab results provided below) and meets the criteria as noted in Table 1 below:

Table 1 - Biofiltration Medium Characteristics

Parameter	Results*	Criteria	Criteria Met?*
Percent Sand + Coarse Fragments (ASTMD-422)		70 - 90%	
Percent Clay (< 0.002 mm)		3 - 10%	
Percent Silt + Clay (< 0.05 mm)		≤ 27%	
Percent Organic Matter (ASTM D-2974)		0.5 - 5%	
Is any "Red Death" included in medium?		None allowed	
Is the mixture free of trash, stones, weeds, or other undesirable material?		None allowed	
Is the medium well-mixed and homogenous?		Must be homogenous	

* Laboratory Must Fill In These Cells

Table 2 - Biofiltration Medium Testing and Installation Dates

Date of Laboratory Analysis (earliest)*	
Date of Medium Installation*	
Time between Dates (months)*	
Criteria for Time Between Dates (months)	6
Is Criteria Met?*	

* Contractor Must Fill In These Cells

Source: Rule No. R161-15.14, 1-4-2016.

1/2 2/2

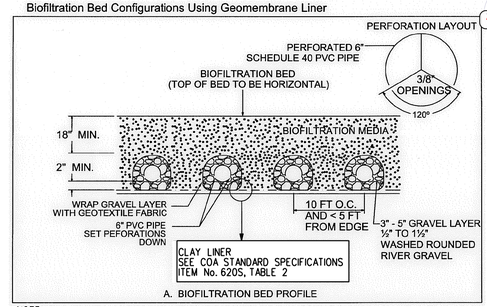
BIOFILTRATION POND MAINTENANCE NOTE

THE FOLLOWING MAINTENANCE ITEMS SHOULD BE PERFORMED DEPENDING ON FREQUENCY AND TIME OR YEAR:
BIWEEKLY DURING FIRST GROWING SEASON: INSPECT VEGETATION UNTIL 95% VEGETATIVE COVER IS ESTABLISHED.
MONTHLY: CHECK FOR ACCUMULATED SEDIMENTS, REMOVE AS NEEDED.
QUARTERLY: REMOVE DEBRIS AND ACCUMULATED SEDIMENT; REPLACE SOIL MEDIA IN VOID AREAS CAUSED BY SETTLEMENT; REPAIR ERODED AREAS: REMULCH BY HAND ANY VOID AREAS.
SEMI-ANNUALLY: REMOVE AND REPLACE DEAD OR DISEASED VEGETATION THAT IS CONSIDERED BEYOND TREATMENT (SEE PLANTING SPECIFICATIONS); TREAT ALL DISEASED TREES AND SHRUBS MECHANICALLY OR BY HAND DEPENDING ON THE INSECT OR DISEASE INFESTATION. IF DRAWDOWN EXCEEDS THE DRAWDOWN TIME ACCORDING TO SECTION 1.6.3.C.1, LIGHTLY SCARIFY SOIL WITH HAND CULTIVATOR; IF STANDING WATER REMAINS FOR GREATER THAN 96 HOURS, REMOVE TOP LAYER OF SEDIMENT, MULCH, AND POTENTIALLY VEGETATION; DE-COMPACT SOIL BY SCARIFICATION, AND REPLACE MULCH AND DISTURBED VEGETATION.
LATE WINTER: TRIM BUNCH GRASSES; MOW TURF GRASSES; HARVEST OTHER TYPES OF VEGETATION ACCORDING TO RECOMMENDATIONS IN THE PLANTING SPECIFICATIONS. ADHERE TO SECTION 1.6.2.F
SPRING: REMOVE PREVIOUS MULCH LAYER AND APPLY NEW MULCH LATER BY HAND (OPTION) ONCE EVERY TWO TO THREE YEARS.

R5

NEW SHEET

Biofiltration Bed Configurations Using Geomembrane Liner



NOTE:
1. THE TOPS OF ALL CLEANOUTS IN THE BIOFILTRATION POND SHALL BE FLUSH WITH THE TOP OF THE SAND BED (EXCEPT FOR ANY ALL-WEATHER ACCESSIBLE CLEANOUT)

D WATER QUALITY POND FILTER SECTION
NOT TO SCALE

SAND BED W/ GRAVEL LAYER:

THE TOP LAYER IS TO BE A MINIMUM OF EIGHTEEN (18) INCHES OF 0.02 - 0.04 INCH DIAMETER SAND WHICH CORRESPONDS WITH ASTM C-33 CONCRETE SAND (SMALLER SAND SIZE IS NOT ACCEPTABLE). UNDER THE BIOFILTRATION MEDIUM SHALL BE A LAYER OF ONE-HALF (0.5) TO ONE AND ONE-HALF (1.5) INCH DIAMETER WASHED, ROUNDED, RIVER GRAVEL WHICH PROVIDES A MINIMUM OF THREE (3) INCHES OF COVER OVER THE TOP OF THE UNDER-DRAIN LATERAL PIPES. THE SAND AND GRAVEL MUST BE SEPARATED BY A LAYER OF GEOTEXTILE FABRIC MEETING THE SPECIFICATIONS LISTED BELOW.

UNDERDRAIN PIPING:

THE UNDERDRAIN PIPING CONSISTS OF THE MAIN COLLECTOR PIPE(S) AND PERFORATED LATERAL BRANCH PIPES. THE PIPING SHOULD BE REINFORCED TO WITHSTAND THE WEIGHT OF THE OVERBURDEN. INTERNAL DIAMETERS OF LATERAL BRANCH PIPES SHOULD BE SIX (6) INCHES OR GREATER AND PERFORATIONS SHOULD BE THREE-EIGHTHS (3/8) INCH. ALL PIPING IS TO BE SCHEDULE 40 POLYVINYL CHLORIDE (PVC) OR GREATER STRENGTH. THE MAXIMUM SPACING FOR THE LATERALS SHOULD BE TEN (10) FEET BETWEEN LATERALS AND FIVE (5) FEET FROM A WALL OR SIDE. LESSER SPACES ARE ACCEPTABLE. THE MAXIMUM SPACING BETWEEN ROWS OF PERFORATIONS SHOULD NOT EXCEED SIX (6) INCHES.

THE MINIMUM GRADE OF PIPING SHALL BE ONE-EIGHTS (1/8) INCH PER FOOT (ONE (1) PERCENT SLOPE). ACCESS FOR CLEANING ALL UNDERDRAIN PIPING IS NEEDED. CLEANOUTS ARE REQUIRED WITHIN FIFTY (50) FEET OF EVERY PORTION OF LATERAL AND COLLECTOR DRAIN LINES AND AT EVERY BEND. IN ADDITION, AT LEAST ONE LATERAL MUST BE ACCESSIBLE FOR CLEANING WHEN THE POND IS FULL.

GEOTEXTILE FABRIC SPECIFICATIONS:

TABLE 2: HIGH FLOW FILTER FABRIC REQUIREMENTS

Property	Test Method	Requirements
Fabric Weight	>D 3776	3.0 ounces/square yard minimum
Ultraviolet (UV) Radiation Stability	D 4355	70% strength retained minimum, After 500 hours in xenon arc device
Mullen Burst Strength	D 3786	120 pound per square inch minimum
Water Flow Rate	D 4491	275 gallons/minute/square feet minimum

					Specific Gravity				2.4				COA Standard 508S-19	
Culvert, Pond, Pipe ID	Q^{100}	D (pipe diameter/Outlet Width)	# Openings	Q^{100}/opening	V^{100}	D^{50}	D^{50}	W^{50}	20^{50} (Thickness)	$3D^{50}$ (Tier)	Wa=6D (Width)	La = 100$_{(Length)}$	Notes
-	ft³/s	ft	-	ft³/s per openings	ft/s	ft	in	lbs	ft	ft	ft	ft	
R1 Curb Cut	4.0	0.5	1.0	4.0	1.60	0.0	0.3	9.5	0.1	0.1	2.5	5.0	See Sheet C6.00 for dimensions of rock riprap
R2 Curb Cut Into WQ	0.3	0.5	1.0	0.3	0.12	0.0	0.0	0.0	0.0	0.0	2.5	5.0	See Sheet C6.00 for dimensions of rock riprap
RG Weir	0.3	0.5	1.0	0.3	0.12	0.0	0.0	0.0	0.0	0.0	2.5	5.0	See Sheet C6.00 for dimensions of rock riprap

E RIPRAP SIZING TABLE
NOT TO SCALE

REV. NO.	BY	DATE	REVISION DESCRIPTION

STATE OF TEXAS
MICHAEL C. MULLONE
127850
LICENSED PROFESSIONAL ENGINEER
Mike Mullone
12/16/2021

DUNAWAY LAND
TX Registered Engineering Firm #F-1114
TBPLS Firm No. 10065900
5707 Southwest Parkway
Building 2, Suite 250
Austin, TX 78735
Phone: 512-306-8252

VIOLET CROWN TRAILHEAD
WILLIAM BARTON DR.
AUSTIN TX 78746

RAIN GARDEN DETAILS

SITE PLAN APPROVAL — SHEET 229 OF 239
FILE NUMBER: _____ APPLICATION DATE: _____
APPROVED BY COMMISSION ON: _____ UNDER SECTION 112 OF
CHAPTER 25-5 OF THE CITY OF AUSTIN CODE.
EXPIRATION DATE (25-5-81, LDC) _____ CASE MANAGER: _____
PROJECT EXPIRATION DATE (OED #970905-A) N/A DWPZ ____ DDZ ____

Director, Development Services Department
RELEASED FOR GENERAL COMPLIANCE: _____ ZONING: _____
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.

C6.10

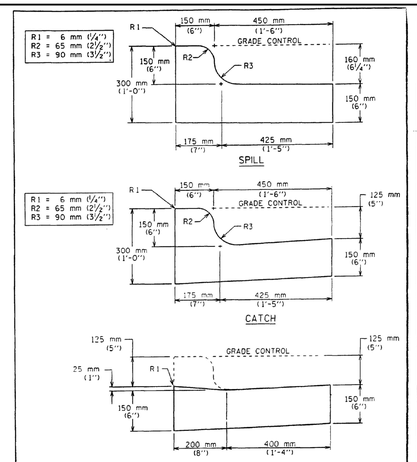
JOB NO. B005344.001

SPC-2012-0104D(R5)

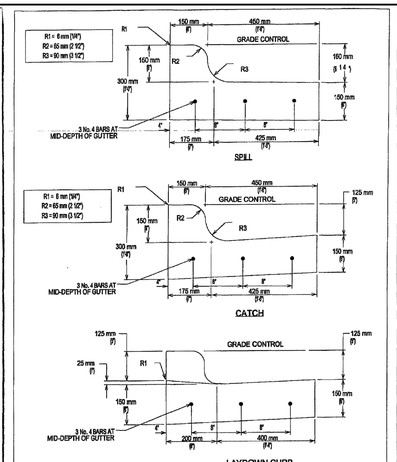
SHEET NUMBER 229 OF 239

12/16/2021

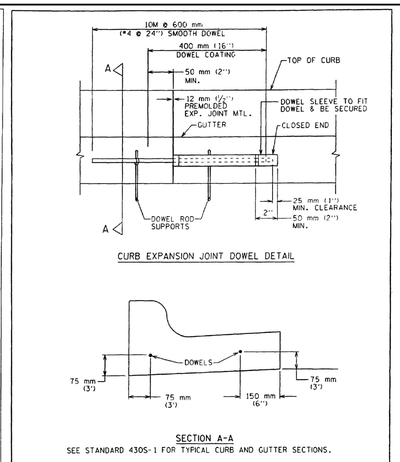
G:\Production\4000\005300\5344\00\Civil\CAD\(Plans) Site Plan\Sheets\VCT-S-RG DTL.dgn



CITY OF AUSTIN DEPARTMENT OF PUBLIC WORKS AND TRANSPORTATION	CURB AND GUTTER SECTION	
Luis Rivera 9/29/99 ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 430S-1

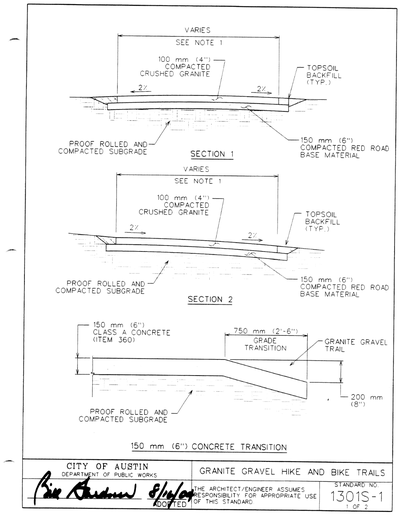


CITY OF AUSTIN DEPARTMENT OF PUBLIC WORKS	REINFORCED CURB AND GUTTER SECTION	
1/4/10 ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 430S-2



SEE STANDARD 430S-1 FOR TYPICAL CURB AND GUTTER SECTIONS.

CITY OF AUSTIN DEPARTMENT OF PUBLIC WORKS AND TRANSPORTATION	CURB EXPANSION JOINT DOWEL DETAIL	
Luis Rivera 9/29/99 ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 430S-3

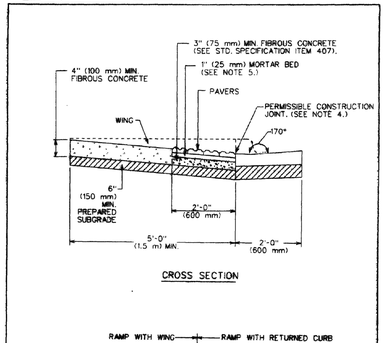


CITY OF AUSTIN DEPARTMENT OF PUBLIC WORKS	GRANITE GRAVEL HIKE AND BIKE TRAILS	
Bill Gardner 8/16/06 ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 1301S-1 1 OF 2

NOTES:
1. ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH ENGINEERING DRAWINGS.
2. EXISTING TREES, PROPERTY AND PUBLIC RIGHT-OF WAYS SHALL BE PROTECTED FROM DAMAGE BY TRUCKS AND/OR EQUIPMENT.
3. THE GRANITE GRAVEL WEARING COURSE SHALL BE 100 mm (4") COMPACTED.
4. THE WEARING MATERIAL SHALL BE COMPRISED OF UNWASHED GRANITE AGGREGATE AND RED CLAY FINES THAT CONFORM TO STANDARD SPECIFICATION ITEM SECTIO 1301S.3, "MATERIAL".
5. UPON COMPLETION OF TRAIL CONSTRUCTION, ALL GRANITE GRAVEL SHALL BE REMOVED FROM ADJOINING HARD SURFACES (I.E. RETAINING CURB/WALL, SIDEWALKS, RUBBER SAFETY SURFACES, PLAYSCAPE DECKS OR RAMPS).
6. ALL ADJACENT HARD SURFACES, SUCH AS CURBS OR WALKS, SHALL BE INSTALLED PRIOR TO INSTALLATION OF GRANITE GRAVEL.

CITY OF AUSTIN APPROVED Date 01/09/2022 FOUNDED 1839

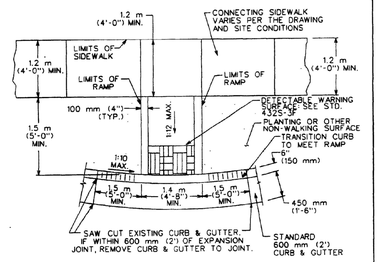
CITY OF AUSTIN DEPARTMENT OF PUBLIC WORKS	GRANITE GRAVEL HILE AND BIKE TRAILS	
Bill Gardner 8/16/06 ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 1301S-1 2 OF 2



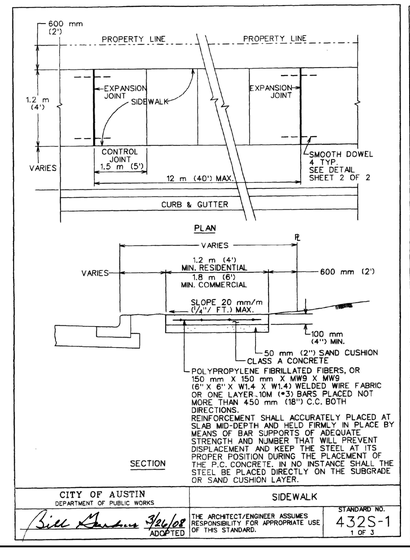
CITY OF AUSTIN DEPARTMENT OF PUBLIC WORKS	DETECTABLE WARNING-PAVER (CITY PROPERTY/EASEMENTS)	
Bill Gardner 6/21/07 ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 432S-2A 1 OF 2

GENERAL NOTES:
1. THIS STANDARD IS APPLICABLE FOR RAMP CONSTRUCTION ON CITY PROPERTY AND EASEMENT AREAS ONLY.
2. PAVERS ARE REQUIRED FOR ALL CURB RAMP INSTALLATIONS.
3. PAVERS WILL HAVE DETECTABLE WARNING THAT CONSISTS OF RAISED TRUNCATED DOMES WITH A DIAMETER OF 0.9" (23 mm), A NOMINAL HEIGHT OF 0.2" (5 mm) AND A NOMINAL CENTER TO CENTER SPACING OF 2.35" (60 mm) AND SHALL CONSTRAST VISUALLY WITH ADJOINING SURFACES, EITHER LIGHT-ON-DARK OR DARK-ON-LIGHT (Re: ADAAG SECTION 4.29.2). MATERIAL USED TO PROVIDE CONTRAST SHALL BE AN INTEGRAL PART OF THE WALKING SURFACE. PAVER PATTERN SHALL BE BASKET WEAVE UNLESS DIRECTED OTHERWISE BY THE ENGINEER OR DESIGNATED REPRESENTATIVE.
4. TYPICAL SIDEWALK WIDTHS AND CURB RADII ARE SHOWN FOR ILLUSTRATION ONLY. REFER TO THE TRANSPORTATION CRITERIA MANUAL FOR SIDEWALK WIDTHS, CURB RADII AND CURB BASIS.
5. THE PERMISSIBLE CONSTRUCTION JOINT BETWEEN THE PAVERS AND THE ADJOINING SURFACE SHALL BE LIMITED TO 1/4" (6 mm) JOINT SIZE. GAPS LARGER THAN 1/4" (6 mm) MUST BE APPROVED BY THE ENGINEER OR DESIGNATED REPRESENTATIVE. ALL JOINTS BETWEEN BRICKS AND ADJOINING SURFACE SHALL BE MORTAR FILLED UNLESS DIRECTED OTHERWISE BY THE ENGINEER OR DESIGNATED REPRESENTATIVE.
6. MORTAR SHALL CONFORM TO STD. SPECIFICATION ITEM SECTION 403S.3.5. MORTAR AND GROUT. ALL OTHER CONCRETE SHALL CONFORM TO STD. SPECIFICATION ITEM 403S. CONCRETE FOR STRUCTURES, UNLESS OTHERWISE NOTED.
7. CURB RAMPS WITH RETURNED CURB MAY ONLY BE USED WHERE PEDESTRIANS WOULD NOT NORMALLY WALK DIAGONALLY ACROSS THE RAMP.

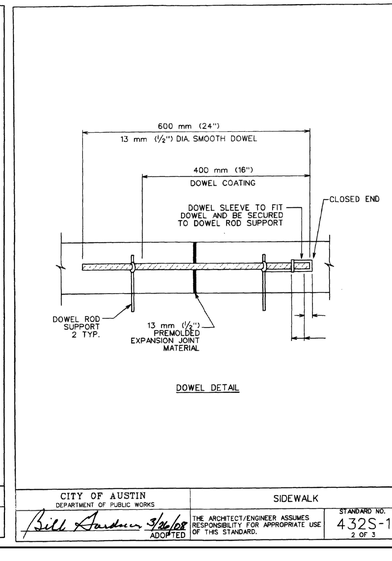
CITY OF AUSTIN DEPARTMENT OF PUBLIC WORKS	DETECTABLE WARNING-PAVER (CITY PROPERTY/EASEMENTS)	
Bill Gardner 6/21/07 ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 432S-2A 2 OF 2



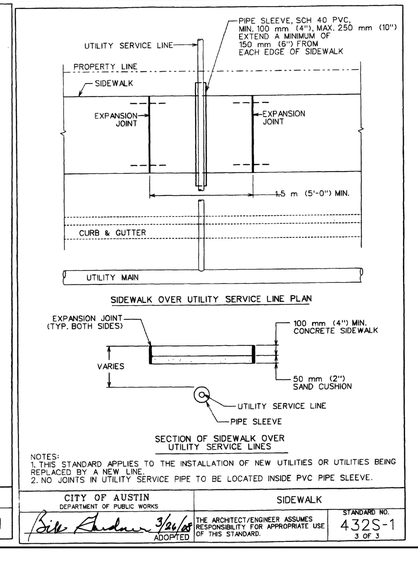
CITY OF AUSTIN DEPARTMENT OF PUBLIC WORKS	TYPE 1B SIDEWALK CURB RAMP	
Bill Gardner 3/24/05 ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 432S-5B



CITY OF AUSTIN DEPARTMENT OF PUBLIC WORKS	SIDEWALK	
Bill Gardner 3/24/05 ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 432S-1 1 OF 3



CITY OF AUSTIN DEPARTMENT OF PUBLIC WORKS	SIDEWALK	
Bill Gardner 3/24/05 ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 432S-1 2 OF 3



NOTES:
1. THIS STANDARD APPLIES TO THE INSTALLATION OF NEW UTILITIES OR UTILITIES BEING REPLACED BY A NEW LINE.
2. NO JOINTS IN UTILITY SERVICE PIPE TO BE LOCATED INSIDE PVC PIPE SLEEVE.

CITY OF AUSTIN DEPARTMENT OF PUBLIC WORKS	SIDEWALK	
Bill Gardner 3/24/05 ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 432S-1 3 OF 3

ACCESSIBILITY SITE NOTES

SITE GRADING SHALL COMPLY WITH THE TEXAS ACCESSIBILITY STANDARDS EXISTING AT THE TIME OF PLAN APPROVAL. GRADING SHOWN ON THE PLANS IS INTENDED TO COMPLY WITH SUCH STANDARDS AND SHOULD THE CONTRACTOR DETERMINE THAT COMPLIANCE WITH THE STANDARDS IS NOT CONSISTENT WITH THE SITE PLAN OR ELEVATIONS, HE SHALL NOTIFY THE ENGINEER IMMEDIATELY FOR A REMEDY.

ACCESSIBLE ROUTES (SIDEWALKS, PATHS, ETC)

1. RUNNING SLOPES SHALL NOT EXCEED 1:20 (5%) OTHER THAN FOR RAMPS. SEE RAMP REQUIREMENTS BELOW.
2. CROSS SLOPE SHALL NOT EXCEED 1:50 (2%),
3. DELETED
4. CHANGES IN LEVEL SHALL NOT EXCEED 1/2 ". 1/2 " CHANGE IN LEVEL MUST HAVE A BEVELED EDGE OF 1:2. 1/4 " CHANGE IN LEVEL OR LESS DOES NOT HAVE TO PROVIDE A BEVELED EDGE.
5. MANEUVERING CLEARANCE (60") AT ACCESSIBLE ENTRANCES SHALL NOT EXCEED 1:50 (2% SLOPE).
6. A 60" X 60" PASSING SPACE SHALL BE PROVIDED EVERY 200' ALONG AN ACCESSIBLE ROUTE.

CURB RAMPS

1. SLOPE SHALL NOT EXCEED 1:12 (8.3%). FLARED SIDES SHALL NOT EXCEED 1:10. CROSS SLOPE SHALL TO EXCEED 1:50 (2%),
2. FULL WIDTH AND DEPTH OF CURB RAMP SURFACES SHALL PROVIDE A CONTRASTING LIGHT REFLECTIVE VALUE (COLOR) AND TEXTURE. TEXTURE MAY CONSIST OF TRUNCATED DOMES OR 3/4 " WIDE GROOVES. 1/4 " DEEP AND 2" APART. COLOR SHALL CONTRAST AT LEAST 70% FROM ADJACENT SURFACES.
3. MINIMUM RAMP WIDTH SHALL BE 36".
4. WHERE AN ACCESSIBLE ROUTE CROSSES A CURB RAMP, IT SHALL CIRCUMVENT THE CURB RAMP SO AS TO NOT REQUIRE THE USER TO CROSS OVER THE CURB RAMP.
5. CURB RAMPS ARE NOT PERMITTED TO PROJECT INTO THE ACCESSIBLE PARKING ACCESS AISLES.
6. TRANSITIONS FROM GUTTER OR STREET TO CURB RAMPS SHALL BE FLUSH.

OTHER RAMPS

1. MAXIMUM SLOPE SHALL BE 1:12 (8.3%),
2. RAMPS OVER 6' IN LENGTH REQUIRE HANDRAILS ON BOTH SIDES.
3. HANDRAIL HEIGHT SHALL BE 34" - 36" ABOVE RAMP SURFACE.
4. HANDRAIL DIAMETER - 1.25" TO 1.5",
5. EDGE PROTECTION IS REQUIRED WHERE DROP OFFS OCCUR.
6. 12 "MINIMUM HANDRAIL EXTENSIONS ARE REQUIRED AT LANDINGS, EXCEPT WHERE HANDRAILS ARE CONTINUOUS. HANDRAIL EXTENSIONS SHALL EXTEND IN THE SAME DIRECTION AS THE RAMP.
7. MAXIMUM RUN BETWEEN LANDINGS SHALL BE 30',
8. 60" LEVEL (2% MAX. SLOPE) LANDINGS REQUIRED AT TOP AND BOTTOM OF EACH RUN. A 60" X 60" LANDING REQUIRED WHERE A RAMP CHANGES DIRECTION.

PAVERS

1. JOINTS BETWEEN PAVERS 1/2" MAXIMUM
2. VERTICAL DIFFERENCES BETWEEN PAVERS 1/4" MAXIMUM
3. RUNNING SLOPE (IN DIRECTION OF TRAVEL) 1:20 (5%) MAXIMUM
4. CROSS SLOPE (PERPENDICULAR TO THE DIRECTION OF TRAVEL) 1/4" PER FOOT (2%) MAXIMUM

A CURB & GUTTER AT SAWCUT
NOT TO SCALE

R5

NEW SHEET

REVISION DESCRIPTION | DATE | BY | REV. NO.

STATE OF TEXAS
MICHAEL C. MULLONE
127850
LICENSED
PROFESSIONAL ENGINEER
Mike Mullone
12/16/2021

VIOLET CROWN TRAILHEAD
WILLIAM BARTON DR.
AUSTIN TX 78746

DETAILS

DUNAWAY LUCE
TX Registered Engineering Firm #F-1114
TBPLS Firm No. 100065900
5707 Southwest Parkway
Building 2, Suite 250
Austin, TX 78735
Phone: 512-306-8252

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12/16/2021

SITE PLAN APPROVAL SHEET 230 OF 239
FILE NUMBER: _____ APPLICATION DATE: _____
APPROVED BY COMMISSION ON: _____ UNDER SECTION 112 OF
CHAPTER 25-5 OF THE CITY OF AUSTIN CODE.
EXPIRATION DATE (25-5-81, LDC) _____ CASE MANAGER: _____
PROJECT EXPIRATION DATE (OED #970905-A) N/A DWPZ _____ DDZ _____
Director, Development Services Department
RELEASED FOR GENERAL COMPLIANCE: _____ ZONING: _____
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.

C7.00

JOB NO. B005344.001

SPC-2012-0104D(R5)

SHEET NUMBER 230 OF 239

PROPOSED SHADE TREE LEGEND

SYMBOL	TOTAL TREES	MITIGATION (R)	SPECIES
◓	3	3	CHINQUAPIN OAK *Quercus muehlenbergii* *4" CALIPER*
●	5	5	LIVE OAK *Quercus virginiana* *4" CALIPER*
□	7	6	CEDAR ELM *Ulmus crassifolia* *4" CALIPER*
	15	14	SUBTOTAL (SHADE TREES)

PROPOSED ORNAMENTAL TREE LEGEND

SYMBOL	TOTAL TREES	MITIGATION (R)	SPECIES
△	5	3	TEXAS REDBUD (2" CAL) *Cercis canadensis var. texensis*
✤	3	2	TEXAS PERSIMMON (2" CAL) *Diospyros texana*
✲	3	0	THORNLESS PALO VERDE (2" CAL) *Parkinsonia 'Desert Museum'*
●	2	1	TEXAS MOUNTAIN LAUREL (2" CAL) *Sophora secundiflora*
⊕	2	1	MEXICAN BUCKEYE (2" CAL) *Ungnadia speciosa*
	15	7	SUBTOTAL (ORN. TREES)

GRAND TOTAL (ALL TREES): 15 + 15 = 30 TOTAL TREES
REFERENCE L-2 FOR LANDSCAPE CALCULATIONS AND BREAKDOWN OF QUANTITY OF INCHES PROVIDED TOWARDS MITIGATION.

811 Know what's below. Call before you dig.

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 MIGHT BE OCCASIONED BY HIS FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.

FOR CITY USE ONLY:

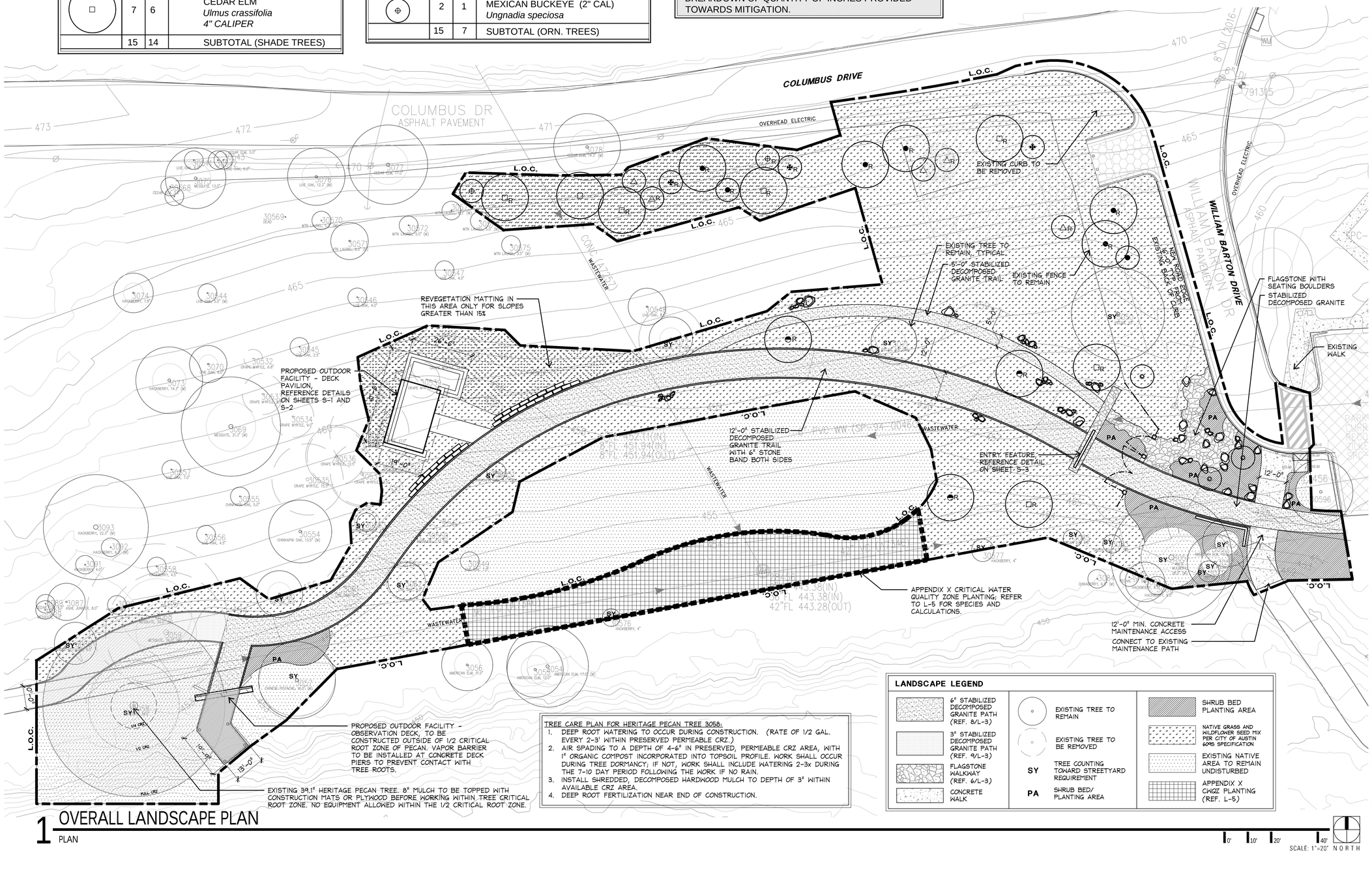
NOTE:
IF ESTABLISHING VEGETATION DURING ANY STAGE OF A DROUGHT, SECTION 6-4-30 MAY REQUIRE A VARIANCE. CONTACT AUSTIN WATER CONSERVATION STAFF AT WATERUSECOMPVAR@AUSTINTEXAS.GOV OR CALL (512) 974-2199.

NOTE:
ALL PROPOSED TREES TO BE LOCATED A MINIMUM OF 10'-0" OFFSET AWAY FROM EXISTING WASTEWATER LINES.

SITE PLAN APPROVAL Sheet ___ of ___
FILE NUMBER: _____ **APPLICATION DATE:** _____
APPROVED BY COMMISSION ON: _____ **UNDER SECTION** _____ **OF CHAPTER** _____ **OF THE CITY OF AUSTIN CODE.**
EXPIRATION DATE (25-5-81,LDC) _____ **CASE MANAGER** _____
PROJECT EXPIRATION DATE (ORD.#970905-A) _____ **DWPZ** ____ **DDZ** ____

Director, Development Services Department
RELEASED FOR GENERAL COMPLIANCE: _____ **ZONING:** _____
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.



TREE CARE PLAN FOR HERITAGE PECAN TREE 3056:
1. DEEP ROOT WATERING TO OCCUR DURING CONSTRUCTION. (RATE OF 1/2 GAL. EVERY 2-3' WITHIN PRESERVED PERMEABLE CRZ.)
2. AIR SPADING TO A DEPTH OF 4-6" IN PRESERVED, PERMEABLE CRZ AREA, WITH 1" ORGANIC COMPOST INCORPORATED INTO TOPSOIL PROFILE. WORK SHALL OCCUR DURING TREE DORMANCY; IF NOT, WORK SHALL INCLUDE WATERING 2-3x DURING THE 7-10 DAY PERIOD FOLLOWING THE WORK IF NO RAIN.
3. INSTALL SHREDDED, DECOMPOSED HARDWOOD MULCH TO DEPTH OF 3" WITHIN AVAILABLE CRZ AREA.
4. DEEP ROOT FERTILIZATION NEAR END OF CONSTRUCTION.

LANDSCAPE LEGEND

- 6" STABILIZED DECOMPOSED GRANITE PATH (REF. 8/L-3)
- 3" STABILIZED DECOMPOSED GRANITE PATH (REF. 9/L-3)
- FLAGSTONE WALKWAY (REF. 6/L-3)
- CONCRETE WALK
- EXISTING TREE TO REMAIN
- EXISTING TREE TO BE REMOVED
- SY — TREE COUNTING TOWARD STREETYARD REQUIREMENT
- PA — SHRUB BED/ PLANTING AREA
- SHRUB BED PLANTING AREA
- NATIVE GRASS AND WILDFLOWER SEED MIX PER CITY OF AUSTIN 609S SPECIFICATION
- EXISTING NATIVE AREA TO REMAIN UNDISTURBED
- APPENDIX X CWQZ PLANTING (REF. L-5)

1 OVERALL LANDSCAPE PLAN
PLAN

SCALE: 1"=20' NORTH

Z:\TBG\Violet Crown Trail (A16512)\02 Permit\Sheets\A16512-L-1-permit.dwg

CITY OF AUSTIN APPROVED Date 01/06/2022 FOUNDED 1839

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TEXAS REGISTERED LANDSCAPE ARCHITECT JILLIOTT DOWELL 2565 STATE OF TEXAS
12/02/21

project
violet crown trail

zilker trailhead

Austin, Texas

project number **A16512**

issue date **12/02/21**

designed: JL, AS
drawn: CC
reviewed: JL

REVIEWED
December 28, 2021
Austin Water
Jaron Hogenson

sheet title
landscape plan

sheet
L-1
SHEET 231 OF 239

SPC-2012-0104D(R5)

TREE SYMBOL LEGEND:	
7584	EXISTING TREE TO REMAIN
	HALF CRITICAL ROOT ZONE (CRZ) FOR EXISTING TREE OVER 19" TO REMAIN
7584	EXISTING TREE TO BE REMOVED
R	REPLACEMENT/MITIGATION TREE

811 Know what's below. Call before you dig.

FOR CITY USE ONLY:

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 MIGHT BE OCCASIONED BY HIS FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.

SITE PLAN APPROVAL Sheet ___ of ___
FILE NUMBER: ______ APPLICATION DATE: ______
APPROVED BY COMMISSION ON: ______ UNDER SECTION ______ OF
CHAPTER ______ OF THE CITY OF AUSTIN CODE.
EXPIRATION DATE (25-5-81,LDC) ______ CASE MANAGER ______
PROJECT EXPIRATION DATE (ORD.#970905-A) ______ DWPZ ____ DDZ ____

Director, Development Services Department
RELEASED FOR GENERAL COMPLIANCE: ______ ZONING: ______
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.

CITY OF AUSTIN LANDSCAPE NOTES:

1. ALL PROPOSED LANDSCAPE AREAS WITHIN PROPERTY LINE TO RECEIVE 100% HEAD TO HEAD IRRIGATION COVERAGE.
2. ALL LANDSCAPE AREAS ADJACENT TO VEHICULAR USE SHALL BE PROTECTED BY MIN. 6" Ht. WHEEL CURBS, WHEELSTOPS OR OTHER APPROVED BARRIERS PER ECM 2.4.7.
3. THE OWNER SHALL CONTINUOUSLY MAINTAIN THE REQUIRED LANDSCAPING IN ACCORDANCE WITH THE LDC SECTION 25-2-984
4. AN UNDERGROUND AUTOMATIC IRRIGATION SYSTEM WILL BE USED TO IRRIGATE ALL NEW LANDSCAPE MATERIAL WITH TURF ZONES SEPARATED FROM PLANTING ZONES. AUTOMATIC IRRIGATION SYSTEMS SHALL COMPLY WITH THE WATER CONSERVATION IRRIGATION SYSTEM REQUIREMENTS, AS REQUIRED IN THE **ENVIRONMENTAL CRITERIA MANUAL.** *
5. THE IRRIGATION SYSTEM SHALL BE IN PLACE AND FUNCTIONAL AT THE TIME OF THE LANDSCAPE INSPECTION.
6. REFERENCE TREE STAKING DETAIL FOR ALL NEW TREES.
7. A MINIMUM OF 6" OF PERMEABLE SOIL IS REQUIRED FOR TURF AND LANDSCAPE AREAS.
8. IRRIGATION LINES SHOULD BE TRENCHED SO THAT THERE IS NO DISTURBANCE TO THE CRITICAL ROOT ZONE OF EXIST. TREES.
9. PROOF OF PAYMENT OF THE LANDSCAPE INSPECTION FEE IN THE AMOUNT REQUIRED BY C.O.A. WILL BE REQUIRED PRIOR TO FINAL APPROVAL OF THIS SITE PLAN BY ECSD.

CITY OF AUSTIN LANDSCAPE/IRRIGATION NOTES - APPENDIX 0

AUTOMATIC IRRIGATION SYSTEMS SHALL COMPLY WITH TCEQ CHAPTER 344, AS WELL AS THE FOLLOWING REQUIREMENTS:

1. A NEW COMMERCIAL AND MULTI-FAMILY IRRIGATION SYSTEM MUST BE DESIGNED AND INSTALLED SO THAT:

(A) THE SYSTEM MUST PROVIDE A MOISTURE LEVEL ADEQUATE TO SUSTAIN GROWTH OF THE PLANT MATERIALS;

(B) THE SYSTEM DOES NOT INCLUDE SPRAY IRRIGATION ON AREAS LESS THAN TEN (10) FEET WIDE (SUCH AS MEDIANS, BUFFER STRIPS, AND PARKING LOT ISLANDS);

(C) CIRCUIT REMOTE CONTROL VALVES HAVE ADJUSTABLE FLOW CONTROLS;

(D) SERVICEABLE IN-HEAD CHECK VALVES AREA ADJACENT TO PAVED AREAS WHERE ELEVATION DIFFERENCES MAY CAUSE LOW HEAD DRAINAGE;

(E) A MASTER VALVE INSTALLED ON THE DISCHARGE SIDE OF THE BACKFLOW PREVENTER;

(F) ABOVE-GROUND IRRIGATION EMISSION DEVICES ARE SET BACK AT LEAST SIX (6) INCHES FROM IMPERVIOUS SURFACES

(G) AN AUTOMATIC RAIN SHUT-OFF DEVICE SHUTS OFF THE IRRIGATION SYSTEM AUTOMATICALLY AFTER NOT MORE THAN A ONE-HALF INCH (1/2") RAINFALL;

(H) NEWLY PLANTED TREES SHALL HAVE PERMANENT IRRIGATION CONSISTING OF DRIP BUBBLERS.

2. THE IRRIGATION INSTALLER SHALL DEVELOP AND PROVIDE AN AS-BUILT DESIGN PLAN TO THE CITY AT THE TIME THE FINAL IRRIGATION INSPECTION IS PERFORMED;

(A) UNLESS FISCAL SECURITY IS PROVIDED TO THE CITY FOR THE INSTALLATION OF THE SYSTEM, IT MUST BE OPERATIONAL AT THE TIME OF THE FINAL LANDSCAPE INSPECTION.

3. THE IRRIGATION INSTALLER SHALL ALSO PROVIDE EXHIBITS TO BE PERMANENTLY INSTALLED INSIDE OR ATTACHED TO THE IRRIGATION CONTROLLER, INCLUDING:

(A) A LAMINATED COPY OF THE WATER BUDGET CONTAINING ZONE NUMBERS, PRECIPITATION RATE, GALLONS PER MINUTE AND THE LOCATION OF THE ISOLATION VALVE, AND AN AS BUILT PLAN.

4. THE IRRIGATION INSTALLER SHALL PROVIDE A REPORT TO THE CITY ON A FORM PROVIDED BY AUSTIN WATER CERTIFYING COMPLIANCE WITH SUBSECTION 1 WHEN THE FINAL PLUMBING INSPECTION IS PERFORMED BY THE CITY.

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Violet Crown Trail

Austin, Travis County, Texas
Job Number: A16512

TREE LIST / MITIGATION CALCULATIONS

Trees Removed (Heritage Trees; ECM 3.5.1 (A)(2) - Tree Type Categories) | Trees Preserved (Heritage Trees; ECM 3.5.1 (A)(2) - Tree Type Categories)

HERITAGE	MULTI-TRUNK	TAG#	SPECIES	CAL 1	CAL 2	CAL 3	CAL 4	CAL 5	CAL 6	CAL 7	CAL 8	(=)	Removed HERITAGE 30"+	Removed HERITAGE 24"+	Removed APDX-F 19" & UP	Removed APDX-F 8"-18.9"	Removed NON-APDX-F 19" & UP	Removed NON APPDX-F 8"-18.9"	Removed APDX-F <8"	Removed NON APPDX-F <8"	Removed INVASIVE	Preserved HERITAGE 30"+	Preserved HERITAGE 24"+	Preserved APDX-F 19" & UP	Preserved APDX-F 8"-18.9"	Preserved NON-APDX-F 19" & UP	Preserved NON APPDX-F 8"-18.9"	Preserved APDX-F <8"	Preserved NON APPDX-F <8"	Preserved INVASIVE
P		3050	Pecan	20								20												20						
P	M	3051	White Mulberry	20	12							26												26						
		3052	Pecan	12								12													12					
		3053	American Elm	10.5								10.5													10.5					
	M	3057	Chinese Pistache	8	4	3.5	3.5	3.5	2.5			16.5															16.5			
H		3058	Pecan	39								39										39								
P	M	3059	Mesquite	15	9	6	7					26			26															
		3060	Live Oak	10								10													10					
		3061	Live Oak	8.5								8.5				8.5														
		3062	Live Oak	8								8													8					
P	M	3068	Mesquite	19	10	7	5					30			30															
	M	3071	Pecan	8.5	2.5							9.75													9.75					
	M	3072	Mesquite	5	4.5	4						9.25													9.25					
		3079	Pecan	4.5								4.5																4.5		
	M	3083	Green Ash	4.5	3.5							6.25																6.25		
		3085	American Elm	4.5								4.5																4.5		
		3086	Chinese Pistache	9								9														9				
		30538	Crape Myrtle	17								17						17												
		30539	Crape Myrtle	7.8								7.8								7.8										
		30540	Crape Myrtle	14.8								14.8						14.8												
		30550	Mesquite	1	0.5	0.5	0.5	0.5	0.5	0.5		2.5							2.5											
		30551	Chinkapin Oak	4	3.5							5.75																5.75		
		30552	Chinkapin Oak	6.5								6.5							6.5											
		30553	Chinkapin Oak	6								6																6		
		30576	Hackberry	4								4																4		
		30577	Hackberry	4								4																4		
H	M	30590	Live Oak	25.5	18							34.5										34.5								
H		30591	Live Oak	28								28										28								
P		30592	Live Oak	21.2								21.2												21.2						
		30593	Live Oak	18.1								18.1																		
P		30594	Live Oak	22.4								22.4												22.4						
	M	30595	Yaupon Holly	4	3	2						6.5							6.5											
		30596	Pecan	13.8																					13.8					
			Total cal. inch removed per category:										0	0	56	8.5	0	31.8	15.5	7.8	0	101.5	0	89.6	73.3	9	16.5	35	0	0
			Grand Total Cal. Inch Removed:										119.6									324.9								
			COA Minimum Replacement replace @ %										300%	300%	100%	50%	50%	25%	0%	0%	0%									
			Subtotal Replacement Inches:										0.0	0.0	56.0	4.3	0.0	8.0	0.0	0.0	0.0									
			Total Replacement: (cal. Inches)										68																	

Tree REMOVAL Accounting Summary			Tree PRESERVATION Accounting Summary
Total Caliper Inches Surveyed	449	449	Total Caliper Inches Surveyed
Total heritage cal. inches 30"+ removed	0	101.5	Total heritage cal. inches 30"+ preserved
Total heritage cal. inches 24"+ removed	0	0	Total heritage cal. inches 24"+ preserved
Total cal. inches removed, Appendix F, 19" & up	56	89.6	Total cal. Inches preserved, Appendix F, 19" & up
Total cal. inches removed, Appendix F, 8"-18.9"	8.5	73.3	Total cal. Inches preserved, Appendix F, 8"-18.9"
Total cal. inches removed, NON-Appendix F, 19" & up	0	9	Total cal. Inches preserved, NON-Appendix F, 19" & up
Total cal. inches removed, NON-Appendix F, 8"-18.9"	31.8	16.5	Total cal. Inches preserved, NON-Appendix F, 8"-18.9"
Total cal. inches removed, Appendix F, <8"	15.5	35	Total cal. Inches preserved, Appendix F, <8"
Total cal. inches removed, NON-Appendix F, <8"	7.8	0	Total cal. Inches preserved, NON-Appendix F, <8"
Total cal. inches removed, Invasives	0	0	Total cal. Inches preserved, Invasives
Total cal Inches removed:	**120**	**324.9**	**Total cal Inches PRESERVED**

Total replacement cal. inches required: 68.2

	URBAN FOREST SUMMARY SURVEYED	
1	Total Appendix F tree inches surveyed:	379.4
2	Heritage tree inches surveyed	101.5
3	Non-Appendix F tree inches surveyed	65.1
4	Invasive tree inches surveyed	0.0

	URBAN FOREST SUMMARY REMOVED	
1	Total Appendix F tree inches removed:	80.0
2	Heritage tree inches removed	0.0
3	Total Non-Appendix F tree inches removed	39.6
4	Invasive tree inches removed	0.0
5	Total dead, diseased, or Imminent Hazard (DDI) inches removed	0.0
6	DDI Appendix F inches removed	0.0
7	DDI Heritage tree inches removed	0.0
8	DDI Non-Appendix F inches removed	0.0
8	DDI invasive inches removed	0.0

	URBAN FOREST SUMMARY MITIGATION	
1	Total mitigation replacement inches planted	68.2
2	Total replacement inches planted on site	68.2
3	Total replacement ROW inches planted	0.0
4	Private inches owed to (UFRF)	0.0
5	Public inches owed to (UFRF) Urban Forest Replenishment Fund	0.0
6	Total non-mitigation inches planted on site	17.5

Violet Crown Trail

Austin, Travis County, Texas
Job Number: A16512

LANDSCAPE CALCULATIONS

STREETYARD	REQUIRED		PROVIDED	
TOTAL SITE AREA			62,735	
TOTAL STREET YARD AREA			62,735	
STREET YARD LANDSCAPE (20%)	12547		54,436	87%
TREES (COMBINED STREET YARDS A & B)	31		31	
EXISTING TREES CREDIT				
2" DIA. - 8" DIA.	5	x 1	5	
6" DIA. OR GREATER	26	x 2	13	
PROPOSED TREES	0	x 1	0	
		Significant Shade %:		100%

**No existing trees located on site to be mitigated.	REQUIRED		PROVIDED	
REPLACEMENT TREES *(ALL NUMBERS REPRESENT QTY OF INCHES)*	68.20		70.00	
TOTAL TO BE MITIGATED:				
HERITAGE TREES, 30"+	0	(at 300%) = 0		
HERITAGE TREES, 24"+	0	(at 300%) = 0		
19" AND GREATER, APDX-F TREES	56	(at 100%) = 56		
8" TO 18.9", APDX-F TREES	8.5	(at 50%) = 4.3		
19" AND GREATER, NON-APDX-F TREES	0	(at 50%) = 0		
8" TO 18.9", NON-APDX-F TREES	31.8	(at 25%) = 8		
<8" APDX-F	15.5	(at 0%) = 0		
<8" NON-APPDX-F	7.8	(at 0%) = 0		
INVASIVES	0	(at 0%) = 0		
TOTAL TO BE REPLACED:				
NUMBER AND SIZE OF REPLACEMENT TREE	0	TREES AT 6 CAL. =	0	
NUMBER AND SIZE OF REPLACEMENT TREE	14	TREES AT 4 CAL. =	56	
NUMBER AND SIZE OF REPLACEMENT TREE	0	TREES AT 3 CAL. =	0	
NUMBER AND SIZE OF REPLACEMENT TREE	7	TREES AT 2 CAL. =	14	
SIGNIFICANT SHADE TREES (75% OF TOTAL)	51		56	80%

ISLANDS, MEDIANS AND PENINSULAS	REQUIRED		PROVIDED
STREET YARD AREA	0 S.F.	>	0 S.F.
NON-STREET YARD AREA	0 S.F.	>	0 S.F.

BUFFERING POINTS	SIZE	QUANTITY		POINTS	PROVIDED
Parking Lot and Trash Screen Enclosure				REQUIRED 0.00 POINTS	PROVIDED (TOTAL) 0.00 POINTS
EXISTING TREES	6" OR GREATER	0	x	9 POINTS	0.00 POINTS
LARGE TREES - PREFERRED	3" CAL. MIN.	0	x	9 POINTS	0.00 POINTS
SMALL TREES-PREFERRED	2" CAL. MIN.	0	x	3 POINTS	0.00 POINTS
LARGE SHRUBS-PREFERRED	5 GAL. MIN.	0	x	3 POINTS	0.00 POINTS
MEDIUM SHRUBS-OTHER	5 GAL. MIN.	0	x	1 POINT	0.00 POINTS
SMALL SHRUBS-PREFERRED	5 GAL. MIN.	0	x	2 POINTS	0.00 POINTS
SMALL SHRUBS-PREFERRED	1 GAL. MIN.	0	x	1/2 POINT	0.00 POINTS
DECORATIVE WALL (3' MIN.)		0	x	3 PTS/FT.	0.00 POINTS
BERM (3' MIN. AT <4:1 SLOPE)		0	x	1 PTS/FT.	0.00 POINTS

INNOVATIVE WATER MANAGEMENT (ORDINANCE NO. 20101216-097)

REQUIRED LANDSCAPE AREA
(SY LANDSCAPE + NON-SY PARKING LANDSCAPE)
12547 (SY-A) = 12547 (STREETYARD LANDSCAPE TOTAL)
+ 0 (NON-STREETYARD PARKING TOTAL)
= 12547 (TOTAL REQUIRED LANDSCAPE AREA)

			REQUIRED		PROVIDED
50% OF REQUIRED LANDSCAPE AREA =	*0.50	=	6274 S.F.	>	12280 S.F.
LANDSCAPING RECEIVING STORMWATER RUNOFF				>	0 S.F.
UNDISTURBED NATURAL AREAS					12280
UNDISTURBED EXISTING TREES					0

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designed: JL, AS
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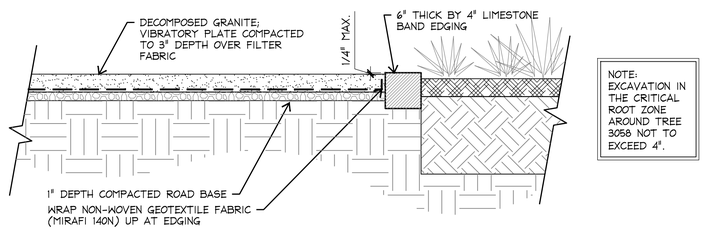
sheet title
tree mitigation and landscape calculations

sheet
L-2

SHEET 232 OF 239

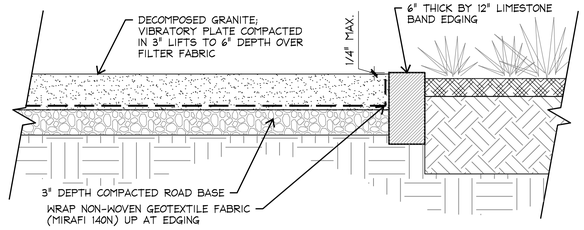
SPC-2012-0104D(R5)



NOTE: EXCAVATION IN THE CRITICAL ROOT ZONE AROUND TREE 3068 NOT TO EXCEED 4".

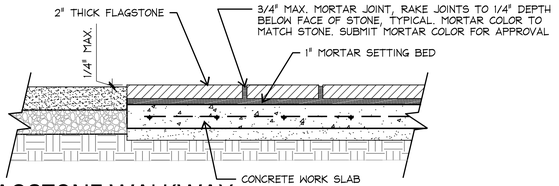
9 DECOMPOSED GRANITE TRAIL AT HERITAGE TREE

PLAN SCALE: 1"=1'-0"



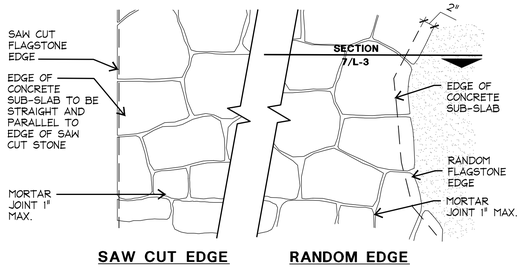
8 DECOMPOSED GRANITE TRAIL

PLAN SCALE: 1"=1'-0"



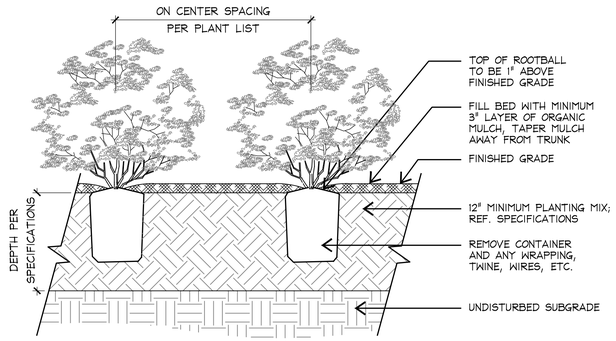
7 FLAGSTONE WALKWAY

SECTION SCALE: 1"=1'-0"



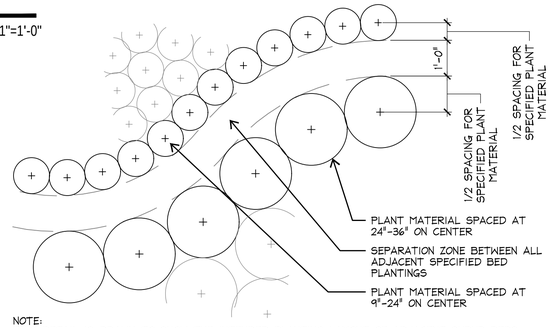
6 FLAGSTONE WALKWAY

PLAN SCALE: 1"=1'-0"



5 SHRUB BED PLANTING

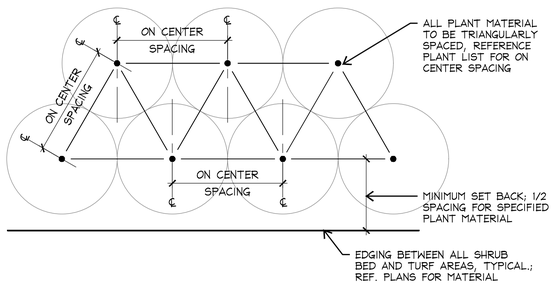
SECTION SCALE: 1/2"=1'-0"



NOTE:
THIS DETAIL IS DRAWN TO SHOW THE INTENDED PLANTING LAYOUT OF ADJACENT SHRUB BEDS ALONG CURVES. CONTRACTOR TO PLANT ALL PERIMETER OF BED AREAS AS SHOWN AND THEN PLANT THE REMAINDER OF THE BED TRIANGULARLY AT THE SPECIFIED SPACING.

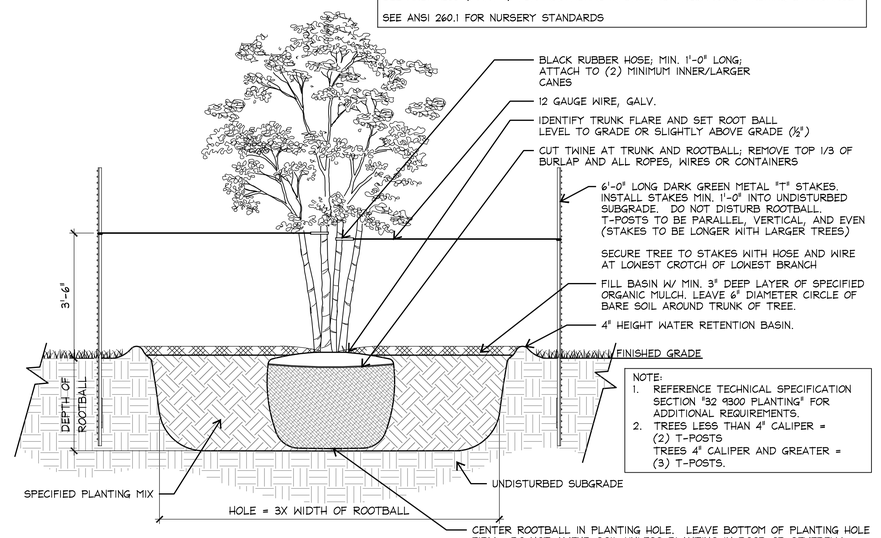
4 CURVED BED LAYOUT

PLAN SCALE: 1/2"=1'-0"



3 PLANT SPACING DIAGRAM

PLAN SCALE: 1/2"=1'-0"



NOTE:
1. REFERENCE TECHNICAL SPECIFICATION SECTION "32 9300 PLANTING" FOR ADDITIONAL REQUIREMENTS.
2. TREES LESS THAN 4" CALIPER = (2) T-POSTS
   TREES 4" CALIPER AND GREATER = (3) T-POSTS.

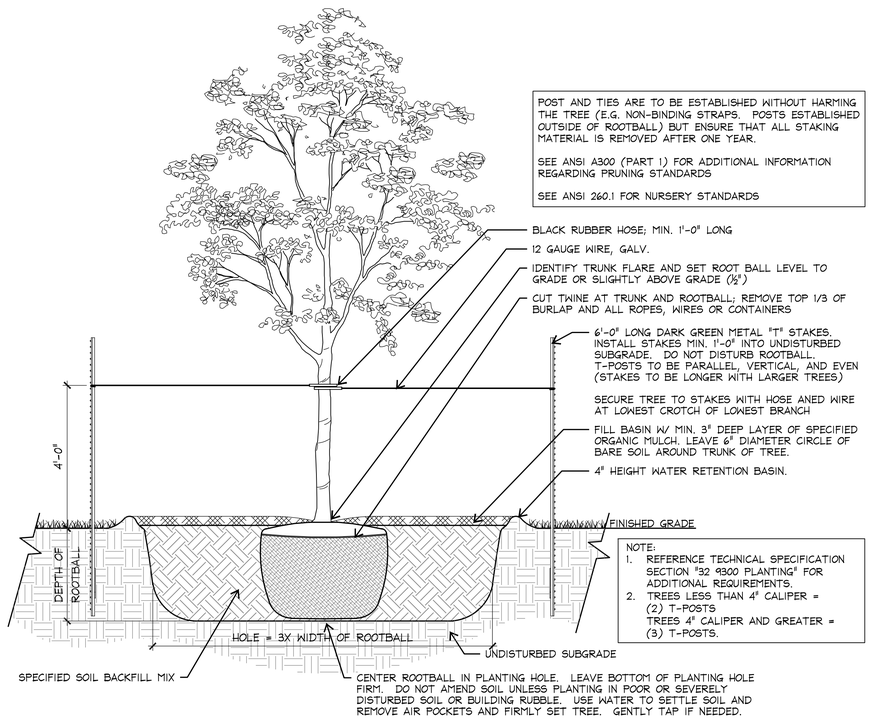
POST AND TIES ARE TO BE ESTABLISHED WITHOUT HARMING THE TREE (E.G. NON-BINDING STRAPS. POSTS ESTABLISHED OUTSIDE OF ROOTBALL) BUT ENSURE THAT ALL STAKING MATERIAL IS REMOVED AFTER ONE YEAR.

SEE ANSI A300 (PART 1) FOR ADDITIONAL INFORMATION REGARDING PRUNING STANDARDS

SEE ANSI Z60.1 FOR NURSERY STANDARDS

2 TREE PLANTNG - MULTI-TRUNK

SECTION SCALE: 1/2"=1'-0"



NOTE:
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2. TREES LESS THAN 4" CALIPER = (2) T-POSTS
   TREES 4" CALIPER AND GREATER = (3) T-POSTS.

1 TREE PLANTNG - STANDARD TRUNK

SECTION SCALE: 1/2"=1'-0"

811 Know what's below. Call before you dig.

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FOR CITY USE ONLY:

SITE PLAN APPROVAL Sheet ___ of ___
FILE NUMBER: _____ APPLICATION DATE: _____
APPROVED BY COMMISSION ON: _____ UNDER SECTION _____ OF CHAPTER _____ OF THE CITY OF AUSTIN CODE.
EXPIRATION DATE (25-5-81,LDC) _____ CASE MANAGER _____
PROJECT EXPIRATION DATE (ORD.#970905-A) _____ DWPZ ____ DDZ ____

Director, Development Services Department
RELEASED FOR GENERAL COMPLIANCE: _____ ZONING: _____
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LANDSCAPE CERTIFICATION BLOCK
I CERTIFY THAT ALL INFORMATION IS TRUE AND ACCURATE AND THAT THE REQUIREMENTS OF SECTION 25-2, ARTICLE 9 OF THE LDC HAVE BEEN MET.

ELLIOTT DOERLE 10/15/2021
ELLIOTT DOERLE DATE

CITY OF AUSTIN APPROVED Date 01/06/2022 FOUNDED 1839

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ELLIOTT DOERLE REGISTERED LANDSCAPE ARCHITECT 2865 STATE OF TEXAS 10/15/21

project
violet crown trail

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sheet title
landscape details

sheet
L-3
SHEET 233 OF 239

SPC-2012-0104D(R5)

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COA APPENDIX R-11 RAIN GARDEN CALCULATIONSFOR DEVELOPMENT PERMITS				
Violet Crown Trailhead - R2				
DRAINAGE AREA DATA: R2				
Drainage Area to Control (DA - Maximum 2.0 ac.)	0.02	ac.		
Drainage Area Percent Impervious Cover	100	%		
Capture Depth (CD)	1.30	in.		
Required Capture Depth per SLAT for Barton Springs Zone	2.54	*in.*		
WATER QUALITY CONTROL CALCULATIONS:	Required		Provided	
Water Quality Volume (WQV)	184	ft^3	265	ft^3
100 Year Peak Flow Rate to Control (Q100)		ft^3/s		
Filtration Pond Area (A_f)	214	ft^2	308	ft^2
Depth of Ponding (D)	Max. 1.0	ft.	0.50	ft.
Depth of Filtration Media (L)	Min. 1.5	ft.	1.5	ft.
Effective Porosity Water Quality Volume (WQV_{eff} = 0.24*A_f*L)			111	ft^3
Ponded Water Quality Volume (WQVponded = WQV - WQV_{eff})			154	ft^3
	Provided WQV		265	ft^3
Water Quality Elevation (WQE)			496.75	ft.
Elevation of Splitter/Overflow Weir (minimum WQE)			496.75	ft.
Length of Splitter Weir				ft.
Required Head to Pass Q100			0.08	ft.
Pond Freeboard Provided to Pass Q100	Min. 0.25	ft.	0.42	ft.
FILTRATION RAIN GARDENS				
Rain Garden Pond Drawdown Time (at 0.25 in./hr.)	Min. 48	hr.	48	hr.
Underdrain Orifice Size (Diameter)			0.19	in.
Underdrain Orifice (Area)			0.03	in^2

RAINGARDEN LANDSCAPE CALCULATIONS	
PLANTS REQUIRED PER ECM SECTION 1.6.7.H.8 - RAINGARDENS *	
TOTAL SF OF RAINGARDEN BOTTOM	693
TOTAL (10% OF POND BOTTOM)	69
RAINGARDEN BASIN:	
50% OF TOTAL PLANTS TO BE FROM TABLE 1.6.7.C-2	35
50% OF TOTAL MAY BE OTHER SUITABLE SPECIES AS SELECTED BY THE DESIGNER (PER ECM 1.6.7.C.5-F)	34

*Note: Per ECM Section 1.6.7.H.8, Vegetation quantity, size, spacing and selection shall meet the requirements for filtration basins as provided in ECM 1.6.7C, Biofiltration, with the exception that rain gardens do not require a minimum of five different species (i.e., one species is acceptable), although higher diversity is recommended.

RAINGARDEN PLANT LIST

RAINGARDEN SPECIES FROM TABLE 1.6.7.C-2

Plant Quantities in this table are based on the one gallon size requirement for COA. If other container sizes are planted, quantities will be adjusted based on the Plant Size Equivalents on Table 1.6.7.C-1 to maintain the required quanitity of plants.

BOTANICAL NAME	COMMON NAME	QUANTITY
Muhlenbergia capillaris	Gulf coast muhly	15
Muhlenbergia lindheimeri	Big muhly	10
Panicum virgatum	Switchgrass	5
Penstemon tenuis	Brazos Penstemon	5
Physostegia spp.	Obedient Plant	5
Total Per ECM Table 1.6.7.C-2		**40**

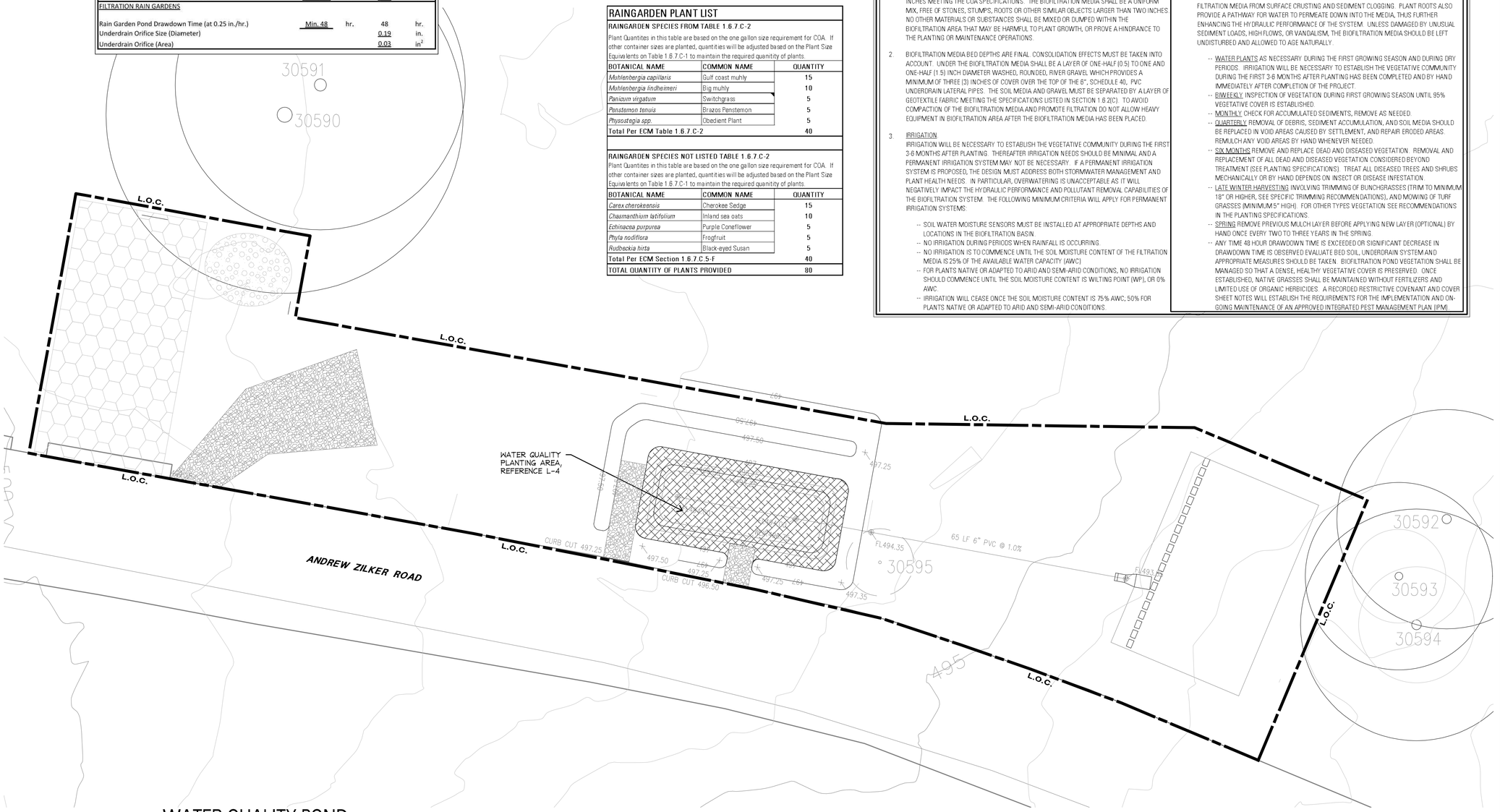
RAINGARDEN SPECIES NOT LISTED TABLE 1.6.7.C-2

Plant Quantities in this table are based on the one gallon size requirement for COA. If other container sizes are planted, quantities will be adjusted based on the Plant Size Equivalents on Table 1.6.7.C-1 to maintain the required quanitity of plants.

BOTANICAL NAME	COMMON NAME	QUANTITY
Carex cherokeensis	Cherokee Sedge	15
Chasmanthium latifolium	Inland sea oats	10
Echinacea purpurea	Purple Coneflower	5
Phyla nodiflora	Frogfruit	5
Rudbeckia hirta	Black-eyed Susan	5
Total Per ECM Section 1.6.7.C.5-F		**40**
TOTAL QUANTITY OF PLANTS PROVIDED		**80**

BIOFILTRATION POND NOTES:

1. BIOFILTRATION MEDIA BED WITH GRAVEL LAYER. THE BIOFILTRATION MEDIA BED FOR BIOFILTRATION BASINS MUST BE BUILT TO THE "SAND BED WITH GRAVEL LAYER" CONFIGURATION. THE BIOFILTRATION MEDIA LAYER IS TO BE A MINIMUM OF EIGHTEEN (18) INCHES MEETING THE COA SPECIFICATIONS. THE BIOFILTRATION MEDIA SHALL BE A UNIFORM MIX, FREE OF STONES, STUMPS, ROOTS OR OTHER SIMILAR OBJECTS LARGER THAN TWO INCHES NO OTHER MATERIALS OR SUBSTANCES SHALL BE MIXED OR DUMPED WITHIN THE BIOFILTRATION AREA THAT MAY BE HARMFUL TO PLANT GROWTH, OR PROVE A HINDRANCE TO THE PLANTING OR MAINTENANCE OPERATIONS.
2. BIOFILTRATION MEDIA BED DEPTHS ARE FINAL. CONSOLIDATION EFFECTS MUST BE TAKEN INTO ACCOUNT. UNDER THE BIOFILTRATION MEDIA SHALL BE A LAYER OF ONE-HALF (0.5) TO ONE AND ONE-HALF (1.5) INCH DIAMETER WASHED, ROUNDED, RIVER GRAVEL WHICH PROVIDES A MINIMUM OF THREE (3) INCHES OF COVER OVER THE TOP OF THE 6", SCHEDULE 40, PVC UNDERDRAIN LATERAL PIPES. THE SOIL MEDIA AND GRAVEL MUST BE SEPARATED BY A LAYER OF GEOTEXTILE FABRIC MEETING THE SPECIFICATIONS LISTED IN SECTION 1.6.2(C). TO AVOID COMPACTION OF THE BIOFILTRATION MEDIA AND PROMOTE FILTRATION DO NOT ALLOW HEAVY EQUIPMENT IN BIOFILTRATION AREA AFTER THE BIOFILTRATION MEDIA HAS BEEN PLACED.
3. IRRIGATION
   IRRIGATION WILL BE NECESSARY TO ESTABLISH THE VEGETATIVE COMMUNITY DURING THE FIRST 3-6 MONTHS AFTER PLANTING. THEREAFTER IRRIGATION NEEDS SHOULD BE MINIMAL AND A PERMANENT IRRIGATION SYSTEM MAY NOT BE NECESSARY. IF A PERMANENT IRRIGATION SYSTEM IS PROPOSED, THE DESIGN MUST ADDRESS BOTH STORMWATER MANAGEMENT AND PLANT HEALTH NEEDS. IN PARTICULAR, OVERWATERING IS UNACCEPTABLE AS IT WILL NEGATIVELY IMPACT THE HYDRAULIC PERFORMANCE AND POLLUTANT REMOVAL CAPABILITIES OF THE BIOFILTRATION SYSTEM. THE FOLLOWING MINIMUM CRITERIA WILL APPLY FOR PERMANENT IRRIGATION SYSTEMS:
   - SOIL WATER MOISTURE SENSORS MUST BE INSTALLED AT APPROPRIATE DEPTHS AND LOCATIONS IN THE BIOFILTRATION BASIN.
   - NO IRRIGATION DURING PERIODS WHEN RAINFALL IS OCCURRING.
   - NO IRRIGATION IS TO COMMENCE UNTIL THE SOIL MOISTURE CONTENT OF THE FILTRATION MEDIA IS 25% OF THE AVAILABLE WATER CAPACITY (AWC)
   - FOR PLANTS NATIVE OR ADAPTED TO ARID AND SEMI-ARID CONDITIONS, NO IRRIGATION SHOULD COMMENCE UNTIL THE SOIL MOISTURE CONTENT IS WILTING POINT (WP), OR 0% AWC.
   - IRRIGATION WILL CEASE ONCE THE SOIL MOISTURE CONTENT IS 75% AWC, 50% FOR PLANTS NATIVE OR ADAPTED TO ARID AND SEMI-ARID CONDITIONS.
4. MAINTENANCE
   ONCE VEGETATION IS ESTABLISHED, BIOFILTRATION SYSTEMS SHOULD REQUIRE LESS MAINTENANCE THAN SAND FILTRATION SYSTEMS BECAUSE THE VEGETATION PROTECTS THE FILTRATION MEDIA FROM SURFACE CRUSTING AND SEDIMENT CLOGGING. PLANT ROOTS ALSO PROVIDE A PATHWAY FOR WATER TO PERMEATE DOWN INTO THE MEDIA, THUS FURTHER ENHANCING THE HYDRAULIC PERFORMANCE OF THE SYSTEM. UNLESS DAMAGED BY UNUSUAL SEDIMENT LOADS, HIGH FLOWS, OR VANDALISM, THE BIOFILTRATION MEDIA SHOULD BE LEFT UNDISTURBED AND ALLOWED TO AGE NATURALLY.
   - WATER PLANTS AS NECESSARY DURING THE FIRST GROWING SEASON AND DURING DRY PERIODS. IRRIGATION WILL BE NECESSARY TO ESTABLISH THE VEGETATIVE COMMUNITY DURING THE FIRST 3-6 MONTHS AFTER PLANTING HAS BEEN COMPLETED AND BY HAND IMMEDIATELY AFTER COMPLETION OF THE PROJECT.
   - BIWEEKLY INSPECTION OF VEGETATION DURING FIRST GROWING SEASON UNTIL 95% VEGETATIVE COVER IS ESTABLISHED.
   - MONTHLY CHECK FOR ACCUMULATED SEDIMENTS, REMOVE AS NEEDED.
   - QUARTERLY REMOVAL OF DEBRIS, SEDIMENT ACCUMULATION, AND SOIL MEDIA SHOULD BE REPLACED IN VOID AREAS CAUSED BY SETTLEMENT, AND REPAIR ERODED AREAS. REMULCH ANY VOID AREAS BY HAND WHENEVER NEEDED.
   - SIX MONTHS REMOVE AND REPLACE DEAD AND DISEASED VEGETATION. REMOVAL AND REPLACEMENT OF ALL DEAD AND DISEASED VEGETATION CONSIDERED BEYOND TREATMENT (SEE PLANTING SPECIFICATIONS). TREAT ALL DISEASED TREES AND SHRUBS MECHANICALLY OR BY HAND DEPENDS ON INSECT OR DISEASE INFESTATION.
   - LATE WINTER HARVESTING INVOLVING TRIMMING OF BUNCHGRASSES (TRIM TO MINIMUM 18" OR HIGHER, SEE SPECIFIC TRIMMING RECOMMENDATIONS), AND MOWING OF TURF GRASSES (MINIMUM 5" HIGH). FOR OTHER TYPES VEGETATION SEE RECOMMENDATIONS IN THE PLANTING SPECIFICATIONS.
   - SPRING REMOVE PREVIOUS MULCH LAYER BEFORE APPLYING NEW LAYER (OPTIONAL) BY HAND ONCE EVERY TWO TO THREE YEARS IN THE SPRING.
   - ANY TIME 48 HOUR DRAWDOWN TIME IS EXCEEDED OR SIGNIFICANT DECREASE IN DRAWDOWN TIME IS OBSERVED EVALUATE BED SOIL, UNDERDRAIN SYSTEM AND APPROPRIATE MEASURES SHOULD BE TAKEN. BIOFILTRATION POND VEGETATION SHALL BE MANAGED SO THAT A DENSE, HEALTHY VEGETATIVE COVER IS PRESERVED. ONCE ESTABLISHED, NATIVE GRASSES SHALL BE MAINTAINED WITHOUT FERTILIZERS AND LIMITED USE OF ORGANIC HERBICIDES. A RECORDED RESTRICTIVE COVENANT AND COVER SHEET NOTES WILL ESTABLISH THE REQUIREMENTS FOR THE IMPLEMENTATION AND ON-GOING MAINTENANCE OF AN APPROVED INTEGRATED PEST MANAGEMENT PLAN (IPM).



1 WATER QUALITY POND
PLAN

SCALE: 1"=10' 0' 5' 10' 20' NORTH

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Know what's below. Call before you dig.

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 MIGHT BE OCCASIONED BY HIS FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.

FOR CITY USE ONLY:

SITE PLAN APPROVAL Sheet ___ of ___
FILE NUMBER: _____ APPLICATION DATE: _____
APPROVED BY COMMISSION ON: _____ UNDER SECTION _____ OF CHAPTER _____ OF THE CITY OF AUSTIN CODE.
EXPIRATION DATE (25-5-81,LDC) _____ CASE MANAGER _____
PROJECT EXPIRATION DATE (ORD.#970905-A) _____ DWPZ ____ DDZ ____

Director, Development Services Department
RELEASED FOR GENERAL COMPLIANCE: _____ ZONING: _____
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.

CITY OF AUSTIN APPROVED Date 01/06/2022 FOUNDED 1839

TBG
landscape architects, planners & designers
1705 guadalupe street
suite 500
austin, tx 78701
[512] 327-1011
tbgpartners.com

JESSE LANDSCAPE ARCHITECT ELLIOTT DOUGLAS JESSE 2665 STATE OF TEXAS
12/02/21

project
violet crown trail
zilker trailhead
Austin, Texas

project number **A16512**

issue date **12/02/21**

designed: JL, AS
drawn: CC
reviewed: JL

sheet title
water quality pond calculations

sheet
L-4
SHEET 234 OF 239

SPC-2012-0104D(R5)

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APPENDIX X - ZONE 2 CWQZ PLANTING LEGEND

PROPOSED SHADE TREE LEGEND

SYMBOL	TOTAL	SPECIES	SIZE
⊙ (square)	4	CEDAR ELM *Ulmus crassifolia*	2.5" caliper 8' height single trunk
⊙ (pentagon)	2	TEXAS RED OAK *Quercus texana*	1.5" caliper 6' height single trunk
⊙ (boxed square)	1	PECAN *Carya illinoinensis*	1.5" caliper 6' height single trunk

PROPOSED ORNAMENTAL TREE LEGEND

SYMBOL	TOTAL	SPECIES	SIZE
△	2	TEXAS REDBUD *Cercis canadensis var. texensis*	6' height multi trunk

PROPOSED SHRUB AND GROUNDCOVER LEGEND

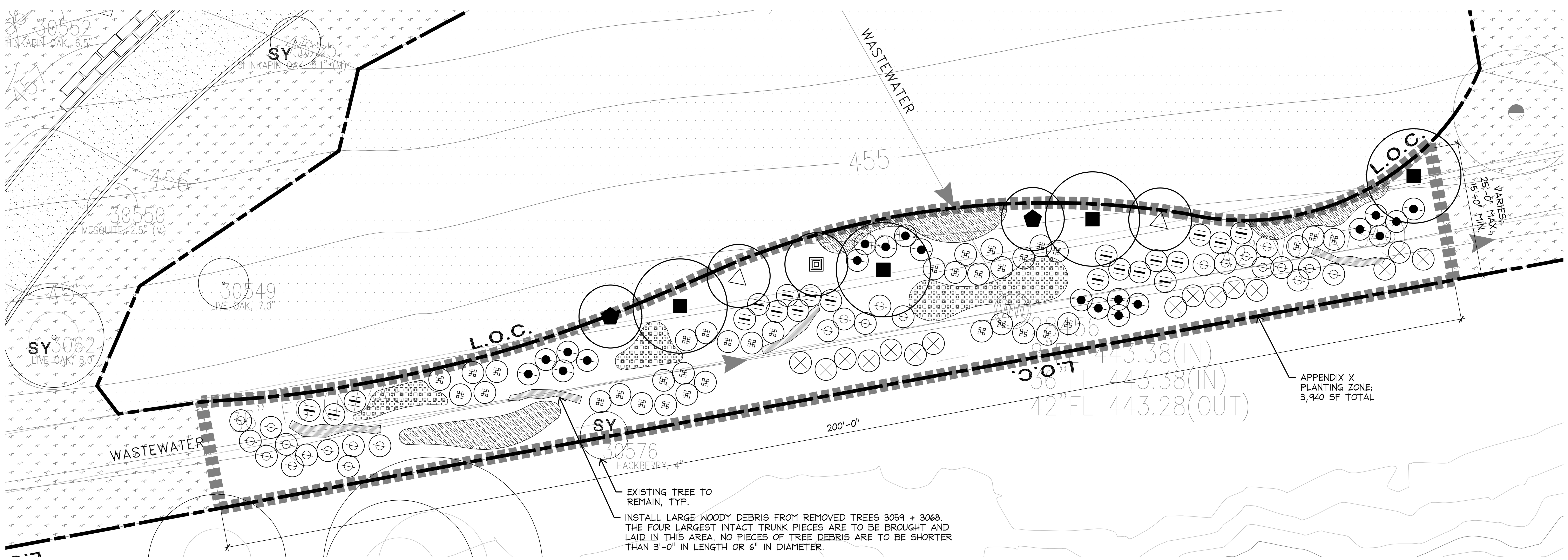
SYMBOL	TOTAL	SPECIES	SIZE
⊙	20	WHITE MISTFLOWER *Ageratina havanensis*	3 gallon 12" min. height
⊗	15	AMERICAN BEAUTYBERRY *Callicarpa americana*	5 gallon 18" min. height
⊛	35	KIDNEYWOOD *Eysenhardtia texana*	3 gallon 12" min. height
⊝	25	FRAGRANT SUMAC *Rhus aromatica*	5 gallon 18" min. height
⊜	20	EVERGREEN SUMAC *Rhus virens*	5 gallon 18" min. height
(hatched mass)	75	INLAND SEA OATS *Chasmanthium latifolium*	4" pot plant @ 24" o.c.
(crosshatched mass)	65	TURK'S CAP *Malvaviscus arboreus var. drummondii*	1 gallon plant @ 24" o.c.

NOTES:

THE PLANTING DESIGN IN THIS AREA HAS BEEN DEVELOPED TO ENHANCE THE FUNCTIONALITY IN THE CRITICAL WATER QUALITY ZONE FOR THIS PROJECT, BASED ON THE RECOMMENDATIONS OUTLINED IN APPENDIX X OF THE ENVIRONMENTAL CRITERIA MANUAL. PLANT MATERIAL HAS BEEN SELECTED AND ARRANGED TO IMPROVE THE CWQZ BASED ON THE FOLLOWING PARAMETERS:
- GAP FREQUENCY
- LARGE WOODY DEBRIS
- SOIL COMPACTION
- STRUCTURAL DIVERSITY
- TREE DEMOGRAPHY
- WETLAND TREE STATUS
- RIPARIAN ZONE WIDTH

ALL PROPOSED TREES IN THIS ZONE TO BE LOCATED A MINIMUM OF 10'-0" OFFSET AWAY FROM EXISTING WASTEWATER LINES. TREES IN THIS ZONE ARE COUNTED TO MEET APPENDIX X REQUIREMENTS ONLY AND ARE NOT FOR TREE REMOVAL MITIGATION. REFER TO L-1 FOR MITIGATION TREES.

ALL EXPOSED GROUND PLANE IN THIS AREA TO BE TOP DRESSED WITH 3" MINIMUM NATIVE ORGANIC SHREDDED HARDWOOD MULCH. PLANT MATERIAL IN THIS AREA TO RECEIVE TEMPORARY IRRIGATION FOR ESTABLISHMENT ONLY.



1 APPENDIX X PLANTING
PLAN

0' 5' 10' 20'
SCALE: 1"=10' NORTH

Z:\TBG\Violet Crown Trail (A16512)\02 Permit\Sheets\A16512-L-1-permit.dwg

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APPROVED

REGISTERED LANDSCAPE ARCHITECT ELLIOTT DOGGE 2586 STATE OF TEXAS
10/15/21

project
violet crown trail
zilker trailhead

Austin, Texas

project number A16512

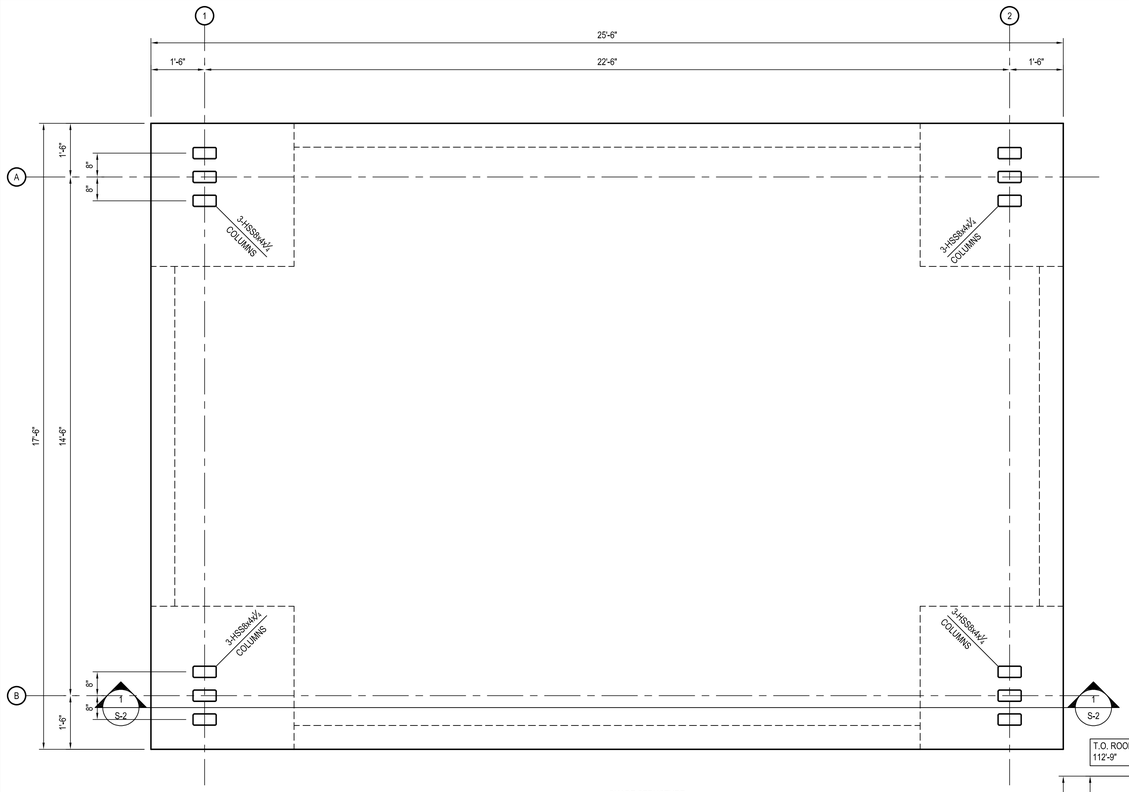
issue date 10/15/21

designed: JL, AS
drawn: CC
reviewed: JL

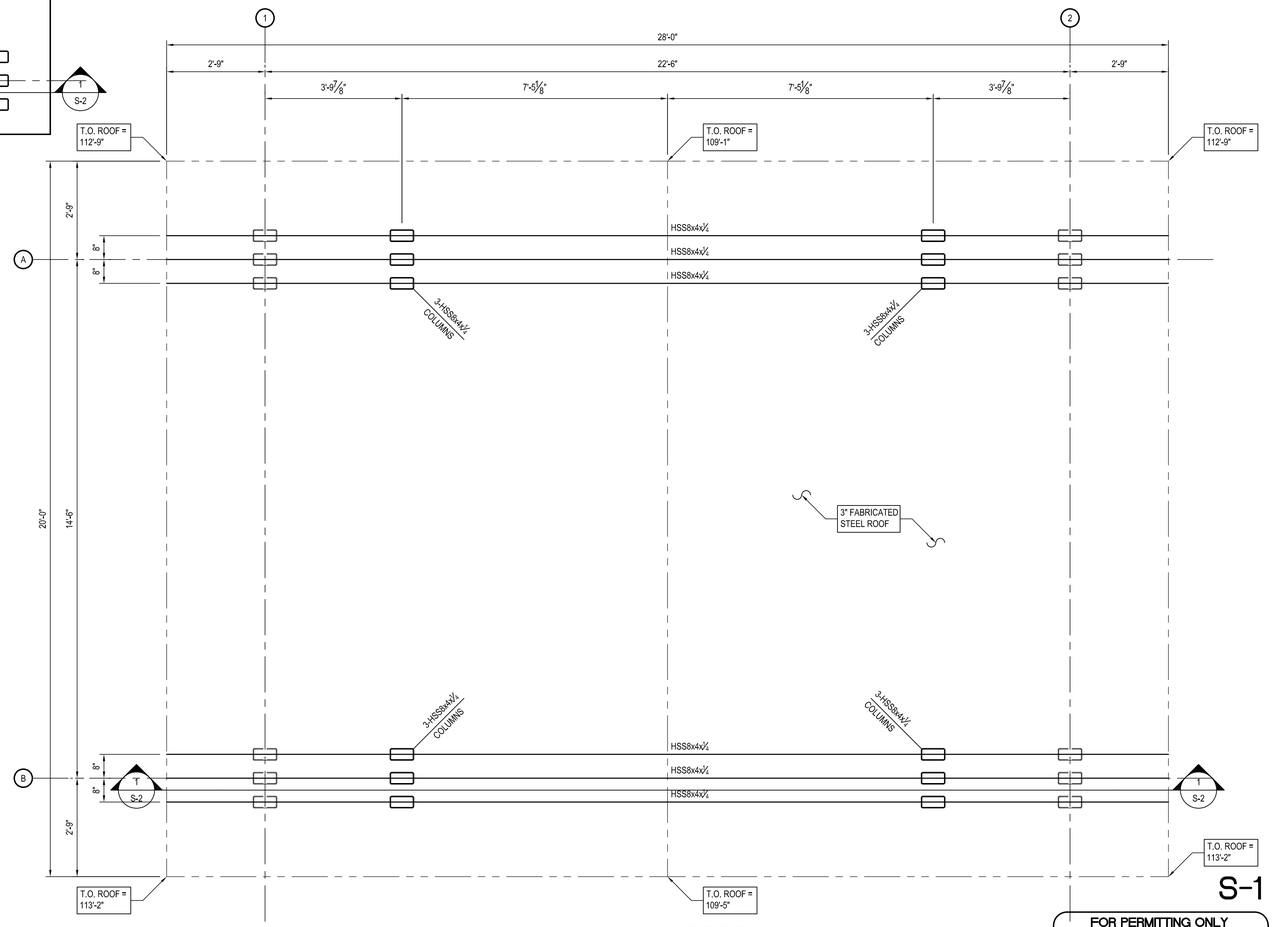
sheet title
appendix X planting

sheet
L-5
SHEET 235 OF 239

SPC-2012-0104D(R5)



SHADE STRUCTURE
1 FOUNDATION PLAN
1/2" = 1'-0"



SHADE STRUCTURE
2 ROOF FRAMING PLAN
1/2" = 1'-0"

CITY OF AUSTIN
APPROVED
Date 01/06/2022
FOUNDED 1839

NO.	REVISION	BY	DATE

STATE OF TEXAS
LARRY S. T. WU
89530
PROFESSIONAL ENGINEER
12/16/2021

PROJECT NO.: 011-4977
DESIGNED BY: DMC/LGC
DRAWN BY: DMC/LGC
CHECKED BY: LSW
APPROVED BY: LSW
DATE: 12/16/2021

Pickett, Kelm & Associates, Inc.
Consulting Structural Engineers
Texas Registration No. F-1491
4100 Duval Road, Bldg. 4, Suite 103
Austin, Texas 78759 • Phone 512-345-5538

LANDSCAPE STRUCTURES

VIOLET CROWN TRAIL
AUSTIN, TEXAS

SHADE STRUCTURE FDN. & ROOF FRAMING PLANS

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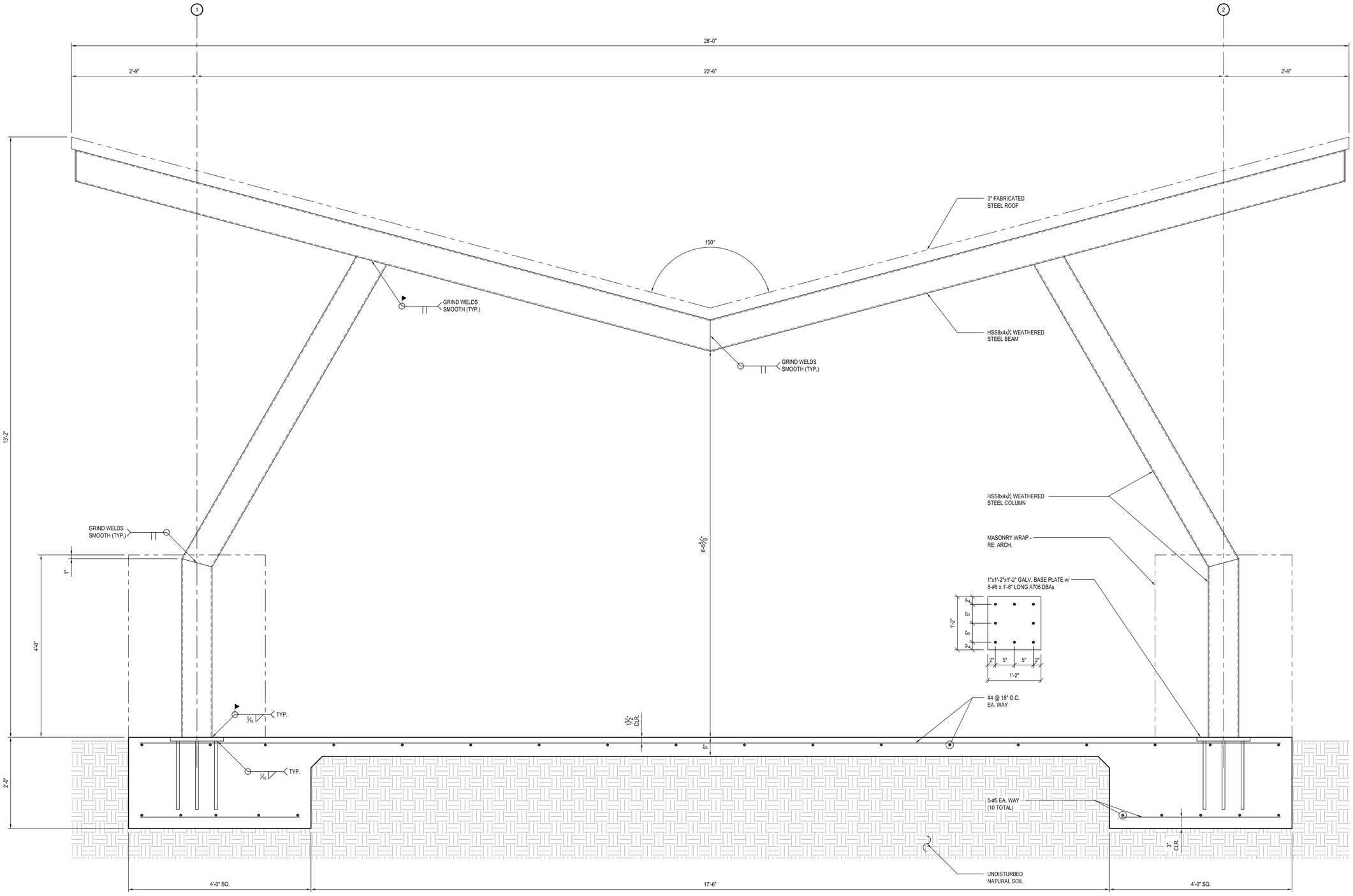
SHEET NO.
236 OF 239

S-1

SPC-2012-0104D(R5)



1 SECTION
1" = 1'-0"

S-2

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CITY OF AUSTIN APPROVED Date 01/06/2022 FOUNDED 1839

NO.	REVISION	BY	DATE

STATE OF TEXAS LARRY S. T. WU 89530 LICENSED PROFESSIONAL ENGINEER 12/16/2021

PROJECT NO.: 011-4977
DESIGNED BY: DMC/LGC
DRAWN BY: DMC/LGC
CHECKED BY: LSW
APPROVED BY: LSW
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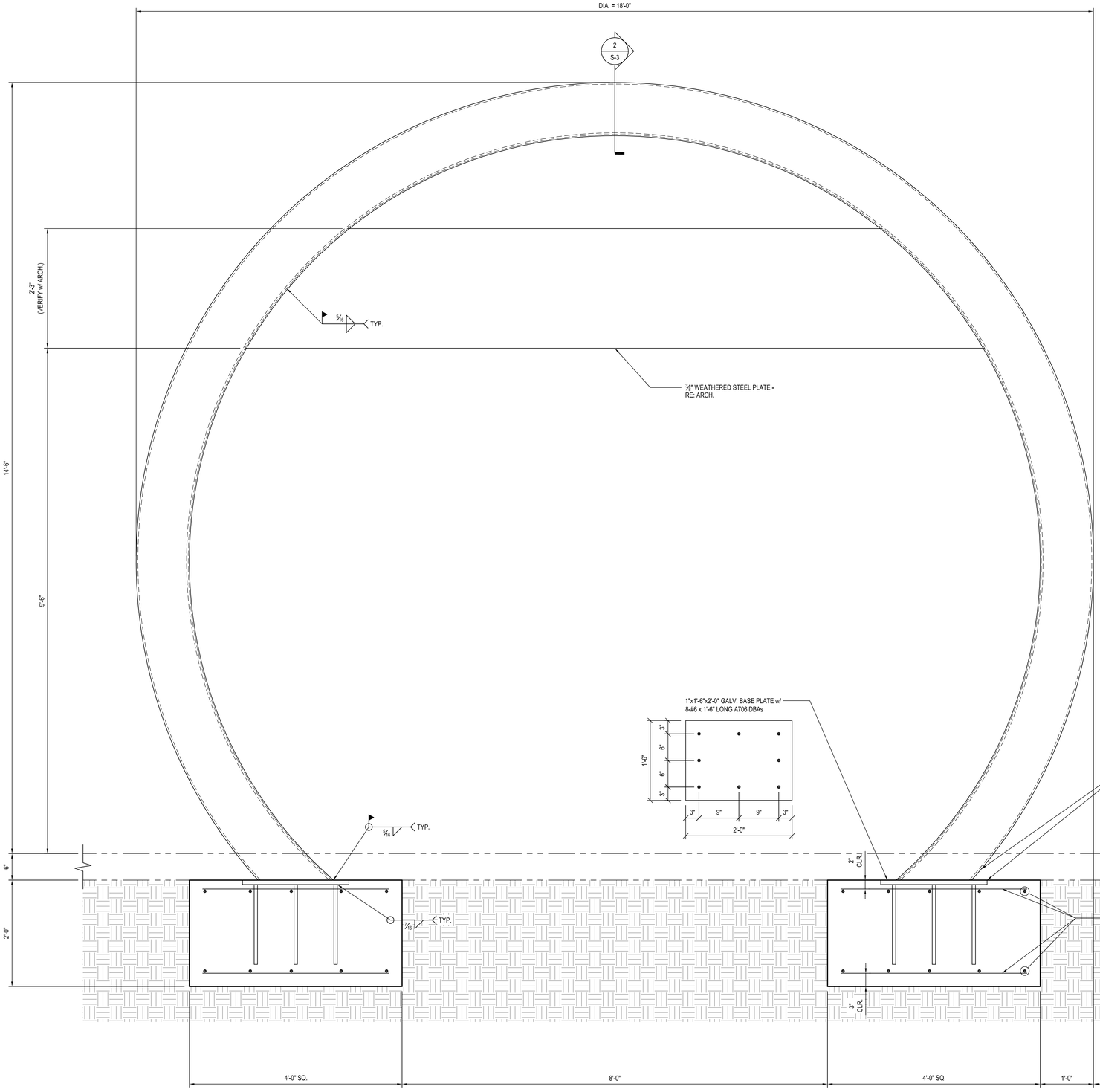
LANDSCAPE STRUCTURES

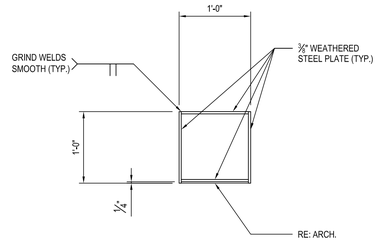
VIOLET CROWN TRAIL
AUSTIN, TEXAS

SHADE STRUCTURE SECTIONS & DETAILS

SPC-2012-0104D(R5)



1 SECTION
1" = 1'-0"



2 SECTION
1" = 1'-0"

CITY OF AUSTIN
APPROVED
Date 01/06/2022

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STATE OF TEXAS
LARRY S. T. WU
89530
LICENSED
PROFESSIONAL ENGINEER
12/16/2021

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LANDSCAPE STRUCTURES

VIOLET CROWN TRAIL
AUSTIN, TEXAS

ENTRY GATEWAY
SECTIONS & DETAILS

SHEET NO.
238 OF 239

S-3

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P.E. No.: 89530
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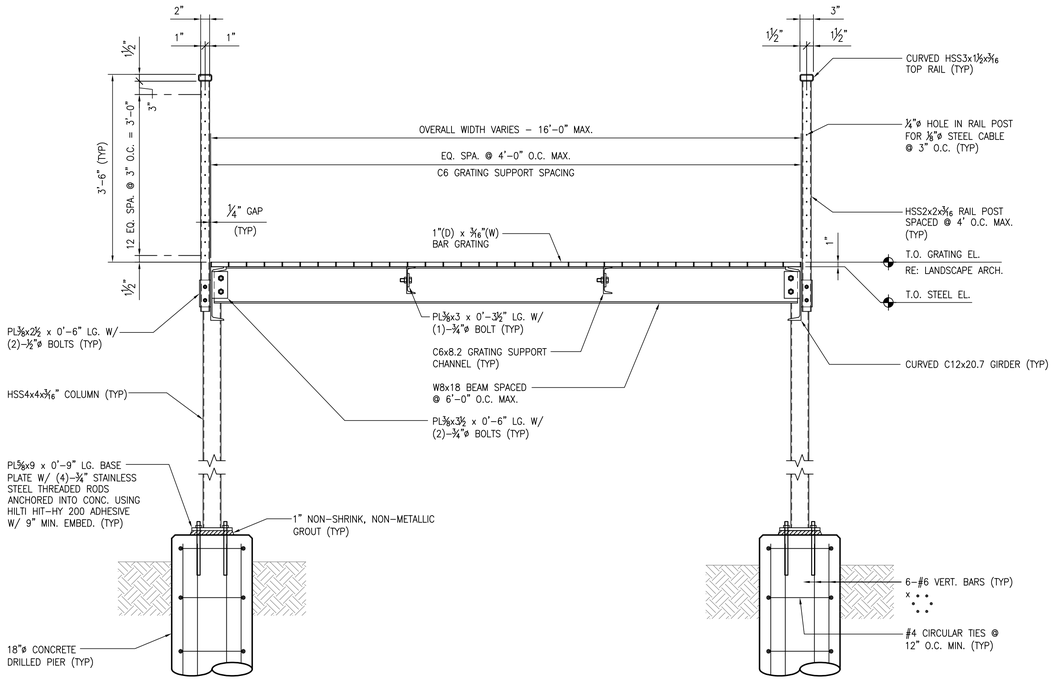
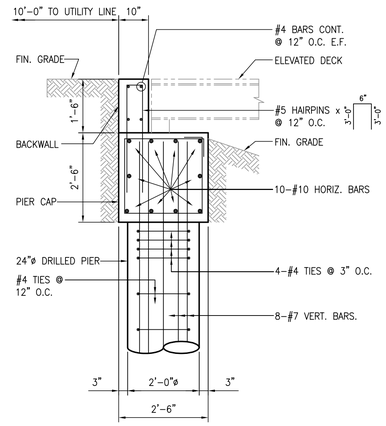


1 OVERLOOK SECTION
SCALE: 3/4" = 1'-0"

NOTES:
1. ALL STRUCTURAL STEEL MEMBERS AND GRATING SHALL BE HOT-DIPPED GALVANIZED AFTER FABRICATION.
2. ALL BOLTS AND THREADED RODS SHALL BE TYPE 304 STAINLESS STEEL.



2 ABUTMENT SECTION
SCALE: 1/2" = 1'-0"

CITY OF AUSTIN APPROVED Date 01/06/2022 FOUNDED 1839

NO.	REVISION	BY	DATE

LARRY S. T. WU 89530 LICENSED PROFESSIONAL ENGINEER 12/16/2021
STATE OF TEXAS

PROJECT NO.: 011-4977
DESIGNED BY: DMC/LGC
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Consulting Structural Engineers
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4100 Duval Road, Bldg. 4, Suite 103
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LANDSCAPE STRUCTURES

VIOLET CROWN TRAIL
AUSTIN, TEXAS

OVERLOOK
SECTIONS & DETAILS

S-4

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SHEET NO.
239 OF 239

SPC-2012-0104D(R5)

ATTACHMENT G – INSPECTION, MAINTENANCE, REPAIR AND RETROFIT PLAN

WATER QUALITY AND DETENTION POND MAINTENANCE AND INSPECTION PLAN

STATE OF TEXAS
MICHAEL C. MULLONE
127850
LICENSED
PROFESSIONAL ENGINEER

07/02/20274

Objective:

The OWNER and contractor shall provide for adequate long term maintenance and continuation of the stormwater control measures described in the Stormwater Pollution Prevention Plan (SWPPP) to ensure that the facilities are and remain in proper working condition in accordance with approved design standards, rules and regulations and applicable laws. The OWNER and/or contractor shall perform preventative maintenance activities at intervals described in the inspection schedule along with necessary landscaping (grass cutting, etc.) and trash removal as part of regular maintenance.

The required maintenance interval for stormwater Best Management Practices (BMPs) are often dependent upon the degree of pollutant loading from a particular drainage basin. BMP maintenance can best be broken into three categories: inspection, routine maintenance, and major maintenance. Though each BMP type has its own unique characteristics, inspections will generally consist of an assessment to assure its functionality and the general condition. Routine maintenance will generally consist of trash and vegetation removal, unclogging of drains, routine pump assessments (if applicable), minor sediment removal and exchange of filter media where applicable. Major maintenance will be completed as required from inspections and generally consists of significant reconstruction due to failures in the BMP. Examples of major maintenance include dredging, excavation, removal of existing media, replacing fabric, replacing the under-drain, and reestablishment of vegetation.

The following schedule is offered as a guideline for performing inspection and routine maintenance for a range of BMP categories.

Inspection Frequency:	SA = semi-annual	S = after storms > 0.5 inches
	A = annually	B = bi-monthly
BMP	Inspection Frequency	Routine Maintenance Frequency
Sedimentation Pond	SA,S,B	SA = 2x/year
Filtration Pond	SA,S,B	SA = 2x/year
Detention Pond	A,S,B	A = 1 x/year

Bi-Monthly

Remove woody vegetative growth from pond area including embankments. Minimize heavy equipment, including mowers, in the vegetated areas to reduce compaction. Mow monthly between the months of April and October or anytime vegetation exceeds 12-inches in height. Inspect and remove invasive plants. Remove obstructions in orifices and/or outlets.

Semi-Annually

Repair animal burrows and/or other leaks in the pond structures/embankments. Remove debris from overflow spillway. Remove trash, floating debris, and/or accumulated sediment. Test all components of pump station (if applicable).

Annually – As Necessary

Repair erosion to outfall or spillway. Repair and/or replace damaged structures, such as, risers, pipes, and headwalls. Dredge pond on a 3-5 year cycle or as necessary to retain design capacity.

General Maintenance Procedures

Periodic silt removal shall occur when standing water conditions occur or the pond's storage volume is reduced by more than 10%. Silt shall be removed and the pond returned to original lines and grades shown on the approved engineering plans. In addition, corrective measures are required any time a basin does not drain completely within 48 hours of cessation of inflow. NO STANDING WATER IS ALLOWED in the detention or water quality ponds.

Accumulated litter, sediment, and debris shall be removed as necessary to maintain proper operation of the basin. Disposal shall be in accordance with federal, state and local regulations.

Erosion gullies should be filled and the area reseeded to establish native vegetation coverage.

Overgrown woody vegetation at the outfall of a storm sewer prevents water from discharging from the outfall into the basin. Woody vegetation, such as trees and shrubs, should be cleared from the basin. Excessive vegetation, litter, and sediment accumulations should be removed from basin inlets and outfalls to allow water to enter and exit the basin without obstruction

Storm Drain and Inlet Infrastructure to Ponds

The following are a list of simple steps to keep the storm drains clean that in turn will minimize the general ponds' maintenance needs.

- Keep a tight lid on trash cans and recycling bins, especially during windy days.
- Pick up trash in the property.
- Rake leaves into piles and dispose of properly, per the County and/or City. Do not rake or blow them into the storm drain inlets, drives isles, or parking areas. Direct them onto your property.
- Trim tree limbs as required and remove dead vegetation that is prone to breaking down and becoming windblown.
- Limit use of sand and salt on your driveway and walkways. Sweep up residual sand once the snow and ice has melted and before the next rainstorm, so the sediment doesn't end up in the ponds.
- Pick-up after your dog. Stormwater will pick up the waste and wash it into the storm drain and then to the ponds. Pet waste contains harmful bacteria that impact waterways and water quality.
- Limit fertilizer, pesticide, and herbicide application.
- It is illegal to allow pollutants to flow into a storm drain. If you see someone dumping or not containing pollutants report it.

Pumps

A Site Manager must monitor status of control panel alarms semi-annually. A Pump maintenance (if applicable) contractor must make an inspection annually.

Inspection Reports

All inspections must be recorded and must contain the following information:

- An assessment of the condition and functionality of the stormwater or water quality control.
- Maintenance and repair actions performed on the control facility during the past year.
- The professional opinion of the inspector regarding the current functionality of the control and its ability to operate per the original design specifications.
- Recommendations regarding the need for maintenance or modifications that will allow for the control to be operated per the original design specifications. Inspection and maintenance records must be retained and provided to the city for review upon request.

A log shall be kept of maintenance actions, and inspections. The log should document the condition of the pond system's primary components, mowing, and silt, litter and debris removal dates.

Inspection Report			
Inspection	Date	Repairs	Notes of Future Recommendations
Mowing			
Remove Trash and debris			
Remove grass clippings			
Minor Inspections			
Condition of Pond			
Amount of silt in pond			
Amount of ponded water			
Location of Erosion			
Percent of vegetation			
Major Inspections			
Condition of Stormwater Quality Structure			
Type of Stormwater Quality Structure			
Structure type and Condition			
Condition of Rip-Rap			
Condition of filtration system			
Berm or Embankment Settlement			
Location of erosion			
Evidence of Animals			

* Make copies as necessary

Sketch Page, If Necessary

* Make copies of this page as necessary

Photographs:

Please attach photographs taken of each assessment inspection in this section of the report. Include a description of each photograph. Attach additional pages as needed.

* Make copies of this page as necessary

Inspection results:

☐ **Pass**
Inspection determined that the facility is operating as it was originally designed and no apparent problems exist.

☐ **Pass with conditions**
The facility is operating as it was originally designed, however, some maintenance items should be addressed as a good housekeeping measure to prevent future deficiencies. These maintenance items are addressed in the above assessments and/or in the additional comments listed below.

☐ **Fail**
Inspection of the facility determined that deficiencies were discovered and the facility is not operating as it was originally designed. Maintenance and/or recommended repairs are addressed in the individual assessments and/or in the additional comments section of this report.

* Make copies of this page as necessary

ATTACHMENT H – PILOT-SCALE FIELD TESTING PLAN

N/A – No pilot-scale field testing plan. A water quality pond has been provided in accordance with TCEQ technical guidance manual.

ATTACHMENT I – MEASURES FOR MINMIMIZING SURFACE STREAM CONTAMINATION

N/A –.. Refer to the Temporary and Permanent BMP sections of this From TCEQ 600 for controlling potential contamination upstream of the San Marcos River.

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

I Kathy Miller,
Print Name

CEO,
Title - Owner/President/Other

of Hill Country Conservancy,
Corporation/Partnership/Entity Name

have authorized Jessica Powers and Michael Mullone
Print Name of Agent/Engineer

of Dunaway Associates 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:

Applicant's Signature

6.20.2024
Date

THE STATE OF Texas §

County of Travis §

BEFORE ME, the undersigned authority, on this day personally appeared Katherine Miller 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 20th day of June, 2024

SHELLY R RUTLEDGE NOTARY PUBLIC STATE OF TEXAS NOTARY ID 129086936-2 09/06/2024

Shelly R. Rutledge
NOTARY PUBLIC

Shelly R. Rutledge
Typed or Printed Name of Notary

MY COMMISSION EXPIRES: Sept. 6, 2024

Owner Authorization Form

Texas Commission on Environmental Quality
for Required Signature
Edwards Aquifer Protection Program
Relating to 30 TAC Chapter 213
Effective June 1, 1999

Land Owner Authorization

I, D'Anne Williams of City of Austin, Parks & Recreation Department
Land Owner Signatory Name — Land Owner Name (Legal Entity or Individual)

am the owner of the property located at
ABS 45 Barton W Acre 5.22
Legal description of the property referenced in the application

and am duly authorized in accordance with §213.4(c)(2) and §213.4(d)(1) or §213.23(c)(2) and §213.23(d) relating to the right to submit an application, signatory authority, and proof of authorized signatory.

I do hereby authorize Kathy Miller
Applicant Name (Legal Entity or Individual)

to conduct trail conservancy and management
Description of the proposed regulated activities

at 190 linear feet south of the intersection of William Barton Drive and Columbus Drive.
Precise location of the authorized regulated activities

Land Owner Acknowledgement

I understand that City of Austin, Parks & Recreation Department
Land Owner Name (Legal Entity or Individual)

Is ultimately responsible for compliance with the approved or conditionally approved Edwards Aquifer protection plan and any special conditions of the approved plan through all phases of plan implementation even if the responsibility for compliance and the right to possess and control the property referenced in the application has been contractually assumed by another legal entity. I further understand that any failure to comply with any condition of the executive director's approval is a violation is subject to administrative rule or orders and penalties as provided under §213.10 (relating to Enforcement). Such violation may also be subject to civil penalties and injunction.

Land Owner Signature

D'Anne Williams Digitally signed by D'Anne Williams Date: 2024.09.03 12:58:32 -05'00'

Land Owner Signature

9-3-2024

Date

THE STATE OF § Texas

County of § Travis

BEFORE ME, the undersigned authority, on this day personally appeared D'Anne Williams 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 3rd day of September

J. Canales

NOTARY PUBLIC

Jennifer Canales

Typed or Printed Name of Notary

Jennifer Michelle Canales
My Commission Expires
5/31/2026
Notary ID 133787464

MY COMMISSION EXPIRES: 5/31/26

Attached: (Mark all that apply)

- ☐ Lease Agreement
- ☐ Signed Contract
- ☐ Deed Recorded Easement
- ☐ Other legally binding document

Applicant Acknowledgement

I, Kathy Miller of The Hill Country Conservancy
Applicant Signatory Name — Applicant Name (Legal Entity or Individual)

acknowledge that City of Austin, Parks & Recreation Department
Land Owner Name (Legal Entity or Individual)

has provided The Hill Country Conservancy
Applicant Name (Legal Entity or Individual)

with the right to possess and control the property referenced in the Edwards Aquifer protection plan.

I understand that The Hill Country Conservancy
Applicant Name (Legal Entity or Individual)

is contractually responsible for compliance with the approved or conditionally approved Edwards Aquifer protection plan and any special conditions of the approved plan through all phases of plan implementation. I further understand that failure to comply with any condition of the executive director's approval is a violation is subject to administrative rule or orders and penalties as provided under §213.10 (relating to Enforcement). Such violation may also be subject to civil penalties and injunction.

Applicant Signature

Applicant Signature

9.4.2024
Date

THE STATE OF § Texas

County of § Travis

BEFORE ME, the undersigned authority, on this day personally appeared Katherine Miller 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 4th day of September, 2024

Shelly R. Rutledge
NOTARY PUBLIC

SHELLY R RUTLEDGE NOTARY PUBLIC STATE OF TEXAS NOTARY ID 129086362 09/06/2024

Shelly R. Rutledge
Typed or Printed Name of Notary

MY COMMISSION EXPIRES: Sept. 6, 2024

Application Fee Form

Texas Commission on Environmental Quality
Name of Proposed Regulated Entity: Violet Crown Trailhead-Mile Zero
Regulated Entity Location: @ SW Intersection of Columbus Dr. &William Barton Dr.
Name of Customer: Hill Country Conservancy
Contact Person: Michael Mullone Phone: 512-399-5373
Customer Reference Number (if issued):CN CN603578816
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
☐ Mailed to: TCEQ - Cashier
Revenues Section
Mail Code 214
P.O. Box 13088
Austin, TX 78711-3088

☐ San Antonio Regional Office
☐ Overnight Delivery to: TCEQ - Cashier
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

Type of Plan	***Size***	***Fee Due***
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	Each	$ 500
Extension of Time	Each	$

Signature: Jessica Powers Digitally signed by Jessica Powers DN: C=US, E=jpowers@dunaway.com, CN=Jessica Powers Date: 2024.07.11 11:23:21-05'00' Date: 7/11/2024

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

Project	*Project Area in Acres*	*Fee*
One Single Family Residential Dwelling	< 5	$650
Multiple Single Family Residential and Parks	< 5 5 < 10 10 < 40 40 < 100 100 < 500 ≥ 500	$1,500 $3,000 $4,000 $6,500 $8,000 $10,000
Non-residential (Commercial, industrial, institutional, multi-family residential, schools, and other sites where regulated activities will occur)	< 1 1 < 5 5 < 10 10 < 40 40 < 100 ≥ 100	$3,000 $4,000 $5,000 $6,500 $8,000 $10,000

Organized Sewage Collection Systems and Modifications

Project	*Cost per Linear Foot*	*Minimum Fee-Maximum Fee*
Sewage Collection Systems	$0.50	$650 - $6,500

Underground and Aboveground Storage Tank System Facility Plans and Modifications

Project	*Cost per Tank or Piping System*	*Minimum Fee-Maximum Fee*
Underground and Aboveground Storage Tank Facility	$650	$650 - $6,500

Exception Requests

Project	*Fee*
Exception Request	$500

Extension of Time Requests

Project	*Fee*
Extension of Time Request	$150

TCEQ Use Only

TCEQ Core Data Form

For detailed instructions on completing this form, please read the Core Data Form Instructions or call 512-239-5175.

SECTION I: General Information

1. Reason for Submission (*If other is checked please describe in space provided.*)

☒ New Permit, Registration or Authorization (*Core Data Form should be submitted with the program application.*)

☐ Renewal *(Core Data Form should be submitted with the renewal form)* ☐ Other

2. Customer Reference Number *(if issued)*	Follow this link to search for CN or RN numbers in Central Registry**	**3. Regulated Entity Reference Number** *(if issued)*
CN 603578816		

SECTION II: Customer Information

4. General Customer Information	**5. Effective Date for Customer Information Updates** (mm/dd/yyyy)	

☐ New Customer ☒ Update to Customer Information ☐ Change in Regulated Entity Ownership
☐ Change in Legal Name (Verifiable with the Texas Secretary of State or Texas Comptroller of Public Accounts)

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).

6. Customer Legal Name *(If an individual, print last name first: eg: Doe, John)* *If new Customer, enter previous Customer below:*

Hill Country Conservancy

7. TX SOS/CPA Filing Number	**8. TX State Tax ID** (11 digits)	**9. Federal Tax ID**	**10. DUNS Number** *(if applicable)*
156928601	17429481454	74-2948145	

11. Type of Customer: ☐ Corporation ☐ Individual Partnership: ☐ General ☐ Limited

Government: ☐ City ☐ County ☐ Federal ☐ Local ☐ State ☐ Other ☐ Sole Proprietorship ☒ Other: Nonprofit corporation

12. Number of Employees

☒ 0-20 ☐ 21-100 ☐ 101-250 ☐ 251-500 ☐ 501 and higher

13. Independently Owned and Operated?

☒ **Yes** ☐ **No**

14. Customer Role (Proposed or Actual) – *as it relates to the Regulated Entity listed on this form. Please check one of the following*

☐ Owner ☐ Operator ☐ Owner & Operator
☐ Occupational Licensee ☐ Responsible Party ☐ VCP/BSA Applicant
☒ Other: Trail Conservancy and Operator

15. Mailing Address:	PO Box 163125						
	City	Austin	**State**	TX	**ZIP**	78716	**ZIP + 4**

16. Country Mailing Information *(if outside USA)*	**17. E-Mail Address** *(if applicable)*
	ryan@hillcountryconservancy.org

18. Telephone Number	19. Extension or Code	20. Fax Number *(if applicable)*
(512) 923-2925		( ) -

SECTION III: Regulated Entity Information

21. General Regulated Entity Information *(If 'New Regulated Entity" is selected, a new permit application is also required.)*

☐ New Regulated Entity ☒ Update to Regulated Entity Name ☐ Update to Regulated Entity Information

The Regulated Entity Name submitted may be updated, in order to meet TCEQ Core Data Standards (removal of organizational endings such as Inc, LP, or LLC).

22. Regulated Entity Name *(Enter name of the site where the regulated action is taking place.)*

Hill Country Conservancy

23. Street Address of the Regulated Entity: ***(No PO Boxes)***							
	City		**State**		**ZIP**		**ZIP + 4**
24. County							

If no Street Address is provided, fields 25-28 are required.

25. Description to Physical Location:	@SW Intersection at Columbus and William Barton Drive				
26. Nearest City	Austin		**State**		**Nearest ZIP Code**
			Texas		78705

Latitude/Longitude are required and may be added/updated to meet TCEQ Core Data Standards. (Geocoding of the Physical Address may be used to supply coordinates where none have been provided or to gain accuracy).

27. Latitude (N) In Decimal:			**28. Longitude (W) In Decimal:**		
Degrees	Minutes	Seconds	Degrees	Minutes	Seconds
30	15	51.336N	97	46	23.628W

29. Primary SIC Code (4 digits)	**30. Secondary SIC Code** (4 digits)	**31. Primary NAICS Code** (5 or 6 digits)	**32. Secondary NAICS Code** (5 or 6 digits)
7990		237990	

33. What is the Primary Business of this entity? *(Do not repeat the SIC or NAICS description.)*

Public Park - Open Space

34. Mailing Address:	PO Box 163125						
	City	Austin	**State**	TX	**ZIP**	78716	**ZIP + 4**

35. E-Mail Address:	ryan@hillcountryconservancy.org

36. Telephone Number	**37. Extension or Code**	**38. Fax Number** *(if applicable)*
(512) 923-2925		( ) -

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.

☐ Dam Safety	☐ Districts	☐ Edwards Aquifer	☐ Emissions Inventory Air	☐ Industrial Hazardous Waste
☐ Municipal Solid Waste	☐ New Source Review Air	☐ OSSF	☐ Petroleum Storage Tank	☐ PWS
☐ Sludge	☐ Storm Water	☐ Title V Air	☐ Tires	☐ Used Oil
☐ Voluntary Cleanup	☐ Wastewater	☐ Wastewater Agriculture	☐ Water Rights	☐ Other:

SECTION IV: Preparer Information

40. Name:	Mike Mullone	**41. Title:**	engineer

42. Telephone Number	**43. Ext./Code**	**44. Fax Number**	**45. E-Mail Address**
512-399-5373		( ) -	mmullone@dunaway.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:	Dunaway Assoicates LLC	**Job Title:**	Senior Project Enginner, Assocaite
Name *(In Print):*	Mike Mullone	**Phone:**	**(** 512 **)** 399- **5373**
Signature:		**Date:**	7/11/2024