

# Texas Commission on Environmental Quality

## Edwards Aquifer Application Cover Page

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### Our Review of Your Application

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

### Administrative Review

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

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

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

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

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

### Technical Review

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

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

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

**Mid-Review Modifications**

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

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

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

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

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

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

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

<b>1. Regulated Entity Name:</b> Twin Rock				<b>2. Regulated Entity No.:</b> N/A					
<b>3. Customer Name:</b> Malik Raju & Sandeep Kaur				<b>4. Customer No.:</b> N/A					
<b>5. Project Type:</b> (Please circle/check one)	<input checked="" type="radio"/> New	<input type="radio"/> Modification			<input type="radio"/> Extension		<input type="radio"/> Exception		
<b>6. Plan Type:</b> (Please circle/check one)	<input checked="" type="radio"/> WPAP	<input type="radio"/> CZP	<input type="radio"/> SCS	<input type="radio"/> UST	<input type="radio"/> AST	<input type="radio"/> EXP	<input type="radio"/> EXT	Technical Clarification	Optional Enhanced Measures
<b>7. Land Use:</b> (Please circle/check one)	<input type="radio"/> Residential		<input checked="" type="radio"/> Non-residential			<b>8. Site (acres):</b>		0.90	
<b>9. Application Fee:</b>	\$3,000		<b>10. Permanent BMP(s):</b>			Permanent stabilization/re-vegetation & one jellyfish filter			
<b>11. SCS (Linear Ft.):</b>	N/A		<b>12. AST/UST (No. Tanks):</b>			N/A			
<b>13. County:</b>	Travis		<b>14. Watershed:</b>			Colorado River			

# Application Distribution

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

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

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

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

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

Anna Fash, BGE, Inc.

Print Name of Customer/Authorized Agent



12/05/2025

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: Anna Fash, BGE, Inc.

Date: 12/05/2025

Signature of Customer/Agent:



## Project Information

1. Regulated Entity Name: Twin Rock
2. County: Travis
3. Stream Basin: Colorado
4. Groundwater Conservation District (If applicable): N/A
5. Edwards Aquifer Zone:
  - Recharge Zone
  - Transition Zone
6. Plan Type:
  - WPAP
  - SCS
  - Modification
  - AST
  - UST
  - Exception Request

7. Customer (Applicant):

Contact Person: Raju Malik & Sandeep Kaur

Entity: N/A

Mailing Address: 12029 Jollyville Rd

City, State: Austin, TX

Zip: 78759

Telephone: 512-468-8969

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

Email Address: oakliquorcabinet@sbcglobal.net

8. Agent/Representative (If any):

Contact Person: Anna Fash

Entity: BGE, Inc.

Mailing Address: 1701 Directors Blvd. Ste 1000

City, State: Austin, TX

Zip: 78744

Telephone: 512-686-3525

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

Email Address: afash@bgeinc.com

9. Project Location:

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

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

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

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

See Attachment C - Project Description

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

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

Project site boundaries.

USGS Quadrangle Name(s).

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

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

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

Survey staking will be completed by this date: TBD

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

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

15. Existing project site conditions are noted below:

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

### ***Prohibited Activities***

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

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

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

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

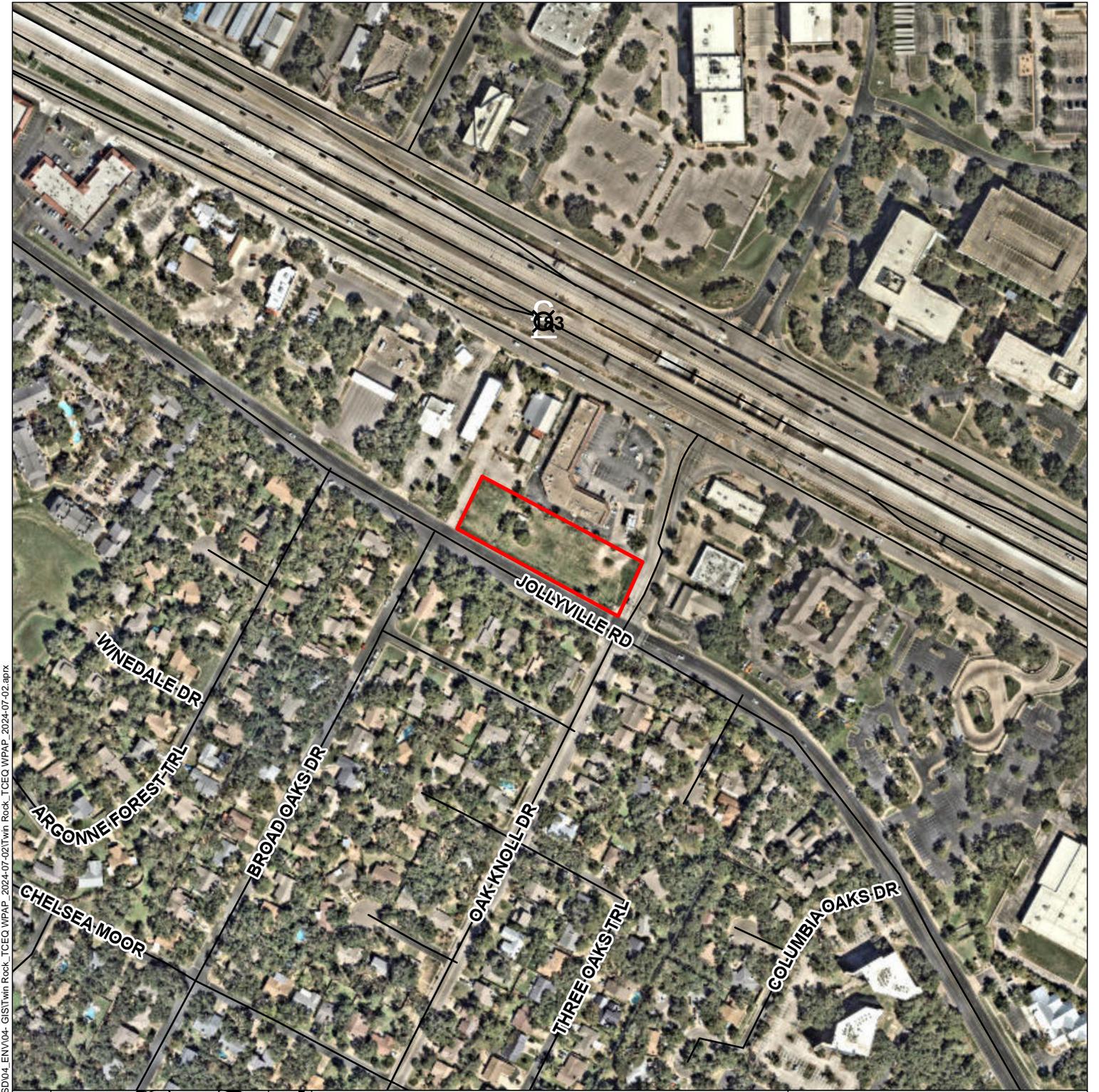
- (3) New municipal solid waste landfill facilities required to meet and comply with Type I standards which are defined in §330.41 (b), (c), and (d) of this title.

### ***Administrative Information***

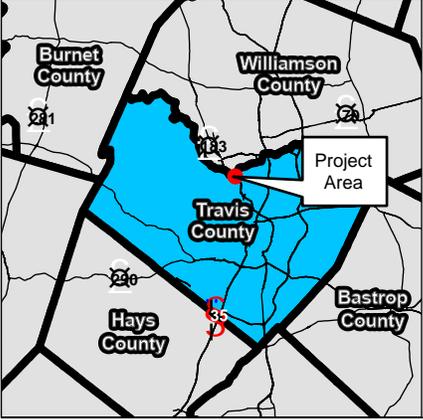
18. The fee for the plan(s) is based on:

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

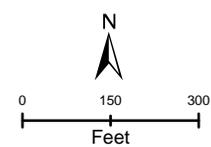
**General Information Form**  
**Attachment A – Road Map**



File Path: \\bgeinc\data\TxC\Projects\Oak\_Liquor\_Cabineet\Twin\_Rock\KSD\04\_ENV\004\_GIS\Twin\_Rock\_TCEQ\_WPAP\_2024-07-02\Twin\_Rock\_TCEQ\_WPAP\_2024-07-02.aprx



- Legend**
- Project Area
  - Roadway (TxDOT)



**BGE** BGE, Inc.  
 101 West Louis Henna Blvd, Suite 400  
 Austin, TX 78728  
 Tel: 512-879-0400 Fax: 512-879-0499  
 www.bgeinc.com

## Twin Rock

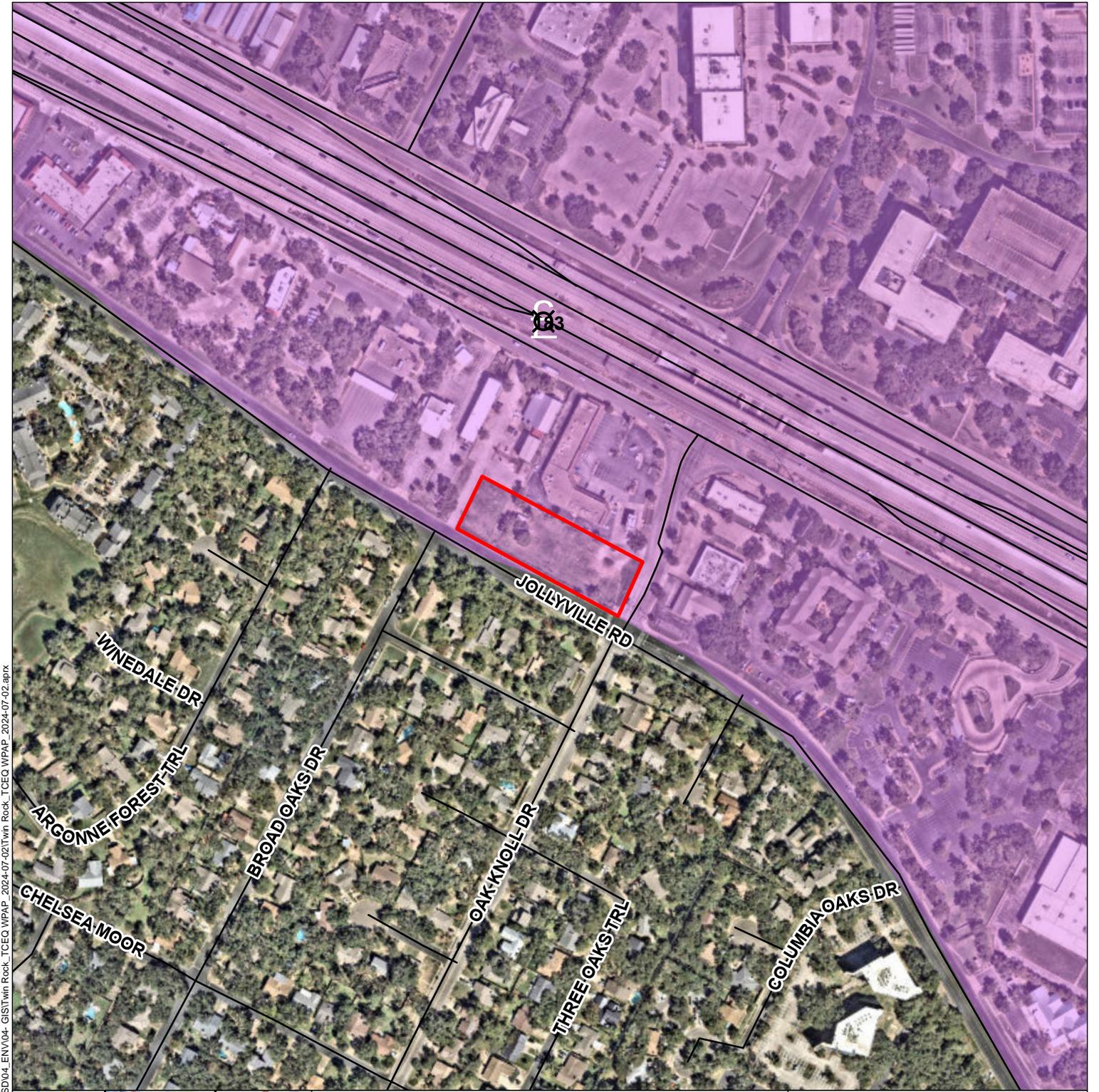
Project Aerial  
 Road Map  
 Travis County, TX

Date: December 2025      Project: 12423-00

Data Source: TxDOT 2021

**General Information Form**

**Attachment B – USGS Edwards Aquifer Recharge Zone Map**



File Path: \\bgeinc\data\TxC\Projects\Oak\_Liquor\_Cabinet\Twin\_Rock\KSD\04\_ENV\04\_GIST\Twin\_Rock\_TCEQ\WPAP\_2024-07-02\Twin\_Rock\_TCEQ\WPAP\_2024-07-02.aprx

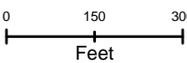


**Legend**

- Project Area
- Edwards Aquifer Recharge Zone
- Roadway (TxDOT)



N



0 150 300  
Feet



**BGE, Inc.**  
 101 West Louis Henna Blvd, Suite 400  
 Austin, TX 78728  
 Tel: 512-879-0400 Fax: 512-879-0499  
 www.bgeinc.com

## Twin Rock

### USGS / Edwards Recharge Zone Map Travis County, TX

Date: December 2025      Project: 12423-00

Data Source: USGS 2023, TxDOT 2021

**General Information Form**  
**Attachment C – Project Description**



# Twin Rock Liquor Project Description

The proposed Twin Rock Liquor Project (referred to as the “project”) involves the development of an +/- 0.90-acre tract located south of U.S. Highway 183 and northwest of the intersection of Jollyville Road and Oak Knoll Drive, in the City of Austin, Travis County, Texas. The project is comprised of two parcels, as identified by the Travis Central Appraisal District (TCAD IDs: 167076 and 167077), located at 12029 Jollyville Road, Austin, Texas 78759.

The project was previously developed as a nursery, which has since been removed, and it has remained vacant for several years. The project area has been owned by Raju Malik and Sandeep Kaur since 2021. The proposed land use includes a two-story commercial/retail center for liquor sales, with concrete pavement and a total of 34 parking spaces. The total calculated on-site impervious cover is 76%. The demolition plans include the removal of chain-link fencing, steel posts, signage, gravel, existing curb and gutter, and trees. Additionally, the project will involve the relocation of a streetlamp, a telecommunications post, a power pole, and a guy wire. The existing building on-site will remain protected during construction.

The permanent best management practices (BMPs) on the site include permanent stabilization/re-vegetation and the addition of one jellyfish filter surrounded by a rain garden used to filter stormwater runoff.

# Water Pollution Abatement Plan Application

## Texas Commission on Environmental Quality

for Regulated Activities on the Edwards Aquifer Recharge Zone and Relating to 30 TAC §213.5(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 **Water Pollution Abatement Plan Application Form** is hereby submitted for TCEQ review and Executive Director approval. The form was prepared by:

Print Name of Customer/Agent: Anna Fash

Date: 12/05/2025

Signature of Customer/Agent:



Regulated Entity Name: Twin Rock

## Regulated Entity Information

1. The type of project is:

- Residential: Number of Lots: \_\_\_\_\_
- Residential: Number of Living Unit Equivalents: \_\_\_\_\_
- Commercial
- Industrial
- Other: \_\_\_\_\_

2. Total site acreage (size of property): 0.90

3. Estimated projected population: 0

4. The amount and type of impervious cover expected after construction are shown below:

**Table 1 - Impervious Cover Table**

Impervious Cover of Proposed Project	Sq. Ft.	Sq. Ft./Acre	Acres
Structures/Rooftops	7,567	÷ 43,560 =	0.17
Parking	15,134	÷ 43,560 =	0.35
Other paved surfaces	0	÷ 43,560 =	0
Total Impervious Cover	29,627.24	÷ 43,560 =	0.68

**Total Impervious Cover 0.68 ÷ Total Acreage 0.90 X 100 = 76% Impervious Cover**

5.  **Attachment A - Factors Affecting Surface Water Quality.** A detailed description of all factors that could affect surface water and groundwater quality that addresses ultimate land use is attached.
6.  Only inert materials as defined by 30 TAC §330.2 will be used as fill material.

***For Road Projects Only***

**Complete questions 7 - 12 if this application is exclusively for a road project.**

7. Type of project:

- TXDOT road project.
- County road or roads built to county specifications.
- City thoroughfare or roads to be dedicated to a municipality.
- Street or road providing access to private driveways.

8. Type of pavement or road surface to be used:

- Concrete
- Asphaltic concrete pavement
- Other: \_\_\_\_\_

9. Length of Right of Way (R.O.W.): \_\_\_\_\_ feet.

Width of R.O.W.: \_\_\_\_\_ feet.

L x W = \_\_\_\_\_ Ft<sup>2</sup> ÷ 43,560 Ft<sup>2</sup>/Acre = \_\_\_\_\_ acres.

10. Length of pavement area: \_\_\_\_\_ feet.

Width of pavement area: \_\_\_\_\_ feet.

L x W = \_\_\_\_\_ Ft<sup>2</sup> ÷ 43,560 Ft<sup>2</sup>/Acre = \_\_\_\_\_ acres.

Pavement area \_\_\_\_\_ acres ÷ R.O.W. area \_\_\_\_\_ acres x 100 = \_\_\_\_\_% impervious cover.

11.  A rest stop will be included in this project.
- A rest stop will not be included in this project.

12.  Maintenance and repair of existing roadways that do not require approval from the TCEQ Executive Director. Modifications to existing roadways such as widening roads/adding shoulders totaling more than one-half (1/2) the width of one (1) existing lane require prior approval from the TCEQ.

### ***Stormwater to be generated by the Proposed Project***

13.  **Attachment B - Volume and Character of Stormwater.** A detailed description of the volume (quantity) and character (quality) of the stormwater runoff which is expected to occur from the proposed project is attached. The estimates of stormwater runoff quality and quantity are based on the area and type of impervious cover. Include the runoff coefficient of the site for both pre-construction and post-construction conditions.

### ***Wastewater to be generated by the Proposed Project***

14. The character and volume of wastewater is shown below:

_____ % Domestic	_____ Gallons/day
_____ % Industrial	_____ Gallons/day
_____ % Commingled	_____ Gallons/day
TOTAL gallons/day _____	

15. Wastewater will be disposed of by:

On-Site Sewage Facility (OSSF/Septic Tank):

**Attachment C - Suitability Letter from Authorized Agent.** An on-site sewage facility will be used to treat and dispose of the wastewater from this site. The appropriate licensing authority's (authorized agent) written approval is attached. It states that the land is suitable for the use of private sewage facilities and will meet or exceed the requirements for on-site sewage facilities as specified under 30 TAC Chapter 285 relating to On-site Sewage Facilities.

Each lot in this project/development is at least one (1) acre (43,560 square feet) in size. The system will be designed by a licensed professional engineer or registered sanitarian and installed by a licensed installer in compliance with 30 TAC Chapter 285.

Sewage Collection System (Sewer Lines):

Private service laterals from the wastewater generating facilities will be connected to an existing SCS.

Private service laterals from the wastewater generating facilities will be connected to a proposed SCS.

The SCS was previously submitted on \_\_\_\_\_.

The SCS was submitted with this application.

The SCS will be submitted at a later date. The owner is aware that the SCS may not be installed prior to Executive Director approval.

The sewage collection system will convey the wastewater to the Walnut Creek Wastewater (name) Treatment Plant. The treatment facility is:

Existing.

Proposed.

16.  All private service laterals will be inspected as required in 30 TAC §213.5.

## **Site Plan Requirements**

**Items 17 – 28 must be included on the Site Plan.**

17.  The Site Plan must have a minimum scale of 1" = 400'.

Site Plan Scale: 1" = 20'.

18. 100-year floodplain boundaries:

Some part(s) of the project site is located within the 100-year floodplain. The floodplain is shown and labeled.

No part of the project site is located within the 100-year floodplain.

The 100-year floodplain boundaries are based on the following specific (including date of material) sources(s): FEMA

19.  The layout of the development is shown with existing and finished contours at appropriate, but not greater than ten-foot contour intervals. Lots, recreation centers, buildings, roads, open space, etc. are shown on the plan.

The layout of the development is shown with existing contours at appropriate, but not greater than ten-foot intervals. Finished topographic contours will not differ from the existing topographic configuration and are not shown. Lots, recreation centers, buildings, roads, open space, etc. are shown on the site plan.

20. All known wells (oil, water, unplugged, capped and/or abandoned, test holes, etc.):

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 §76.

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

21. Geologic or manmade features which are on the site:

All sensitive geologic or manmade features identified in the Geologic Assessment are shown and labeled.

No sensitive geologic or manmade features were identified in the Geologic Assessment.

**Attachment D - Exception to the Required Geologic Assessment.** A request and justification for an exception to a portion of the Geologic Assessment is attached.

- 22.  The drainage patterns and approximate slopes anticipated after major grading activities.
- 23.  Areas of soil disturbance and areas which will not be disturbed.
- 24.  Locations of major structural and nonstructural controls. These are the temporary and permanent best management practices.
- 25.  Locations where soil stabilization practices are expected to occur.
- 26.  Surface waters (including wetlands).  
 N/A
- 27.  Locations where stormwater discharges to surface water or sensitive features are to occur.  
 There will be no discharges to surface water or sensitive features.
- 28.  Legal boundaries of the site are shown.

### ***Administrative Information***

- 29.  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.
- 30.  Any modification of this WPAP will require Executive Director approval, prior to construction, and may require submission of a revised application, with appropriate fees.

**Water Pollution Abatement Plan Application Form**  
**Attachment A – Factors Affecting Surface Water Quality**



## Twin Rock Liquor Factors Affecting Surface Water Quality

Sediment from disturbed areas due to clearing and earthwork on the project area—as well as from paving operations, concrete construction, and concrete washout areas—has the potential to mix with stormwater runoff during construction. These sediments and runoffs will be contained using temporary and permanent BMPs as outlined in the SWPPP.

After construction is complete and the building is operational, runoff from the project area will be managed by permanent BMPs, including vegetative seeding, which will treat contaminants in the runoff before it is discharged from the project area.

**Water Pollution Abatement Plan Application Form**  
**Attachment B – Volume and Character of Stormwater**



# Twin Rock Liquor Volume and Character of Stormwater

The project area is located within the Colorado River watershed. Stormwater drainage from the proposed project area will flow eastward into an existing drainage facility. Additionally, runoff directed toward the northeast will be captured by an underground detention pond.

See tables below.

**Peak Discharge Comparison Table (CFS)**

	EX 2-yr	EX 10-yr	EX 25 yr	EX 100-yr	PR 2-yr	PR 10-yr	PR 25-yr	PR 100-yr	DELTA 2-yr	DELTA 10-yr	DELTA 25-yr	DELTA 100-yr
POA-1	45.91	74.01	92.66	124.37	45.19	72.75	91.42	123.90	0.72	1.26	1.24	0.59
POA-2	7.48	11.81	14.70	19.59	0.13	0.25	0.33	0.46	7.35	11.56	14.37	19.13

**Proposed Flow Calculation**

Drainage Area	Sub-Basin (If Applicable)	Area (SF)	Area (AC)	Area (MI2)	I.C. (SF)	I.C. (AC)	I.C. (%)	I.C. (SF) (With Public)	I.C. (With Public)	I.C. (%) (With Public)	CN	Tc (Min.)	Lag Time (Min.)	Q2 (CFS)	Q10 (CFS)	Q25 (CFS)	Q100 (CFS)
PR-OFF-1	POA-1	14,804	0.34	0.000531004	13,323	0.31	90.00%	13,822	0.32	93.37%	96.20	7.7	4.6	1.67	2.56	3.13	4.13
PR-OFF-4B	POA-1	31,732	0.73	0.001138227	27,685	0.64	87.25%	27,685	0.64	87.25%	95.70	6.5	3.9	3.71	5.73	7.04	9.30
PR-ON-1	POA-1	32,703	0.75	0.001173044	26,682	0.61	81.59%	26,754	0.61	81.81%	94.69	6.3	3.8	3.75	5.86	7.22	9.58
PR-ON-2	POA-1	2,412	0.06	0.000086504	683	0.02	28.30%	683	0.02	28.30%	85.09	7.3	4.4	0.21	0.36	0.47	0.64
PR-UM-1	POA-1	285	0.01	0.000010216	0	0.00	0.00%	274	0.00	96.08%	80.00	5.8	3.5	0.02	0.04	0.06	0.08
PR-UM-2	POA-1	1,875	0.04	0.000067268	33	0.00	1.78%	1,124	0.03	59.96%	80.32	5.6	3.4	0.15	0.28	0.37	0.52
PR-UM-3	POA-2	1,620	0.04	0.000058121	61	0.00	3.77%	741	0.02	45.72%	80.68	5.0	3.0	0.13	0.25	0.33	0.46

**Time of Concentration**

Drainage Area	Sub-Basin (If Applicable)	Sheet Flow							Shallow Concentrated Flow							Channel Flow			Total
		Manning's n	L (ft)	P <sub>2</sub> (in)	Start. Elev.	End Elev.	S (%)	T <sub>1</sub> (min)	Paved/Unpaved	V (ft/s)	L (ft)	Start Elev.	End Elev.	S (%)	T <sub>1</sub> (min)	L (ft)	V (ft/s)	T <sub>1</sub> (min)	T <sub>c</sub> (min)
PR-OFF-1	POA-1	0.15	100	4.06	944	940.4	3.6%	6.9	Unpaved	2.6	128.5	940.4	937.1	2.57%	0.8	0.00	6	0.00	7.74
PR-OFF-2	POA-1	0.15	100	4.06	955	953.8	1.2%	10.7	Unpaved	2.7	103.4	953.8	951	2.71%	0.6	2,557.400	6	7.1	18.42
PR-OFF-3	POA-1	0.015	66.7	4.06	956	955.12	1.3%	5.0	Unpaved	3.9	19.4	955.12	954	5.77%	0.1	2,875.127	6	8.0	13.07
PR-OFF-4A	POA-1	0.15	34.6	4.06	953	950.73	6.6%	5.0	Paved	2.2	149.6	950.73	949	1.16%	1.1	1,416.96	6	3.9	10.08
PR-OFF-4B	POA-1	0.015	100	4.06	944	942	2.0%	5.0	Paved	4.1	74.0	942	939	4.05%	0.3	433.68	6	0.0	6.32
PR-ON-1	POA-1	0.15	58.36	4.06	937.1	935.2	3.2%	5.0	Paved	3.3	258.8	935.2	928.53	2.58%	1.3	0.00	6	0.0	6.32
PR-ON-2	POA-1	0.15	100	4.06	934.2	930.5	3.7%	6.8	Paved	3.4	105.8	930.5	927.5	2.84%	0.5	0.00	6	0.0	7.32
PR-UM-1	POA-1	0.15	3.12	4.06	936	935.99	0.3%	5.0	Paved	7.2	18.1	935.99	933.7	12.65%	0.0	278.45	6	0.8	5.82
PR-UM-2	POA-1	0.015	19.8	4.06	9323.16	932.22	4.8%	5.0	Unpaved	5.2	23.4	932.22	929.76	10.51%	0.1	195.01	6	0.5	5.62
PR-UM-3	POA-2	0.15	7.57	4.06	927.29	926.9	5.2%	5.0	Paved	4.5	9.8	926.9	926.42	4.91%	0.0	0.00	6	0.0	5.04
PR-OFF-1-A	POA-1	0.15	100	4.06	942.7	938.8	3.9%	6.7	Unpaved	2.9	130.8	938.8	934.48	3.30%	0.7	7.33	6	0.0	7.42
PR-OFF-1B	POA-1	0.15	100	4.06	943	939.1	3.9%	6.7	Unpaved	3.1	97.9	939.1	935.48	3.70%	0.5	36.67	6	0.1	7.29

**Time of Concentration**

Drainage Area	Sub-Basin (If Applicable)	Sheet Flow							Shallow Concentration Flow							Channel Flow			Total
		Manning's n	L (ft)	P <sub>2</sub> (in)	Start Elev.	End Elev.	S (%)	T <sub>1</sub> (min)	Paved/Unpaved	V (ft/s)	L (ft)	Start Elev.	End Elev.	S (%)	T <sub>1</sub> (min)	L (ft)	V (ft/s)	T <sub>1</sub> (min)	T <sub>c</sub> (min)
PR-OFF-1-C	POA-1	0.15	100	4.06	944	940.8	3.2%	7.2	Unpaved	3.1	145.9	940.8	935.44	3.67%	0.8	14.34	6	0.0	8.03
PR-ON-1A	POA-1	0.15	7.98	4.06	929.35	928.77	7.3%	5.0	Paved	3.3	70.0	928.77	926.89	2.69%	0.4	0.00	6	0.0	5.35
PR-ON-1B	POA-1	0.15	100	4.06	944	940.61	3.4%	7.0	Paved	3.7	424.2	940.61	926.89	3.23%	1.9	0.00	6	0.0	8.98

**Water Pollution Abatement Plan Application Form**  
**Attachment C – Suitability Letter from Authorized Agent**

*Not Applicable*

**Water Pollution Abatement Plan Application Form**  
**Attachment D – Exception to the Required Geologic Assessment**

*See Recharge Exception Form*



# Twin Rock Liquor Nature of Exception

The proposed Twin Rock Liquor Project requires a full Water Pollution Abatement Plan (WPAP) due to its location within the Edwards Aquifer Recharge Zone. However, based on the previously developed nature of the site and the limited scope of construction, we are submitting a Geologic Assessment (GA) Exception Request in accordance with TCEQ guidance and with confirmation from the TCEQ Team Lead and Professional Geoscientist, James “Bo” Slone, P.G. (see attached correspondence).

This exception is requested due to the following site-specific conditions:

- The project occurs within a previously developed  $\pm 0.90$ -acre tract (TCAD IDs: 167076 & 167077) located in the Edwards Aquifer Recharge Zone, within the Colorado River Watershed;
- The project will only involve negligible increases such as minor soil disturbances related to site stabilization and improvements;
- No new development will occur in undisturbed areas;
- The plan includes implementation of the following Best Management Practices (BMPs):
  - o Temporary and permanent site stabilization and re-vegetation,
  - o Sedimentation control and removal,
  - o Temporary and permanent erosion control,
  - o Tree and natural area protective fencing,
  - o Chemical, litter, and construction waste management,
  - o Jellyfish filter installation.

Per TCEQ guidance and review of this scope, Mr. Slone confirmed that a GA Exception is appropriate for this site. As noted in his correspondence, should any geologic features be identified during the site visit, a full GA may be required. This request is submitted in accordance with his direction, and the supporting email correspondence has been included for reference.

**From:** [Anna Fash](#)  
**To:** [Austin Walling](#)  
**Subject:** FW: Twin Rock Liquor EXCWPA  
**Date:** Wednesday, July 2, 2025 9:44:01 AM  
**Attachments:** [image001.png](#)

---

**Anna Fash**  
**BGE, Inc.**  
[+1 \(512\) 686-3525](tel:+15126863525)

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**From:** James Slone <[james.slone@tceq.texas.gov](mailto:james.slone@tceq.texas.gov)>  
**Sent:** Thursday, August 29, 2024 1:07 PM  
**To:** Anna Fash <[afash@bgeinc.com](mailto:afash@bgeinc.com)>; EAdmin <[EAdmin@tceq.texas.gov](mailto:EAdmin@tceq.texas.gov)>  
**Subject:** RE: Twin Rock Liquor EXCWPA

You can submit the application with the GA Exception. Please note, if we find anything (e.g., feature) at the site during the site visit, you may be required to submit a GA later. Please retain this email for your records.

Bo

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

---

**From:**  
**Sent:** Thursday, August 29, 2024 9:36 AM  
**To:** EAdmin <[EAdmin@tceq.texas.gov](mailto:EAdmin@tceq.texas.gov)>  
**Cc:** James Slone <[james.slone@tceq.texas.gov](mailto:james.slone@tceq.texas.gov)>  
**Subject:** RE: Twin Rock Liquor EXCWPA

Hi Bo,

I wanted to reach out to you directly and introduce myself! Any insight you may have regarding if we would be able to get a GA exception for this propped project would be greatly appreciated.

Thanks for your help,

**Anna Fash**

**BGE, Inc.**  
[+1 \(512\) 686-3525](tel:+15126863525)

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**From:** EAAdmin <[EAAdmin@tceq.texas.gov](mailto:EAAdmin@tceq.texas.gov)>  
**Sent:** Thursday, August 29, 2024 9:25 AM  
**To:** Anna Fash <[afash@bgeinc.com](mailto:afash@bgeinc.com)>  
**Cc:** James Slone <[james.slone@tceq.texas.gov](mailto:james.slone@tceq.texas.gov)>  
**Subject:** RE: Twin Rock Liquor EXCWPAP

Good Morning,

For the GA exception please reach out to Mr. James “Bo” Slone, who is also CC’d. More information regarding the exception request can be found here: <https://www.tceq.texas.gov/permitting/eapp/except.html>. Examples where an Exception request may be approved would be no construction but minor soil disturbance or adding a negligible amount of impervious cover to a previously developed site. Bo may be able to chime in if you have any questions.

Regards,

## **Franklin Anciano**

License & Permit Specialist | Edwards Aquifer Protection Program  
Texas Commission on Environmental Quality

Office: 512-239-7017  
Email: [Franklin.Anciano@tceq.texas.gov](mailto:Franklin.Anciano@tceq.texas.gov)

---

**From:** Anna Fash <[afash@bgeinc.com](mailto:afash@bgeinc.com)>  
**Sent:** Wednesday, August 28, 2024 9:20 AM  
**To:** EAAdmin <[EAAdmin@tceq.texas.gov](mailto:EAAdmin@tceq.texas.gov)>; Franklin Anciano <[Franklin.Anciano@tceq.texas.gov](mailto:Franklin.Anciano@tceq.texas.gov)>  
**Subject:** RE: Twin Rock Liquor EXCWPAP

Hello Franklin,

I wanted to reach back out about this project and to see if you had any more information. Last time we spoke you mentioned that you would speak with the head geologist at the TCEQ to see if we could get a GA waiver for this property. Do you have any update on that?

Also, we discussed that the reasoning for needing a full WPAP was due to the proposed impervious cover on the property being 83%. My client was wondering what the maximum impervious cover would be that the WPAP Exemption would be improved. Does this make a difference at all with the proposed project being on a property that is less than 1 acre (0.74 acres to be exact)?

Thank you for all your help! I will be looking forward to hearing more.

Thanks,

**Anna Fash**

**BGE, Inc.**

+1 (512) 686-3525

---

**From:** Anna Fash

**Sent:** Wednesday, August 7, 2024 2:14 PM

**To:** EAAdmin <[EAAdmin@tceq.texas.gov](mailto:EAAdmin@tceq.texas.gov)>

**Cc:** [Franklin.Anciano@tceq.texas.gov](mailto:Franklin.Anciano@tceq.texas.gov)

**Subject:** RE: Twin Rock Liquor EXCWPAP

Hi Franklin,

Thank you for getting back to us on the review of this application. I am reaching out to ask why the Exception request was rejected and why we are required to complete a full WPAP. The engineers informed me that when they reached out initially to the TCEQ regarding this project, the TCEQ said we could apply for an ERI waiver and a WPAP waiver, but did not give any other information. We applied for the ERI waiver, and it was approved so we are curious about the WPAP. Any information you could provide us would be greatly appreciated.

Thank you,

**Anna A. Fash**, Project Manager

BGE, Inc.

**Direct:** 512-686-3525

**Mobile:** 443-487-7228



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**From:** EAAdmin <[EAAdmin@tceq.texas.gov](mailto:EAAdmin@tceq.texas.gov)>

**Sent:** Monday, August 5, 2024 3:03 PM

**To:** Anna Fash <[afash@bgeinc.com](mailto:afash@bgeinc.com)>

**Cc:** Leah Bach <[lbach@bgeinc.com](mailto:lbach@bgeinc.com)>; Tricia Mosier <[TMosier@bgeinc.com](mailto:TMosier@bgeinc.com)>

**Subject:** RE: Twin Rock Liquor EXCWPAP

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Some people who received this message don't often get email from [eaadmin@tceq.texas.gov](mailto:eaadmin@tceq.texas.gov). [Learn why this is important](#)

Good Afternoon,

Based on the information provided in this application, this project requires a full WPAP to be submitted.

Please ensure all documents and attachments are in order according to the attached checklist, upload the complete revised application as one combined/flattened PDF to the TCEQ ftp site, and share with [EAdmin@tceq.texas.gov](mailto:EAdmin@tceq.texas.gov). EAPP staff will review the revisions within two weeks and notify you of any deficiencies not addressed or to request payment.

Regards,

## Franklin Anciano

License & Permit Specialist | Edwards Aquifer Protection Program  
Texas Commission on Environmental Quality

Office: 512-239-7017

Email: [Franklin.Anciano@tceq.texas.gov](mailto:Franklin.Anciano@tceq.texas.gov)

---

**From:** EAdmin

**Sent:** Monday, July 22, 2024 2:33 PM

**To:** 'Anna Fash' <[afash@bgeinc.com](mailto:afash@bgeinc.com)>

**Cc:** Leah Bach <[lbach@bgeinc.com](mailto:lbach@bgeinc.com)>; Tricia Mosier <[TMosier@bgeinc.com](mailto:TMosier@bgeinc.com)>

**Subject:** RE: Twin Rock Liquor EXCWPAP

Good Afternoon,

The application has been received.

We will review the application for administrative completeness within two weeks and will reach out with any comments after our administrative review.

A summary of the application review process is included below for your reference.

Once you have put together a complete application and are ready to submit for administrative and technical review, please follow the steps listed below.

Email [EAdmin@tceq.texas.gov](mailto:EAdmin@tceq.texas.gov) and state you have an application ready for submittal and have uploaded the application to the ftp site and shared.

Go to <https://ftps.tceq.texas.gov/> and upload your **one (1)** electronic file of your application and share the file to [EAdmin@tceq.texas.gov](mailto:EAdmin@tceq.texas.gov) Please name your file accordingly.

The administrative staff should acknowledge your correspondence and will relay an administrative review will take place within 2 weeks.

Once the administrative review has been completed you will either receive a set of deficiencies to address or an acknowledgement your application is ready to be accepted.

Payment will be requested once an application is deemed admin complete. Payment can be made through <https://www3.tceq.texas.gov/epay/> additional instructions will be provided

#### Application accepted for Technical Review

The application will be uploaded to the TCEQ Webpage for the 30-day public comment period at <https://www.tceq.texas.gov/permitting/eapp/eapp-applications-review>

The application will also be assigned to a technical reviewer. You are welcome to email [EAAdmin@tceq.texas.gov](mailto:EAAdmin@tceq.texas.gov) for any status update of your application. At that point, your email will be forwarded to your assigned technical reviewer to respond.

Technical review can include up to, two (2) deficiency comment periods and responses.

The program has 90-calendar days to determine if the application is approved or denied. A good quality application can usually be approved within 60 days.

#### Things to consider

Again, a poor-quality application will cause delays in technical review. Please make sure all attachments are provided and information describing the project is accurate. In addition, do not provide more information than what is requested resulting in a significantly large file.

Authorization issues (applicants are leases), permanent best management practices not sized accordingly, and proper authorization for construction activity outside the legal boundaries can all cause significant delays and possible denials of applications.

During technical review a significant change takes place to the design, for example a new PBMP, changes to the layout resulting in revised drainage, or the type of activity proposed is altered (bank to gas station) can result in a mid-review modification and the application will be asked to be withdrawn.

Regards,

**Franklin Anciano**

License & Permit Specialist | Edwards Aquifer Protection Program

Texas Commission on Environmental Quality

Office: 512-239-7017

Email: [Franklin.Anciano@tceq.texas.gov](mailto:Franklin.Anciano@tceq.texas.gov)

---

**From:** Anna Fash <[afash@bgeinc.com](mailto:afash@bgeinc.com)>

**Sent:** Monday, July 22, 2024 11:23 AM

**To:** EAdmin <[EAdmin@tceq.texas.gov](mailto:EAdmin@tceq.texas.gov)>

**Cc:** Leah Bach <[lbach@bgeinc.com](mailto:lbach@bgeinc.com)>; Tricia Mosier <[TMosier@bgeinc.com](mailto:TMosier@bgeinc.com)>

**Subject:** TCEC WPAP Exception Request Submittal - Twin Rock

To Whom it May Concern at the TCEQ,

We have a plan that is ready for submittal, and it has been uploaded to the TCEQ FTP website under the file name "Twin Rock\_TCEQ WPAP Exception\_Submittal\_2024-07-22". The project is named Twin Rock and we have submitted a WPAP Exception Request.

The contact engineer for this project is:

Marissa Wyrick, P.E.

512-879-0400

[mwyrick@bgeinc.com](mailto:mwyrick@bgeinc.com)

You can also find my contact information below.

Lastly, we have mailed the \$500 application in a check addressed to the TCEQ Cashier Revenues Section. Please let use know if you have not received this.

Please let us know if you have any questions or concerns.

Thank you for your time and review,

**Anna A. Fash**, Project Manager

BGE, Inc.

1701 Directors Blvd.

Suite 1000

Austin, Texas 78744

**Direct:** 512-686-3525

**Mobile:** 443-487-7228



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# Temporary Stormwater Section

## Texas Commission on Environmental Quality

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

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

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

## Signature

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

Print Name of Customer/Agent: Anna Fash

Date: 12/05/2025

Signature of Customer/Agent:



---

Regulated Entity Name: Twin Rock

## Project Information

### Potential Sources of Contamination

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

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

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

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

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

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

### ***Sequence of Construction***

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

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

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

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

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

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

### ***Soil Stabilization Practices***

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

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

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

### ***Administrative Information***

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

**Temporary Stormwater Section**  
**Attachment A – Spill Response Action**



# Twin Rock Liquor Spill Response Actions

As a minimum, any products in the following categories are considered to be hazardous: paints, acids, solvents, fuels, asphalt products, chemical additives for soil stabilization, and concrete curing compounds or additives. When storing hazardous material on the project area, or at a project specific location, take all practicable precautions to prevent and/or contain any spillage of these materials. In the event of a spill, contact the spill coordinator immediately.

## **Cleanup**

1. Clean up leaks and spills immediately.
2. Use a rag for small spills on paved surfaces, a damp mop for general cleanup, and absorbent material for larger spills. If the spilled material is hazardous, then the used cleanup materials are also, hazardous and must be disposed of as hazardous waste.
3. Never hose down or bury dry material spills. Clean up as much of the material as possible and dispose of properly.

## **Minor Spills**

1. Minor spills typically involve small quantities of oil, gasoline, paint, etc. which can be controlled by the first responder at the discovery of the spill.
2. Use absorbent materials on small spills rather than hosing down or burying the spill.
3. Absorbent materials should be promptly removed and disposed of properly.
4. Follow the practice below for a minor spill:
  - o Contain the spread of the spill.
  - o Recover spilled materials.
  - o Clean the contaminated area and properly dispose of Contaminated materials.

## **Semi-Significant Spills**

Semi-significant spills still can be controlled by the first responder along with the aid of other personnel such as laborers and the foreman, etc. This response may require the cessation of all other activities. Spills should be cleaned up immediately:

1. Contain spread of the spill.
2. Notify the project foreman immediately.
3. If the spill occurs on paved or impermeable surfaces, clean up using "dry" methods (absorbent materials, cat litter and/or rags). Contain the spill by encircling with absorbent materials and do not let the spill spread widely.
4. If the spill occurs in dirt areas, immediately contain the spill by constructing an earthen dike. Dig up and properly dispose of contaminated soil.
5. If the spill occurs during rain, cover spill with tarps or other material to prevent contaminating runoff.

**Significant/Hazardous Spills**

From any event, the Reportable quantity (RQ) = for highly toxic materials the RQ>25 gals. For petroleum/hydrocarbon liquids, spills the RQ>250 gallons (on land) or that which creates sheen" on water. Only certified Hazmat teams will be responsible for handling the material at the site.

For significant or hazardous spills that are in reportable quantities:

1. Notify the TCEQ by telephone as soon as possible and within 24 hours at 512- 339-2929 (Austin) between 8 AM and 5 PM. After hours, contact the Environmental Release Hotline at 1-800-832-8224. It is the contractor's responsibility to have all emergency phone numbers at the construction site. Additionally, in the event of a hazardous material spill, local Travis County and/or police, fire and potentially EMS should be contacted in order to initiate the hazardous material response team.
2. For spills of federal reportable quantities, in conformance with the requirements in 40 CFR parts 110, 119, and 302, the contractor should notify the National Response Center at (800) 424-8802.
3. Notification should first be made by telephone and followed up with a written report.
4. The services of a spills contractor or a Haz-Mat team should be obtained immediately. Construction personnel should not attempt to clean up until the appropriate and qualified staffs have arrived at the job site.
5. Other agencies which may need to be consulted include, but are not limited to, the City Police Department, County Sheriff Office, Fire Departments, etc.

For additional information, visit <https://www.tceq.texas.gov/response/spills>.

**Temporary Stormwater Section**  
**Attachment B – Potential Sources of Contamination**



# Twin Rock Liquor Potential Sources of Contamination

No activity during the construction process is anticipated to pose a significant risk of contaminating the surrounding area. However, minor errors during routine construction operations could result in environmental contamination. In the event that contamination occurs, the contractor must follow the procedures outlined in **Attachment A – Spill Response Plan**.

## **Potential sources of sediment to stormwater runoff**

- Clearing and grubbing
- Excavation
- Vehicle tracking
- Landscaping of the site

## **Potential pollutants and sources, other than sediment and stormwater runoff**

- Staging areas – small fueling, equipment maintenance, sanitary facilities.
- Materials storage area – paving and construction materials.
- Construction activities – paving, concrete pouring

## **Potential on-site pollutants**

- Concrete
- Gasoline, diesel, hydraulic fluids
- Sanitary toilets

These materials will be contained with Temporary BMPs as outlined in the SWPPP.

**Temporary Stormwater Section**  
**Attachment C – Sequence of Major Activities**



## Twin Rock Liquor Sequence of Major Activities

1. Temporary erosion and sedimentation controls will be installed as indicated by the stormwater pollution prevention plan (SWPPP). The projected acreage of disturbance is 0.05 acres.
2. The project manager, site supervisor, and/or responsible party and general contractor will follow the SWPPP posted on the site. Temporary erosion controls will be revised, if needed, to comply with the city of Austin guidelines and directives and revises construction schedule relative to the water quality plan requirements. The projected acreage of disturbance is 0 acres.
3. Begin construction on project area with building, parking lot, and filtration facility. Activities will include excavation, concrete pavement, and storm drain placements. The projected acreage of disturbance is 0.90 acres.
4. Temporary erosion controls will be inspected and maintained in accordance with the SWPPP posted on the site. The project acreage of disturbance is 0 acres.
5. Disturbed areas will be stabilized with seeding. The project area of disturbance is 0.05 acres.

**Temporary Stormwater Section**

**Attachment D – Temporary Best Management Practices and Measures**



# Twin Rock Liquor Temporary Best Management Practices and Measures

Prior to beginning construction, the contractor shall install all necessary BMPs, including silt fences, filter dikes, tree protection fences, rock berms, mulch socks, and stabilized seeding. All temporary BMPs must be installed in accordance with TCEQ local requirements

As surface water flows from and through the disturbed areas, the proposed temporary BMPs will prevent pollution by filtering increased sediment loads and other pollutants, as listed in **Attachment B – Potential Sources of Contamination**, before any runoff leaves the site. Sediment traps will help prevent sediment and pollutant runoff downstream. Temporary seeding will minimize soil erosion from disturbed areas, and tree protection fences will safeguard trees that are to remain on site.

**Temporary Stormwater Section**

**Attachment E – Request to Temporarily Seal a Feature**

*Not Applicable*

**Temporary Stormwater Section**  
**Attachment F – Structural Practices**



# Twin Rock Liquor Structural Practices

The following temporary BMP structural practices will be employed on the site:

1. Silt Fence – Used for sediment filtration along the boundaries of the project to prevent runoff and to prevent runoff from storage of excavated materials. The fence retains sediment primarily by retarding flow and promoting deposition of sediment within the project area and filtering runoff.
2. Rock Berms – Used to reduce velocities of concentrated flow and provide a barrier to reduce erosion in channels and ditches. Rock berms will be in the ditches near Jollyville Road to slow down stormwater.
3. Stabilized Construction Entrance – Rock that will help prevent the tracking of mud and sediment onto the roadway during the construction phase.
4. Temporary Seeding – To be provided around the site on to limit runoff contaminated with sediment from exiting the project area.
5. Filter Dike – Will be used to contain contaminated stormwater runoff containing oils, sediment, and debris.
6. Stormwater Line – Installed to direct the flow of stormwater entering the project area to a nearby drainage ditch and minimize the chances of contaminated runoff from the site leaving to the surrounding area. The stormwater line will lead to the rock berms to slow down the stormwater and filter out sediment.
7. Mulch Sock – Will be placed on the southeastern portion of the project and will be used to filter out contaminated stormwater leaving the project area.

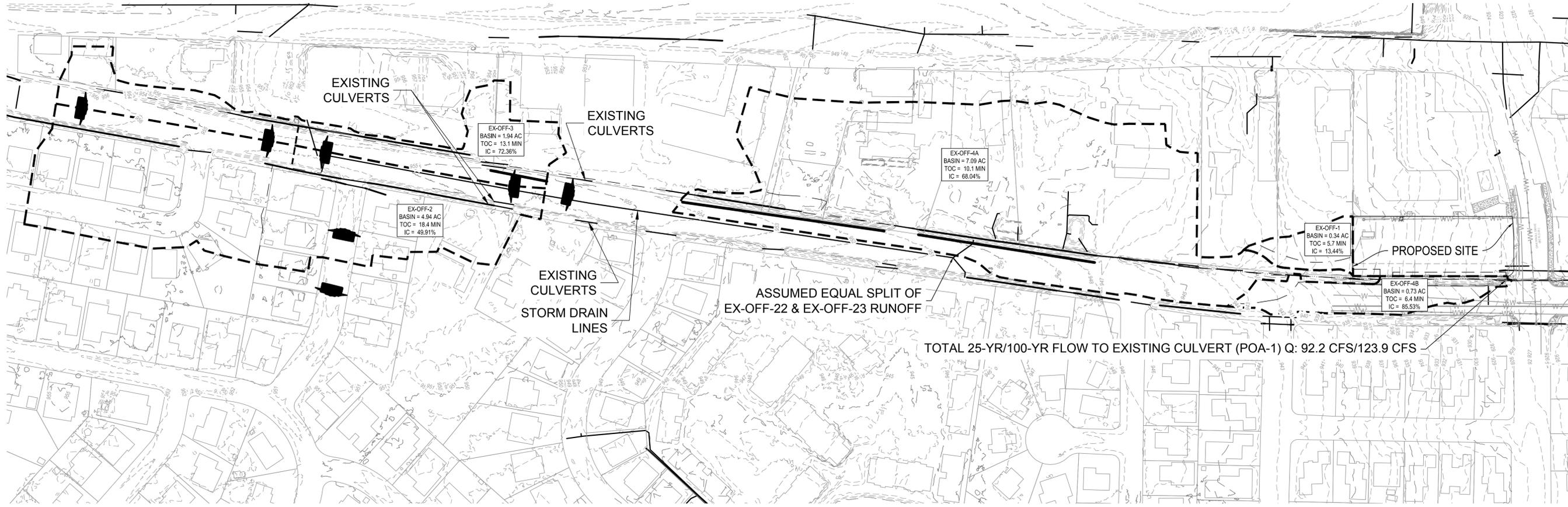
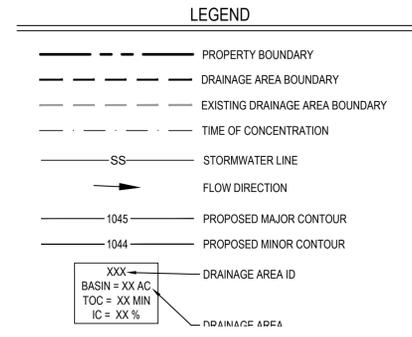
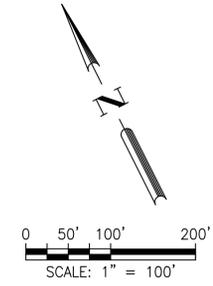
The placement of structural practices in the floodplain has been avoided as the project limit.

**Temporary Stormwater Section**  
**Attachment G – Drainage Area Map**

EXISTING FLOW CALCULATIONS														
DRAINAGE AREA	SUB-BASIN (IF APPLICABLE)	AREA (SF)	AREA (AC)	AREA (M2)	I.C. (SF)	I.C. (AC)	I.C. (%)	CN	Tc (Min.)	Lag Time (Min.)	Q2 (CFS)	Q10 (CFS)	Q25 (CFS)	Q100 (CFS)
EX-OFF-1	POA-1	14,804	0.34	0.000531004	13,323	0.31	90.00%	96.20	5.7	3.4	1.80	2.80	3.40	4.50
EX-OFF-2	POA-1	215,210	4.94	0.007719590	107,405	2.47	49.91%	88.98	18.4	11.1	15.00	24.70	31.30	42.40
EX-OFF-3	POA-1	84,481	1.94	0.003030327	61,130	1.40	72.36%	93.02	13.1	7.8	7.50	11.80	14.70	19.60
EX-OFF-4A	POA-1	308,907	7.09	0.011080502	210,185	4.83	68.04%	92.25	10.1	6.0	29.30	46.90	58.40	78.10
EX-OFF-4B	POA-1	31,683	0.73	0.001136483	27,012	0.62	85.26%	95.35	6.4	3.9	3.70	5.70	7.00	9.30

NOTE: ALL FLOWS ARE BASED ON THE HEC-HMS MODEL VERSION 4.12

		TIME OF CONCENTRATION																	
DRAINAGE AREA	SUB-BASIN (IF APPLICABLE)	SHEET FLOW					SHALLOW CONCENTRATED FLOW					CHANNEL FLOW			TOTAL Tc(min)				
		Manning's n	L (ft)	P <sub>2</sub> (in)	Start Elev.	End Elev.	S (%)	T <sub>r</sub> (min)	Paved/Unpaved	V (ft/s)	L (ft)	Start Elev.	End Elev.	S (%)		T <sub>r</sub> (min)	L (ft)	V (ft/s)	T <sub>r</sub> (min)
EX-OFF-1	POA-1	0.015	100	4.06	944	940.75	3.3%	5.0	Paved	3.3	137.5	940.75	937.1	2.65	0.7	0.00	6	0.0	5.69
EX-OFF-2	POA-1	0.15	100	4.06	955	953.8	1.2%	10.7	Unpaved	2.7	103.4	953.8	951	2.71	0.6	2557.40	6	7.1	18.42
EX-OFF-3	POA-1	0.015	66.7	4.06	956	955.12	1.3%	5.0	Unpaved	3.9	19.4	955.12	954	5.77	0.1	2875.13	6	8.0	13.07
EX-OFF-4A	POA-1	0.15	34.6	4.06	953	950.73	6.6%	5.0	Paved	2.2	149.6	950.73	949	1.16	1.1	1416.96	6	3.9	10.08
EX-OFF-4B	POA-1	0.015	100	4.06	944	942	2.0%	5.0	Paved	4.1	74.0	942	939	4.05	0.3	412.82	6	1.1	6.45



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REV	DESCRIPTION	DATE

DESIGNED BY: RM  
 REVIEWED BY: MW  
 DRAWN BY: RM/AC

**BROWN & GAY ENGINEERS, INC.**  
 1701 DIRECTORS BLVD., SUITE 1000  
 AUSTIN, TX 78731  
 TYPE Registration No. F-1046  
 TEL: 512-979-9400 www.browngay.com

**TWIN ROCK COMMERCIAL CENTER**  
 12029 JOLLYVILLE RD., AUSTIN, TX 78759  
**EXISTING REGIONAL HYDROLOGY BASIN PLAN**

SHEET  
27 OF 57



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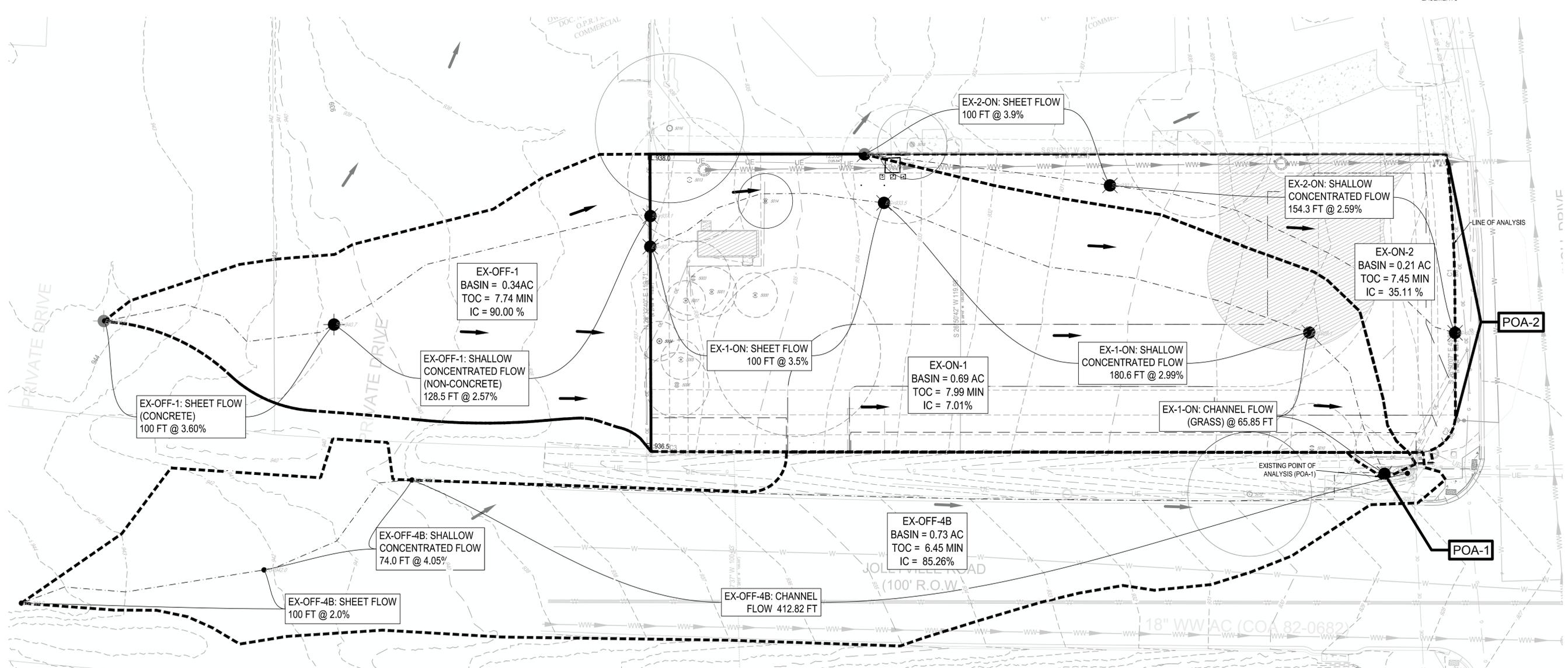
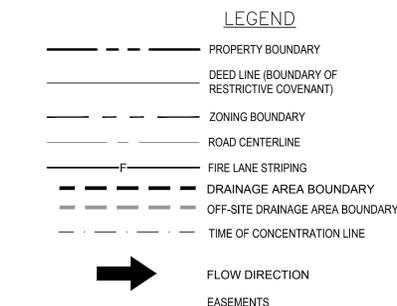
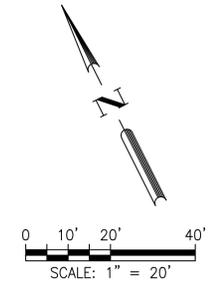
12029 JOLLYVILLE RD., AUSTIN, TX 78759

EXISTING FLOW CALCULATIONS														
DRAINAGE AREA	SUB-BASIN (IF APPLICABLE)	AREA (SF)	AREA (AC)	AREA (MI2)	I.C. (SF)	I.C. (AC)	I.C. (%)	CN	Tc (Min.)	Lag Time (Min.)	Q2 (CFS)	Q10 (CFS)	Q25 (CFS)	Q100 (CFS)
EX-OFF-1	POA-1	14,804	0.34	0.000531004	13,323	0.31	90.00%	96.20	7.7	4.6	1.67	2.56	3.13	4.13
EX-OFF-2	POA-1	215,210	4.94	0.007719590	107,405	2.47	49.91%	88.98	18.4	11.1	14.97	24.74	31.34	42.44
EX-OFF-3	POA-1	84,481	1.94	0.003030327	61,130	1.40	72.36%	93.02	13.1	7.8	7.48	11.81	14.70	19.59
EX-OFF-4A	POA-1	308,907	7.09	0.011080502	210,185	4.83	68.04%	92.25	10.1	6.0	29.33	46.85	58.40	78.12
EX-OFF-4B	POA-1	31,683	0.73	0.001136483	27,012	0.62	85.26%	95.35	6.4	3.9	3.67	5.70	7.00	9.27

NOTE: ALL FLOWS ARE BASED ON THE HEC-HMS MODEL VERSION 4.12

DRAINAGE AREA		SUB-BASIN (IF APPLICABLE)		SHEET FLOW						SHALLOW CONCENTRATED FLOW						CHANNEL FLOW			TOTAL Tc (min)		
				Manning's n	L (ft)	P <sub>2</sub> (in)	Start Elev.	End Elev.	S (%)	T <sub>r</sub> (min)	Paved/Unpaved	V (ft/s)	L (ft)	Start Elev.	End Elev.	S (%)	T <sub>r</sub> (min)	L (ft)		V (ft/s)	T <sub>r</sub> (min)
EX-OFF-1		POA-1		0.15	100	4.06	944	940.4	3.6%	6.9	Unpaved	2.6	128.5	940.4	937.1	2.57	0.8	0.00	6	0.0	7.74
EX-OFF-4B		POA-1		0.015	100	4.06	944	942	2.0%	5.0	Paved	4.1	74.0	942	939	4.05	0.3	412.82	6	1.1	6.45
EX-ON-1		POA-1		0.15	100	4.06	937	933.5	3.5%	7.0	Paved	3.5	180.6	933.5	928.1	2.99	0.9	65.85	6	0.2	7.99
EX-ON-2		POA-2		0.15	100	4.06	934.4	930.5	3.9%	6.7	Paved	3.3	154.3	930.5	926.5	2.59	0.8	0.00	6	0.0	7.45

FLOW CALCULATIONS														
DRAINAGE AREA	SUB-BASIN (IF APPLICABLE)	AREA (SF)	AREA (AC)	AREA (MI2)	I.C. (SF)	I.C. (AC)	I.C. (%)	CN	Tc (Min.)	Lag Time (Min.)	Q2 (CFS)	Q10 (CFS)	Q25 (CFS)	Q100 (CFS)
EX-OFF-1	POA-1	14,804	0.34	0.000531004	13,323	0.31	90.00%	96.20	7.7	4.6	1.67	2.56	3.13	4.13
EX-OFF-4B	POA-1	31,683	0.73	0.001136483	27,012	0.62	85.26%	95.35	6.4	3.9	3.67	5.70	7.00	9.27
EX-ON-1	POA-1	29,961	0.69	0.001074720	2,099	0.05	7.01%	81.26	8.0	4.8	2.22	4.16	5.44	7.63
EX-ON-2	POA-2	8,940	0.21	0.000320677	3,139	0.07	35.11%	86.32	7.4	4.5	0.79	1.36	1.73	2.38



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	<p>SHEET 28 OF 57</p>

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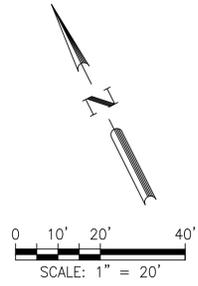


ONSITE INLET CALCULATIONS														
DRAINAGE AREA	SUB-BASIN (IF APPLICABLE)	AREA (SF)	AREA (AC)	AREA (MI <sup>2</sup> )	I.C. (SF)	I.C. (AC)	I.C. (%)	CN	Tc (Min.)	Lag Time (Min.)	Q2 (CFS)	Q10 (CFS)	Q25 (CFS)	Q100 (CFS)
PR-ON-1A	POA-1	5,521	0.13	0.000198051	5,443	0.12	98.58%	97.74	5.5	3.3	0.76	1.15	1.40	1.83
PR-ON-1B	POA-1	40,946	0.94	0.001468718	32,184	0.74	78.60%	94.15	9.1	5.4	4.12	6.45	7.98	10.60

TIME OF CONCENTRATION																			
DRAINAGE AREA	SUB-BASIN (IF APPLICABLE)	SHEET FLOW					SHALLOW CONCENTRATED FLOW					CHANNEL FLOW			TOTAL Tc (min)				
		Manning's n	L (ft)	P <sub>2</sub> (in)	Start Elev.	End Elev.	S (%)	T <sub>r</sub> (min)	Paved/Unpaved	V (ft/s)	L (ft)	Start Elev.	End Elev.	S (%)		T <sub>r</sub> (min)	L (ft)	V (ft/s)	T <sub>r</sub> (min)
PR-ON-1A	POA-1	0.15	7.98	4.06	929.35	928.77	7.3%	5.0	Paved	3.0	86.4	928.77	926.89	2.18	0.5	0.00	6	0.0	5.48
PR-ON-1B	POA-1	0.15	100	4.06	944	940.4	3.6%	6.9	Paved	3.3	434.7	940.4	928.8	2.67	2.2	0.00	6	0.0	9.06

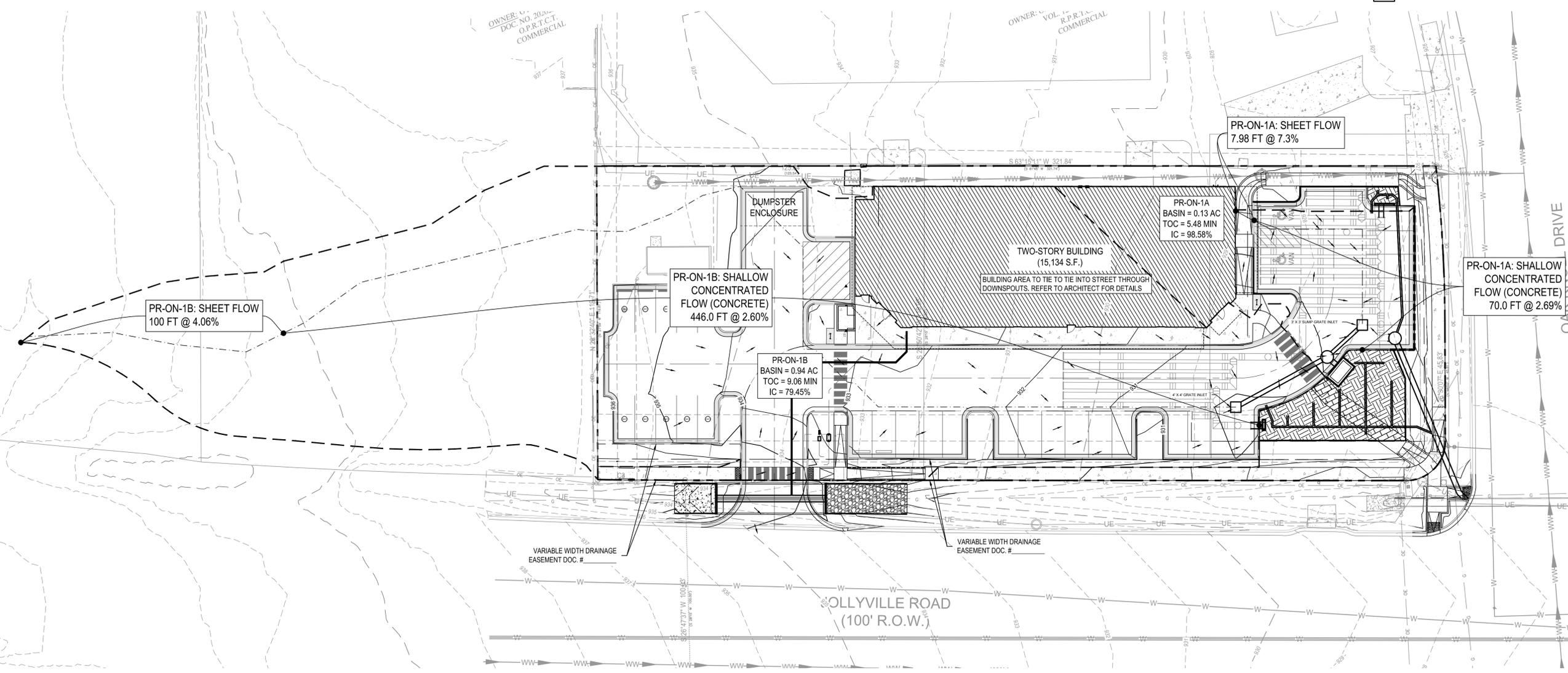
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Inlet ID	D.A. #	Length (ft)	C <sub>w</sub>	D(ft)	Depression?	W (ft)	P(ft)	Slope (ft/ft)	Delta h (ft)	H <sub>Actual</sub> (ft)	Inlet Operation	Q (cfs)	Q <sub>Weir</sub> (cfs)	Q <sub>Office</sub> (cfs)	Design Met?
5	PR-ON-1A	5	2.3	0.50	Yes	3.00	10.40	0.02	0.50	0.50	Weir	1.4	4.07	1.90	TRUE
5	PR-ON-1B	10	2.3	0.50	Yes	3.00	15.40	0.02	0.50	0.50	Weir	7.98	8.13	25.92	TRUE

NOTE: ALL FLOWS ARE BASED ON THE HEC-HMS MODEL VERSION 4.12



- LEGEND**
- PROPERTY BOUNDARY
  - DRAINAGE AREA BOUNDARY
  - EXISTING DRAINAGE AREA BOUNDARY
  - TIME OF CONCENTRATION
  - SS --- STORMWATER LINE
  - FLOW DIRECTION
  - 1045--- PROPOSED MAJOR CONTOUR
  - 1044--- PROPOSED MINOR CONTOUR
  - XXX --- DRAINAGE AREA ID
  - BASIN = XX AC  
TOC = XX MIN  
IC = XX % --- DRAINAGE AREA
  - ◆ POINT OF ANALYSIS
  - FG FINISHED GRADE
  - 4" DIA. MANHOLE
  - 18" GRATE INLET

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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.

**TWIN ROCK COMMERCIAL CENTER**  
12029 JOLLYVILLE RD., AUSTIN, TX 78759  
**PRIVATE STORM INLET HYDROLOGY**



SHEET  
30 OF 57

REV	DESCRIPTION	DATE	APR
DESIGNED BY: RM			
REVIEWED BY: MW			
DRAWN BY: RM/AC			

**BROWN & GAY ENGINEERS, INC.**  
1701 DIRECTORS BLVD., SUITE 1000  
AUSTIN, TX 78731  
TELEPHONE: 512-476-6666  
WWW.BGEE.COM

12029 JOLLYVILLE RD., AUSTIN, TX 78759

**Temporary Stormwater Section**

**Attachment H – Temporary Sediment Pond(s) Plans and Calculations**

*Not Applicable*

**Temporary Stormwater Section**

**Attachment I – Inspection and Maintenance for BMPs**



## Twin Rock Liquor Inspection and Maintenance for BMPs

The contractor will be responsible for maintaining, repairing, and retrofitting all construction exits, sediment traps, and temporary seedings throughout the duration of the project until the permanent BMPs are constructed and established. The contractor will be required to inspect the BMPs on a weekly basis and after every rainfall event. A log of inspections will be maintained and kept on site identifying each individual BMP area and its condition. The project inspector, from the city of Austin, will also inspect the BMPs to ensure they are in proper working condition. If any BMP is found to be unacceptable, the inspector will notify the contractor to remedy the problem immediately.

**Temporary Stormwater Section**

**Attachment J – Schedule of Interim and Permanent Soil Stabilization Practices**



# Twin Rock Liquor Schedule of Interim and Permanent Soil Stabilization Practices

The temporary stabilization of the site will include vegetative stabilization using native species from September 15 to March 1. Seeding will be done to minimize soil erosion on the project area. Temporary erosion control will be acceptable when the grass has reached a height of at least 1.5 inches and covers 95% of the project area not under active construction. Bare soils should be seeded or otherwise stabilized within 14 calendar days after final grading or where construction activity has temporarily ceased for more than 21 days. Fertilizers will be applied to the site if deemed necessary by a soil test of the project area. Six inches of topsoil will be applied to disturbed areas in an effort to restore them to pre-construction conditions.

# Permanent Stormwater Section

## Texas Commission on Environmental Quality

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

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

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

## Signature

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

Print Name of Customer/Agent: Anna Fash

Date: 12/05/2025

Signature of Customer/Agent



Regulated Entity Name: Twin Rock

## Permanent Best Management Practices (BMPs)

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

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

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

N/A

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

N/A

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

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

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

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

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

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

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

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

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

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

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

### ***Responsibility for Maintenance of Permanent BMP(s)***

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

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

**Permanent Stormwater Section**

**Attachment A – 20% or Less Impervious Cover Waiver**

*Not Applicable*

**Permanent Stormwater Section**  
**Attachment B – BMPs for Upgradient Stormwater**



## Twin Rock Liquor BMPs for Upgradient Stormwater

Areas where upgradient stormwater enters the project area will be intercepted and directed through stormwater lines to a rock berm located in a drainage ditch. On-site and upgradient stormwater will be conveyed eastward into one jellyfish filter. Mulch socks and rock berms will be installed along the eastern portion of the site to help filter any runoff that discharges beyond the project boundaries.

Silt fencing will also be used to prevent upgradient stormwater from leaving the site without filtration, helping to retain sediment within the project area. The proposed locations for silt fencing, rock berms, and mulch socks are shown on the site plans.

After construction is complete, all areas of the project area will be stabilized. Disturbed areas will be seeded with grasses to establish permanent vegetation. Vegetation will be considered acceptable once grass has reached a minimum height of 1.5 inches and at least 95% coverage is achieved across the site for the specified seed mix.

**Permanent Stormwater Section**  
**Attachment C – BMPs for On-site Stormwater**



## Twin Rock Liquor BMPs for on-site Stormwater

During construction of the project area, the contractor shall install BMPs necessary to mitigate stormwater runoff contaminated with sediment from the project area. As shown in the attached construction plan documents, mulch socks and rock berms will be used downstream of the flow of the proposed project area to mitigate pollutant runoff leaving the area. Permanent seeding will minimize soil runoff from disturbed areas.

The permanent vegetation that will be used on the project area will consist of Bermuda grass from March 2 to September 14. Care for the grass will follow compliance of Austin Water Utility city code 6-4 for seeded areas. When required, native plant seeding shall comply with the requirements of the City of Austin Environmental Criteria Manual, Items 604S and 609S.

One jellyfish filter will be constructed on the project area for the purpose of detaining stormwater runoff. The jellyfish filter measurements and filtration calculations can be found in the attached construction plan documents. The construction of the filter will be in compliance with the TCEQ guidelines for the construction of filtration systems.

**Permanent Stormwater Section**  
**Attachment D – BMPs for Surface Streams**

*Not Applicable*

**Permanent Stormwater Section**  
**Attachment E – Request to Seal Features**

*Not Applicable*

**Permanent Stormwater Section**  
**Attachment F – Construction Plans**

CITY OF AUSTIN  
ECM 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 ENVIRONMENTALINSPECTIONS@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 (1/2) 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 (1/3) 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. IN ADDITION, IF THE PROJECT SITE IS LOCATED WITHIN THE EDWARDS AQUIFER, THE PROJECT MANAGER MUST NOTIFY THE TRAVIS COUNTY BALCONES CANYONLANDS CONSERVATION PRESERVE (BCCP) BY EMAIL AT BCCP@TRAVISCOUNTYTX.GOV. CONSTRUCTION ACTIVITIES WITHIN 50 FEET OF THE VOID MUST STOP.

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 1 1/2 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 WOODS/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 (1/2) 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 SEEDED IN A MOIST CONDITION FAVORABLE FOR PLANT GROWTH. ALL WATERING SHALL COMPLY WITH CITY CODE CHAPTER 6-4 (WATER CONSERVATION), AT RATES AND FREQUENCIES DETERMINED BY A LICENSED IRRIGATOR OR OTHER QUALIFIED PROFESSIONAL, AND AS ALLOWED BY THE AUSTIN WATER UTILITY AND CURRENT WATER RESTRICTIONS AND WATER CONSERVATION INITIATIVES.

D. PERMANENT EROSION CONTROL SHALL BE ACCEPTABLE WHEN THE GRASS HAS GROWN AT LEAST 1 1/2 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 manufacturers 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 manufacturers recommendations)

10. DEVELOPER INFORMATION:  
OWNER MALIK RAJU & SANDEEP KAUR

PHONE # (512) 468-8969  
ADDRESS 119+05 BARRINGTON WAY AUSTIN, TEXAS 78759

OWNER'S REPRESENTATIVE RESPONSIBLE FOR PLAN ALTERATIONS: \_\_\_\_\_  
PHONE # \_\_\_\_\_

PERSON OR FIRM RESPONSIBLE FOR EROSION/SEDIMENTATION CONTROL MAINTENANCE: BGE, INC.

PHONE # (512) 879 0400

PERSON OR FIRM RESPONSIBLE FOR TREE/NATURAL AREA PROTECTION MAINTENANCE: BGE, INC.

PHONE # (512) 879 0400  
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.

CITY OF AUSTIN  
WATER QUALITY MANAGEMENT NOTES

1.6.3 MAINTENANCE AND CONSTRUCTION REQUIREMENTS  
A. MAINTENANCE RESPONSIBILITIES. PROPER MAINTENANCE IS AS IMPORTANT AS ENGINEERING DESIGN AND CONSTRUCTION IN ORDER TO ENSURE THAT WATER QUALITY CONTROLS, REFERRED TO HEREIN AS STORMWATER CONTROL MEASURES (SCMS), WILL FUNCTION EFFECTIVELY. SECTION 25-8-231 OF THE LAND DEVELOPMENT CODE REQUIRES MAINTENANCE BE PERFORMED ON SCMS WHEN NECESSARY AS DEFINED BY THIS SECTION. STORMWATER CONTROL MEASURES REQUIRED FOR COMMERCIAL AND MULTI-FAMILY DEVELOPMENT SHALL BE MAINTAINED BY THE PROPERTY OWNER. STORMWATER CONTROL MEASURES FOR SINGLE FAMILY OR DUPLEX RESIDENTIAL DEVELOPMENT SHALL BE MAINTAINED BY THE CITY OF AUSTIN ONCE THE FACILITIES HAVE BEEN ACCEPTED BY THE CITY, UNLESS OTHERWISE DETERMINED DURING THE REVIEW PROCESS. FOR THE CITY TO ACCEPT AN SCM, THE FACILITY MUST:

1. BE CONSTRUCTED PER THE APPROVED DEVELOPMENT PLAN;
2. MEET ALL APPLICABLE REQUIREMENTS OF SECTION 1.6.3 AND THE DRAINAGE CRITERIA MANUAL, SECTION 1.2.4 E.;
3. COMPLETE A ONE-YEAR WARRANTY PERIOD, INCLUDING THE COMPLETION OF ALL MAINTENANCE AND REHABILITATION ACTIVITIES IDENTIFIED BY THE WATERSHED PROTECTION DEPARTMENT; AND
4. OBTAIN FINAL WARRANTY RELEASE APPROVAL FROM THE WATERSHED PROTECTION DEPARTMENT. THE CITY WILL ALSO MAINTAIN SCMS DESIGNED TO SERVICE PRIMARILY PUBLICLY OWNED ROADS AND FACILITIES. THESE SCMS MUST BE DESIGNED AND BUILT ACCORDING TO THE APPROPRIATE CITY STANDARDS.

B. MAINTENANCE REQUIREMENTS-DESIGN AND CONSTRUCTION. THE DESIGN OF DRAINAGE FACILITIES INCLUDING BUT NOT LIMITED TO HEADWALLS, OPEN CHANNELS, STORM SEWERS, AREA INLETS, AND DETENTION, RETENTION, AND STORMWATER CONTROL MEASURES AND THEIR APPURTENANCES SHALL COMPLY WITH THE REQUIREMENTS OF SECTION 1.2.4.E OF THE DRAINAGE CRITERIA MANUAL. IN ADDITION, SCMS SHALL COMPLY WITH THE FOLLOWING CONSTRUCTION REQUIREMENTS:

1. SEDIMENT REMOVED DURING CONSTRUCTION OF A DETENTION, RETENTION, OR WATER QUALITY FACILITIES MAY BE DISPOSED OF ON-SITE IF PROPERLY STABILIZED ACCORDING TO THE PRACTICES OUTLINED IN THE EROSION AND SEDIMENTATION CONTROL CRITERIA FOUND IN SECTION 1.4.0 OF THIS MANUAL. AFTER THE CITY OF AUSTIN HAS ACCEPTED A STORMWATER FACILITY DISPOSAL OF SEDIMENT MUST BE AT AN APPROVED LANDFILL.
2. DURING CONSTRUCTION OF SCMS, TEMPORARY EROSION AND SEDIMENTATION CONTROLS SHALL BE MAINTAINED.
3. IF RUNOFF IS TO ENTER THE SAND FILTRATION CHAMBER OF A WATER QUALITY CONTROL FACILITY PRIOR TO COMPLETION OF SITE CONSTRUCTION AND REVEGETATION, INSPECTION AND MAINTENANCE OF ALL TEMPORARY EROSION/SEDIMENTATION CONTROLS ARE REQUIRED, AS DESCRIBED IN THE ENVIRONMENTAL CRITERIA MANUAL SECTION 1.4.4. TO PREVENT HEAVY SEDIMENT LOADS CAUSED BY HOME CONSTRUCTION FROM CLOGGING THE FILTRATION MEDIA.
4. IN ALL CASES, TREES SHALL BE PRESERVED ACCORDING TO THE REQUIREMENTS OF SECTION 3 OF THE ENVIRONMENTAL CRITERIA MANUAL. THE ACCESS DRIVE AND STAGING AREA SHALL BE DESIGNED TO PRESERVE TREES 8" (INCHES) IN DIAMETER AND GREATER TO THE MAXIMUM EXTENT POSSIBLE. TREES 8" IN DIAMETER AND LARGER SHALL BE SURVEYED AND SHOWN FOR THE PROPOSED ACCESS EASEMENT AT THE TIME OF CONSTRUCTION PLAN PERMITTING.
5. FOR FILTRATION SYSTEMS THE DESIGN MEDIA DEPTH MUST BE VERIFIED. ACCOUNTING FOR CONSOLIDATION IF INSUFFICIENT DEPTH IS PRESENT, ADDITIONAL MEDIA MUST BE ADDED AND PRE-SOAKED UNTIL THE DESIGN DEPTH IS ACHIEVED. PRE-SOAKING - APPLY 5-10 GALLONS OF WATER PER SQUARE FOOT OF MEDIA AREA WITHIN ONE HOUR.
6. RETAINING WALLS - RETAINING WALLS WITHIN SCMS REQUIRE WATER-TIGHTNESS. WATER-TIGHTNESS IN RETAINING WALLS IS ESSENTIAL TO THE FUNCTION OF THE STRUCTURE. WATERSTOPS SHALL BE PROVIDED DURING CONSTRUCTION OF EXPANSION JOINTS IN RETAINING WALLS PER STANDARD SPECIFICATION 414S, CONCRETE RETAINING WALLS.
7. GROUTED ROCK WALLS - GROUTED ROCK WALLS ARE ACCEPTABLE ONLY IF THE DESIGN INCLUDES AN IMPERMEABLE BARRIER SUCH AS AN APPROVED GEOMEMBRANE LINER OR REINFORCED CONCRETE RETAINING WALL. FREE STANDING DRY STACKED ROCK WALLS ARE NOT ACCEPTABLE IN ANY SCM.
8. AS-BUILT SURVEYS - AS-BUILT SURVEYS OF ALL FLOOD DETENTION BASINS AND WATER QUALITY SCMS SHALL BE SUBMITTED TO THE CITY UPON COMPLETION OF FINAL GRADE. SURVEYS SHALL BE CONDUCTED BY A LICENSED SURVEYOR OR THE ENGINEER OF RECORD AND INCLUDE REPRESENTATIVE SURVEY POINTS WITH ELEVATIONS TAKEN AT TOP OF WALL, BOTTOM OF WALL, CENTER OF BASIN, INLETS, OUTFALLS, OVERFLOW STRUCTURES, AND SIDE SLOPES. ADDITIONAL SURVEY POINTS MAY BE REQUESTED AT THE DISCRETION OF THE CITY INSPECTOR TO ENSURE BASIN INTEGRITY. WATER QUALITY BASINS WITH A DRAINAGE AREA OF LESS THAN TWO (2) ACRES AS WELL AS VEGETATED FILTER STRIPS DO NOT REQUIRE SUBMITTAL OF AS-BUILT SURVEYS UNLESS DEEMED NECESSARY BY THE CITY INSPECTOR.

C. MAJOR MAINTENANCE REQUIREMENTS.  
1. THE FOLLOWING MAINTENANCE ACTIVITIES SHALL BE PERFORMED ON ALL SCMS, IN ADDITION TO THE REQUIREMENTS LISTED FOR THE INDIVIDUAL SCM TYPES, TO ENSURE PROPER FUNCTION:

- a) ACCUMULATED PAPER, TRASH AND DEBRIS SHALL BE REMOVED EVERY SIX (6) MONTHS OR AS NECESSARY TO MAINTAIN PROPER OPERATION.
- b) STRUCTURAL INTEGRITY SHALL BE MAINTAINED AT ALL TIMES. BASINS AND ALL APPURTENANCES SHALL BE INSPECTED ANNUALLY, OR MORE FREQUENTLY IF SPECIFIED, AND REPAIRS SHALL BE MADE IF NECESSARY. WHEN MAINTENANCE OR REPAIRS ARE PERFORMED, THE SCM SHALL BE RESTORED TO THE ORIGINAL LINES AND GRADES.
- c) CORRECTIVE MAINTENANCE SHALL OCCUR:
  - i. ANY TIME DRAWDOWN OF THE WATER QUALITY VOLUME DOES NOT OCCUR WITHIN NINETY-SIX (96) HOURS (I.E., NO STANDING WATER IS ALLOWED), UNLESS A GREATER MAXIMUM DRAWDOWN TIME IS SPECIFIED IN THE PLANS.
  - ii. FOR DETENTION PONDS ONLY, ANY TIME DRAWDOWN DOES NOT OCCUR WITHIN TWENTY-FOUR (24) HOURS.
- d) THE INLET AND OUTLET OF SCMS SHALL BE MAINTAINED UNIMPEDED IN ORDER TO CONVEY FLOW AT ALL TIMES. OBSERVED BLOCKAGES TO THE INLET AND OUTLET, DUE TO VEGETATION, SEDIMENT, DEBRIS, OR ANY OTHER CAUSE, SHALL BE REMOVED.
- e) NO UNVEGETATED AREA SHALL EXCEED TEN (10) SQUARE FEET. THIS PERFORMANCE REQUIREMENT APPLIES TO THE ENTIRE POND INCLUDING THE POND BOTTOM, SIDE SLOPES, AND AREAS ADJACENT TO THE POND, AND IS INTENDED TO LIMIT EROSION.
- f) INTEGRATED PEST MANAGEMENT SHALL BE PERFORMED AND SHALL ADHERE TO SECTION 1.6.2.F, INTEGRATED PEST MANAGEMENT GUIDELINES.
- g) THE MINIMUM VEGETATION HEIGHT SHALL BE FOUR (4) INCHES IN THE SCM AND ALL APPURTENANCES, INCLUDING THE TOE OF THE BERM OR WALL OUTSIDE THE SCM, WHERE APPLICABLE.

- h) SEDIMENT BUILD-UP SHALL BE REMOVED:
  - a. WHEN THE ACCUMULATION EXCEEDS SIX (6) INCHES IN SPLITTER BOXES, WET WELLS AND BASINS.
  - ii. WHEN SEDIMENT TRAPS ARE FULL.
  - iii. WHEN SEDIMENT, OF ANY AMOUNT, CAUSES STANDING WATER CONDITIONS OR REDUCES BASIN STORAGE BY MORE THAN 10%.
- i) WHEN SEDIMENT IS REMOVED, THE FOLLOWING REQUIREMENTS APPLY:
  - i. IRRIGATION SHALL BE PROVIDED, AS NEEDED, UNTIL VEGETATION IS ESTABLISHED (WELL ROOTED). SEE SECTION 1.6.3.D, IRRIGATION GUIDELINES.
  - ii. THE DESIGN DEPTH OF THE FILTRATION MEDIA SHALL BE VERIFIED. SEE SECTION 1.6.3.B.5.III. TILLING OF THE FILTRATION MEDIUM IS NOT ALLOWED.
- j) FOR SUBSURFACE PONDS MAINTENANCE PLAN REQUIREMENTS, REFER TO ECM SECTION 1.6.2(E).

CITY OF AUSTIN  
ECM APPENDIX P-4  
STANDARD SEQUENCE OF CONSTRUCTION

1. TEMPORARY EROSION AND SEDIMENTATION CONTROLS ARE TO BE INSTALLED AS INDICATED ON THE APPROVED SITE PLAN OR SUBDIVISION CONSTRUCTION PLAN AND IN ACCORDANCE WITH THE EROSION SEDIMENTATION CONTROL PLAN (ESC) AND STORMWATER POLLUTION PREVENTION PLAN (SWPPP) THAT IS REQUIRED TO BE POSTED ON THE SITE. INSTALL TREE PROTECTION, INITIATE TREE MITIGATION MEASURES AND CONDUCT "PRE - CONSTRUCTION" TREE FERTILIZATION (IF APPLICABLE).

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) AND STORM WATER POLLUTION PREVENTION PLAN (SWPPP) POSTED ON THE SITE. TEMPORARY EROSION AND SEDIMENTATION CONTROLS WILL BE REVISED, IF NEEDED, TO COMPLY WITH CITY INSPECTORS' DIRECTIVES, AND REVISED CONSTRUCTION SCHEDULE RELATIVE TO THE WATER QUALITY PLAN REQUIREMENTS AND THE EROSION PLAN.

4. ROUGH GRADE THE POND(S) AT 100% PROPOSED CAPACITY AND INSTALL STORM SEWER SYSTEM. EITHER THE PERMANENT OUTLET STRUCTURE OR A TEMPORARY OUTLET MUST BE CONSTRUCTED PRIOR TO DEVELOPMENT OF EMBANKMENT OR EXCAVATION THAT LEADS TO PONDING CONDITIONS. THE OUTLET SYSTEM MUST CONSIST OF A SUMP PIT OUTLET AND AN EMERGENCY SPILLWAY MEETING THE REQUIREMENTS OF THE DRAINAGE CRITERIA MANUAL AND/OR THE ENVIRONMENTAL CRITERIA MANUAL, AS REQUIRED. THE OUTLET SYSTEM SHALL BE PROTECTED FROM EROSION AND SHALL BE MAINTAINED THROUGHOUT THE COURSE OF CONSTRUCTION UNTIL INSTALLATION OF THE PERMANENT WATER QUALITY POND(S).

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. CONDUCT ANY MAINTENANCE AND REHABILITATION OF THE WATER QUALITY PONDS OR CONTROLS.

MAINTENANCE AND REHABILITATION OF THE WATER QUALITY PONDS OR CONTROLS.

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 TEXAS 811 (811 OR 1-800-344-8377) FOR UTILITY LOCATIONS PRIOR TO ANY WORK IN CITY EASEMENTS OR STREET R.O.W.
3. CONTRACTOR SHALL NOTIFY THE CITY OF AUSTIN - SITE & SUBDIVISION TO SUBMIT REQUIRED DOCUMENTATION, PAY CONSTRUCTION INSPECTION FEES, AND TO SCHEDULE THE REQUIRED SITE AND SUBDIVISION PRE-CONSTRUCTION MEETING. THIS MEETING MUST BE HELD PRIOR TO ANY CONSTRUCTION ACTIVITIES WITHIN THE R.O.W. OR PUBLIC EASEMENTS. PLEASE VISIT [HTTP://AUSTINTEXAS.GOV/PAGE/COMMERCIAL-SITE-AND-SUBDIVISION-INSPECTIONS](http://austintexas.gov/page/commercial-site-and-subdivision-inspections) FOR A LIST OF SUBMITTAL REQUIREMENTS, INFORMATION CONCERNING FEES, AND CONTACT INFORMATION.

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REV	DATE	DESCRIPTION

DESIGNED BY: RM  
REVIEWED BY: MW  
DRAWN BY: RM/AC



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12029 JOLLYVILLE RD., AUSTIN, TX 78759

GENERAL NOTES (SHEET 1 OF 3)



MARISSA A. WYRICK  
134601  
LICENSED PROFESSIONAL ENGINEER  
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12029 JOLLYVILLE RD., AUSTIN, TX 78759



23. SITE IMPROVEMENTS MUST BE CONSTRUCTED IN CONFORMANCE WITH THE ENGINEER'S CONSTRUCTION PLANS APPROVED BY TRAVIS COUNTY. NON-CONFORMANCE WITH THE APPROVED PLANS WILL DELAY FINAL INSPECTION APPROVAL BY THE COUNTY UNTIL PLAN CONFORMANCE IS ACHIEVED OR ANY REQUIRED PLAN REVISIONS ARE APPROVED.
24. FINAL SITE STABILIZATION. ALL AREAS DISTURBED BY THE CONSTRUCTION MUST BE PERMANENTLY REVEGETATED AND ALL TEMPORARY SEDIMENT CONTROLS AND ACCUMULATED SEDIMENTATION MUST BE REMOVED BEFORE THE COUNTY WILL ISSUE A CERTIFICATE OF COMPLIANCE FOR FINAL SITE STABILIZATION AS PART OF FINAL INSPECTION AND PROJECT COMPLETION. A DEVELOPERS CONTRACT, AS DESCRIBED IN THE SWP3 AND ESC NOTES SHEET MAY BE EXECUTED WITH TRAVIS COUNTY FOR CONDITIONAL ACCEPTANCE OF A PROJECT FOR WHICH HAS ESC FISCAL SECURITY POSTED AND FOR WHICH ALL ITEMS ARE COMPLETE

**FIRE DEPARTMENT NOTES:**

1. THE AUSTIN FIRE DEPARTMENT REQUIRES FINAL ASPHALT OR CONCRETE PAVEMENT ON REQUIRED ACCESS ROADS PRIOR TO THE START OF COMBUSTIBLE CONSTRUCTION. ANY OTHER METHOD OF PROVIDING "ALL-WEATHER DRIVING CAPABILITIES" SHALL BE REQUIRED TO BE DOCUMENTED AND APPROVED AS AN ALTERNATIVE METHOD OF CONSTRUCTION IN ACCORDANCE WITH APPLICABLE RULES FOR TEMPORARY ROADS OUTLINED IN THE CITY OF AUSTIN FIRE PROTECTION CRITERIA MANUAL.
2. FIRE HYDRANTS SHALL BE INSTALLED WITH THE CENTER OF THE FOUR (4) INCH OPENING (STEAMER) LOCATED AT LEAST 18 INCHES ABOVE FINISHED GRADE. THE STEAMER OPENING OF FIRE HYDRANTS SHALL FACE THE APPROVED FIRE ACCESS DRIVEWAY OR PUBLIC STREET AND SET BACK FROM THE CURB LINE(S) AN APPROVED DISTANCE, TYPICALLY THREE (3) TO SIX (6) FEET. THE AREA WITHIN THREE (3) FEET IN ALL DIRECTIONS FROM ANY FIRE HYDRANT SHALL BE FREE OF OBSTRUCTIONS, AND THE AREA BETWEEN THE STEAMER OPENING AND THE STREET OR DRIVEWAY GIVING EMERGENCY VEHICLE ACCESS SHALL BE FREE OF OBSTRUCTIONS.
3. TIMING OF INSTALLATIONS: WHEN FIRE PROTECTION FACILITIES ARE INSTALLED BY THE CONTRACTOR, SUCH FACILITIES SHALL INCLUDE SURFACE ACCESS ROADS. EMERGENCY ACCESS ROADS OR DRIVES SHALL BE INSTALLED AND MADE SERVICEABLE PRIOR TO AND DURING THE TIME OF CONSTRUCTION. WHEN THE FIRE DEPARTMENT APPROVES AN ALTERNATE METHOD OF PROTECTION, THIS REQUIREMENT MAY BE MODIFIED AS DOCUMENTED IN THE APPROVAL OF THE ALTERNATE METHOD.
4. ALL EMERGENCY ACCESS ROADWAYS AND FIRE LANES, INCLUDING PERVIOUS/DECORATIVE PAVING, SHALL BE ENGINEERED AND INSTALLED AS REQUIRED TO SUPPORT THE AXLE LOADS OF EMERGENCY VEHICLES. A LOAD CAPACITY SUFFICIENT TO MEET THE REQUIREMENTS FOR HS-20 LOADING (18KIPS/WHEEL) AND A TOTAL VEHICLE LIVE LOAD OF 80,000 POUNDS IS CONSIDERED COMPLIANT WITH THIS REQUIREMENT.
5. FIRE LANES DESIGNATED ON SITE PLANS SHALL BE REGISTERED WITH THE CITY OF AUSTIN FIRE DEPARTMENT AND INSPECTED FOR FINAL APPROVAL.
6. THE MINIMUM VERTICAL CLEARANCE REQUIRED FOR EMERGENCY VEHICLES ACCESS ROADS OR DRIVES IS 14 FEET FOR THE FULL WIDTH OF THE ROADWAY OR DRIVEWAY.

1. A WRITTEN NOTICE OF CONSTRUCTION MUST BE SUBMITTED TO THE TCEQ REGIONAL OFFICE AT LEAST 48 HOURS PRIOR TO THE START OF ANY REGULATED ACTIVITIES. THIS NOTICE MUST INCLUDE:
  - THE NAME OF THE APPROVED PROJECT;
  - THE ACTIVITY START DATE; AND
  - THE CONTACT INFORMATION OF THE PRIME CONTRACTOR.
2. ALL CONTRACTORS CONDUCTING REGULATED ACTIVITIES ASSOCIATED WITH THIS PROJECT MUST BE PROVIDED WITH COMPLETE COPIES OF THE APPROVED WATER POLLUTION ABATEMENT PLAN (WPAP) AND THE TCEQ LETTER INDICATING THE SPECIFIC CONDITIONS OF ITS APPROVAL. DURING THE COURSE OF THESE REGULATED ACTIVITIES, THE CONTRACTORS ARE REQUIRED TO KEEP ON-SITE COPIES OF THE APPROVED PLAN AND APPROVAL LETTER.
3. ANY SENSITIVE FEATURE(S) (CAVES, SOLUTION CAVITY, SINK HOLE, ETC.) IS DISCOVERED DURING CONSTRUCTION, ALL REGULATED ACTIVITIES NEAR THE SENSITIVE FEATURE MUST BE SUSPENDED IMMEDIATELY. THE APPROPRIATE TCEQ REGIONAL OFFICE MUST BE IMMEDIATELY NOTIFIED OF ANY SENSITIVE FEATURES ENCOUNTERED DURING CONSTRUCTION. CONSTRUCTION ACTIVITIES MAY NOT BE RESUMED UNTIL THE TCEQ HAS REVIEWED AND APPROVED THE APPROPRIATE PROTECTIVE MEASURES IN ORDER TO PROTECT ANY SENSITIVE FEATURE AND THE EDWARDS AQUIFER FROM POTENTIALLY ADVERSE IMPACTS TO WATER QUALITY.
4. NO TEMPORARY PERMANENT HAZARDOUS SUBSTANCE STORAGE TANK SHALL BE INSTALLED WITHIN 150 FEET OF A WATER SUPPLY SOURCE, DISTRIBUTION SYSTEM, WELL, OR SENSITIVE FEATURE.
5. PRIOR BEGINNING ANY CONSTRUCTION ACTIVITY, ALL TEMPORARY EROSION AND SEDIMENTATION (E&S) CONTROL MEASURES MUST BE PROPERLY INSTALLED AND MAINTAINED IN ACCORDANCE WITH THE APPROVED PLANS AND MANUFACTURERS SPECIFICATIONS. IF INSPECTIONS INDICATE A CONTROL HAS BEEN USED INAPPROPRIATELY, OR INCORRECTLY, THE APPLICANT MUST REPLACE OR MODIFY THE CONTROL FOR SITE SITUATIONS. THESE CONTROLS MUST REMAIN IN PLACE UNTIL THE DISTURBED AREAS HAVE BEEN PERMANENTLY STABILIZED.
6. ANY SEDIMENT THAT ESCAPES THE CONSTRUCTION SITE MUST BE COLLECTED AND PROPERLY DISPOSED OF BEFORE THE NEXT RAIN EVENT TO ENSURE IT IS NOT WASHED INTO SURFACE STREAMS, SENSITIVE FEATURES, ETC.
7. SEDIMENT MUST BE REMOVED FROM THE SEDIMENT TRAPS OR SEDIMENTATION BASINS NOT LATER THAN WHEN IT OCCUPIES 50% OF THE BASIN'S DESIGN CAPACITY.
8. LITTER, CONSTRUCTION DEBRIS, AND CONSTRUCTION CHEMICALS EXPOSED TO STORMWATER SHALL BE PREVENTED FROM BEING DISCHARGED OFFSITE.
9. ALL SPOILS (EXCAVATED MATERIAL) GENERATED FROM THE PROJECT SITE MUST BE STORED ON-SITE WITH PROPER E&S CONTROLS. FOR STORAGE OR DISPOSAL OF SPOILS AT ANOTHER SITE ON THE EDWARDS AQUIFER RECHARGE ZONE, THE OWNER OF THE SITE MUST RECEIVE APPROVAL OF A WATER POLLUTION ABATEMENT PLAN FOR THE PLACEMENT OF FILL MATERIAL OR MASS GRADING PRIOR TO THE PLACEMENT OF SPOILS AT THE OTHER SITE.
10. IF PORTIONS OF THE SITE WILL HAVE A TEMPORARY OR PERMANENT CEASE IN CONSTRUCTION ACTIVITY LASTING LONGER THAN 14 DAYS, SOIL STABILIZATION IN THOSE AREAS SHALL BE INITIATED AS SOON AS POSSIBLE PRIOR TO THE 14TH DAY OF INACTIVITY. IF ACTIVITY WILL RESUME PRIOR TO THE 21ST DAY, STABILIZATION MEASURES ARE NOT REQUIRED. IF DROUGHT CONDITIONS OR INCLEMENT WEATHER PREVENT ACTION BY THE 14TH DAY, STABILIZATION MEASURES SHALL BE INITIATED AS SOON AS POSSIBLE.
11. THE FOLLOWING RECORDS SHALL BE MAINTAINED AND MADE AVAILABLE TO THE TCEQ UPON REQUEST:
  - 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.

THE HOLDER OF ANY APPROVED EDWARD AQUIFER PROTECTION PLAN MUST NOTIFY THE APPROPRIATE REGIONAL OFFICE IN WRITING AND OBTAIN APPROVAL FROM THE EXECUTIVE DIRECTOR PRIOR TO INITIATING ANY OF THE FOLLOWING:

- A. ANY PHYSICAL OR OPERATIONAL MODIFICATION OF ANY WATER POLLUTION ABATEMENT STRUCTURE(S), INCLUDING BUT NOT LIMITED TO PONDS, DAMS, BERMS, SEWAGE TREATMENT PLANTS, AND DIVERSIONARY STRUCTURES;
- B. ANY CHANGE IN THE NATURE OR CHARACTER OF THE REGULATED ACTIVITY FROM THAT WHICH WAS ORIGINALLY APPROVED OR A CHANGE WHICH WOULD SIGNIFICANTLY IMPACT THE ABILITY OF THE PLAN TO PREVENT POLLUTION OF THE EDWARDS AQUIFER;
- C. ANY DEVELOPMENT OF LAND PREVIOUSLY IDENTIFIED AS UNDEVELOPED IN THE ORIGINAL WATER POLLUTION ABATEMENT PLAN.

REV	DESCRIPTION	DATE	APR

DESIGNED BY: RM  
 REVIEWED BY: MW  
 DRAWN BY: RM/AC



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 GENERAL NOTES (SHEET 3 OF 3)





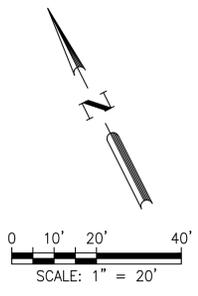
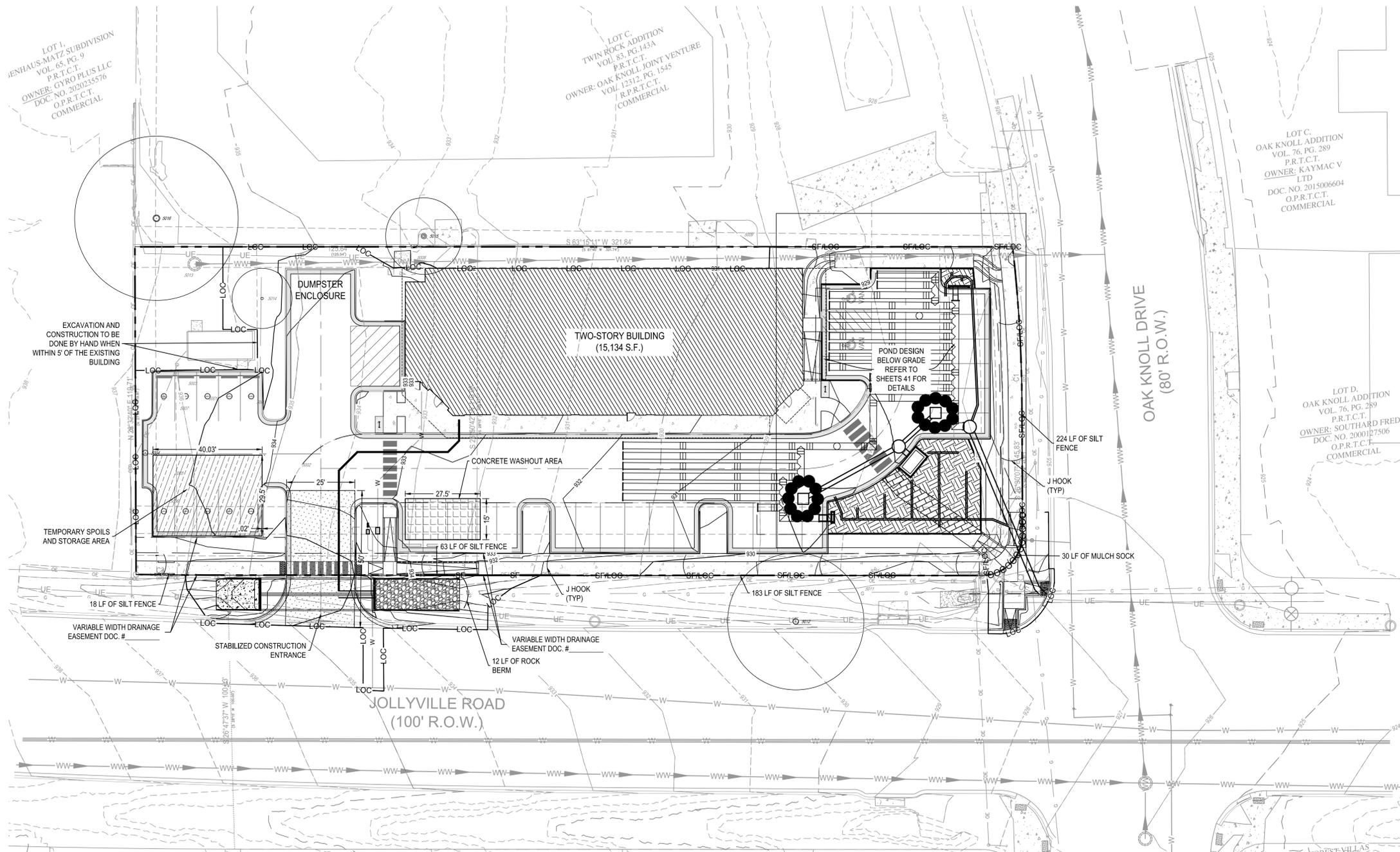
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LOT 1, JENHAUS-MATZ SUBDIVISION VOL. 65, PG. 9 P.R.T.C.T. OWNER: GYRO PLUS LLC DOC. NO. 2020235576 O.P.R.T.C.T. COMMERCIAL

LOT C, TWIN ROCK ADDITION VOL. 83, PG. 143A P.R.T.C.T. OWNER: OAK KNOLL JOINT VENTURE VOL. 12512, PG. 1545 / R.P.R.T.C.T. COMMERCIAL

LOT C, OAK KNOLL ADDITION VOL. 76, PG. 289 P.R.T.C.T. OWNER: KAYMAC V LTD DOC. NO. 2015006604 O.P.R.T.C.T. COMMERCIAL

LOT D, OAK KNOLL ADDITION VOL. 76, PG. 289 P.R.T.C.T. OWNER: SOUTHWEST FRED DOC. NO. 2000127506 O.P.R.T.C.T. COMMERCIAL



**LEGEND**

	PROPERTY BOUNDARY
	EXISTING MAJOR CONTOUR
	EXISTING MINOR CONTOUR
	PROPOSED MAJOR CONTOUR
	PROPOSED MINOR CONTOUR
	LIMITS OF CONSTRUCTION
	LOC
	SF SILT FENCE
	FD FILTER DIKE
	SS STORMWATER LINE
	TP TREE PROTECTION FENCE
	STABILIZED CONSTRUCTION ENTRANCE
	CONCRETE WASHOUT AREA
	TEMPORARY SPOILS AND STORAGE AREA
	BUILDING
	CONCRETE
	PAVEMENT
	RIPRAP
	TREE TO REMAIN
	INLET PROTECTION
	J HOOK
	10' CURB INLET
	4X4' GRATE INLET
	ROCK BERM
	MULTCH SOCK

**APPENDIX Q-2 IMPERVIOUS COVER SUBURBAN WATERSHEDS**

NOTE: Q1 TABLES ARE NOT REQUIRED FOR SUBURBAN WATERSHEDS

IMPERVIOUS COVER ALLOWED AT 80% X GROSS SITE AREA = 0.89 ACRES

**ALLOWABLE IMPERVIOUS COVER BREAKDOWN BY SLOPE CATEGORY**

TOTAL ACREAGE 15 - 25 % = 0.007 X 10 % = 0.001

**PROPOSED TOTAL IMPERVIOUS COVER**

TOTAL PROPOSED IMPERVIOUS COVER = 0.681 ACRES = 76.3%

**PROPOSED IMPERVIOUS COVER ON SLOPES**

SLOPE CATEGORIES	IMPERVIOUS COVER - TOTAL			
	SLOPES ACRES	BUILDING / AND OTHER IMPERVIOUS COVER ACRES	% OF CATEGORY	DRIVEWAYS / ROADWAYS ACRES
0 - 15 %	0.843	0.174	20.6%	0.341
15 - 25 %	0.007	0.000	0.0%	0.000
25 - 35 %	0.023	0.000	0.0%	0.000
OVER 35 %	0.019	0.000	0.0%	0.000
TOTAL SITE AREA	0.89			

- NOTES:**
- ALL DIMENSIONS ARE TO FACE OF CURB UNLESS OTHERWISE NOTED.
  - CIVIL SCOPE IS FOR PARKING LOT AND CURB LINES ONLY. FOR INFORMATION PERTAINING TO THE SITE PAST THE CURB LINE, REFER TO LANDSCAPE ARCHITECTURE DRAWINGS.
  - ALL CURB RADII ARE 3' UNLESS OTHERWISE NOTED.
  - ALL CURBS ARE STANDARD SPILL CURBS AS REFERENCED ON SHEET 19, UNLESS OTHERWISE NOTED.
  - PLEASE REFER TO LANDSCAPE ARCHITECT SHEETS FOR CONTINUATION OF SITE PLAN BEYOND EXTENTS OF CIVIL SCOPE.
  - IF DISTURBED AREA IS NOT TO BE WORKED 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.J]
  - 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 SPILLS THAT MIGRATE ONTO THE ROADS A MINIMUM OF ONCE DAILY. [ECM 1.4.4.D.4]
  - PER LDC 25-8-323(C), FOR AREAS ON THE SITE THAT ARE TO REMAIN PERVIOUS AFTER DEVELOPMENT, ANY SOILS THAT ARE COMPACTED DURING SITE GRADING AND CONSTRUCTION OPERATIONS MUST BE DECOMPACTED IN COMPLIANCE WITH THE ECM AND IN COMPLIANCE WITH SSM 661S.
  - FINISHED ELEVATION FOR PARKING-LOT ISLANDS, MEDIANS, PENINSULAS, AND SIMILAR LANDSCAPE AREAS MUST BE AT LEAST SIX (6) INCHES BELOW THE FINISHED PARKING LOT ELEVATION TO ALLOW FOR PLACEMENT OF SIX (6) INCHES OF TOPSOIL [ECM 1.4.7].
  - A DEWATERING SKIMMER WILL BE USED TO DEWATER THE PONDS.
  - SPACING BETWEEN J HOOKS ARE NOT TO EXCEED 100 FT.
  - ALL WORK DONE WITHIN 5' OF THE GAS LINE IN THE ROW MUST BE HAND TRENCHED.



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.

TWIN ROCK COMMERCIAL CENTER  
12029 JOLLYVILLE RD., AUSTIN, TX 78759



SHEET 8 OF 57

REV	DESCRIPTION	DATE	APR
DESIGNED BY: RM			
REVIEWED BY: MW			
DRAWN BY: RM/AC			

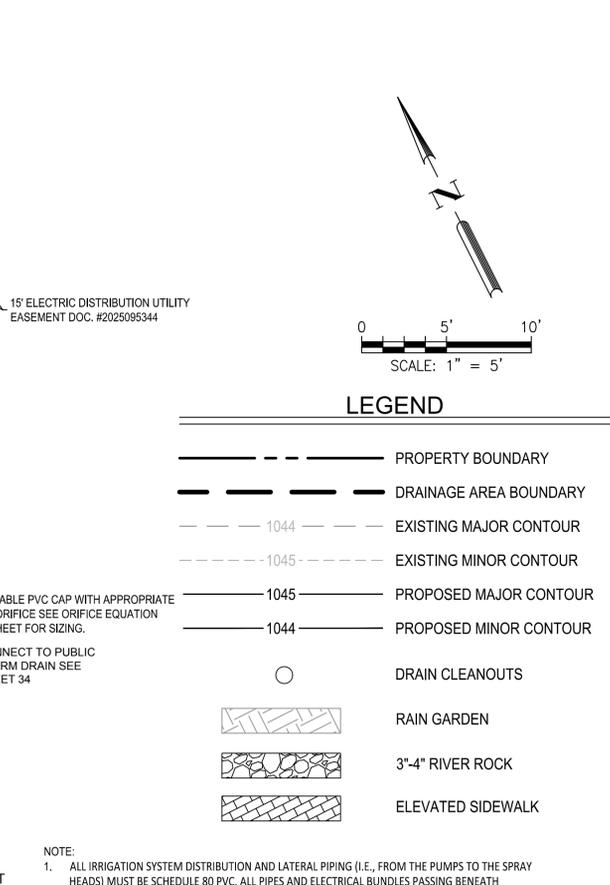
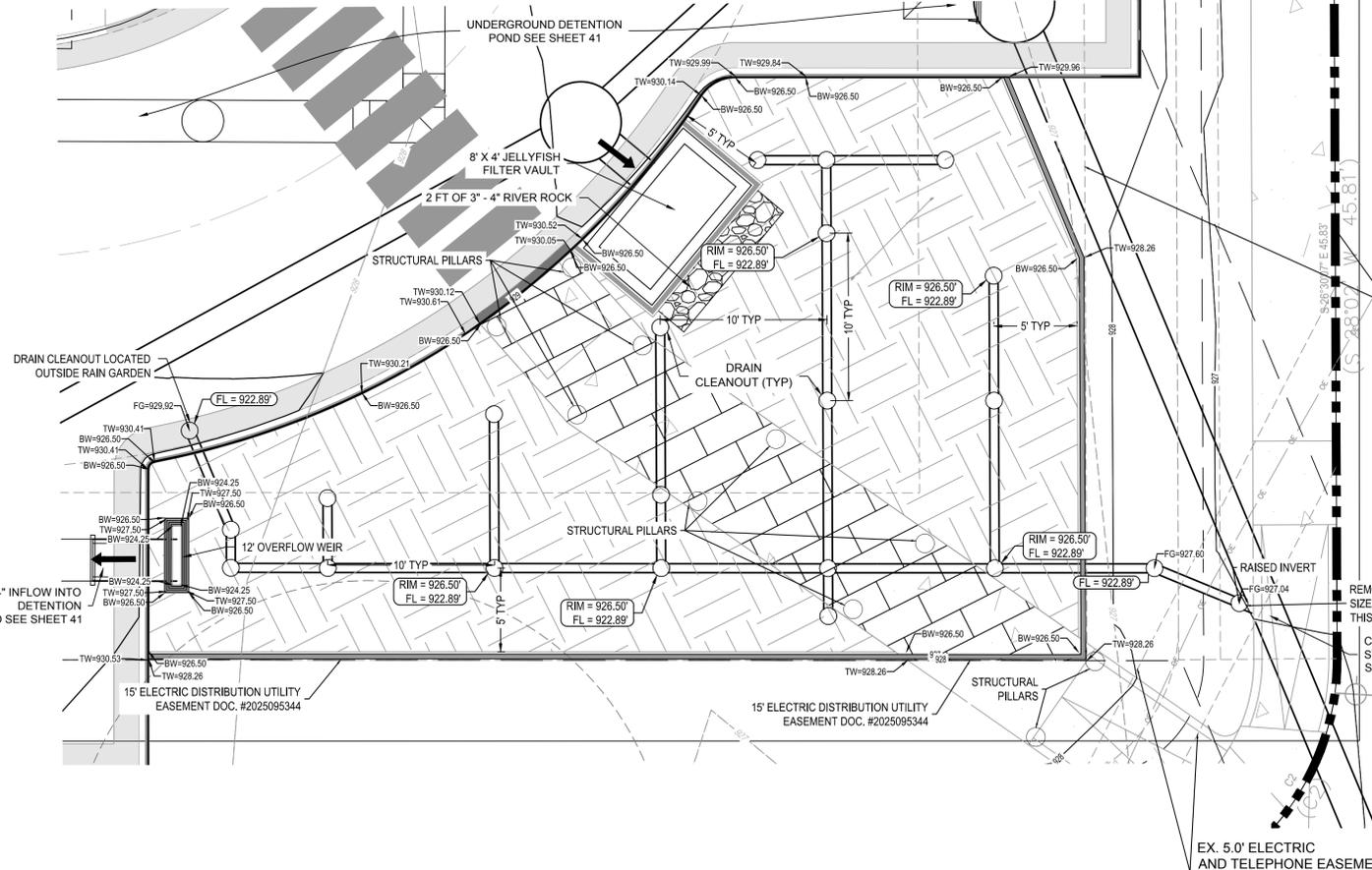
**BGE**

BROWN & GAY ENGINEERS, INC.  
1701 DIRECTORS BLVD., SUITE 1000  
AUSTIN, TX 78721  
TYPE Registration No. F-1046  
TEL: 512-979-4040 www.browngay.com

EROSION CONTROL PLAN

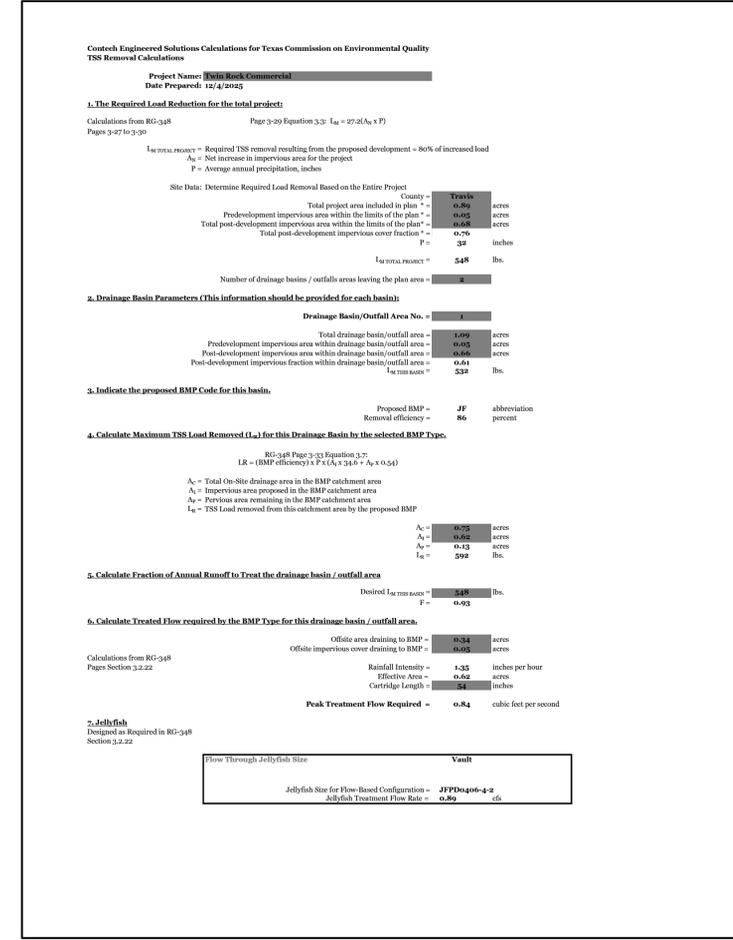
12029 JOLLYVILLE RD., AUSTIN, TX 78759

RAIN GARDEN 1 CALCULATIONS FOR DEVELOPMENT PERMITS		
Twin Rock, SP-2024-0173C		
<b>Legend</b>		
Not in Compliance		
Do Not Modify Values		
<b>DRAINAGE AREA DATA:</b>		
Drainage area to control (DA < 2 acre)	Required ≤ 2.00 ac.	Provided 1.0856979 ac.
Drainage Area Impervious Cover	0.865 in	56.52%
Capture Depth (CD) = (0.5*(IC-20)/100)		
<b>WATER QUALITY CONTROL CALCULATIONS</b>		
Water Quality Volume	≥ 3,410 cf	3,430.0 cf
The Water Quality Control is to be RAIN GARDEN		
100-year peak flow rate to control (Q100)	13.66 cfs	
Filtration Pond Area (Af or Ai)	≥ 1,302.0 sf	1,302.2 sf
Depth of Ponding (D) (maximum 1.0 foot)	≤ 1.00 ft	1.00 ft
Depth of Filtration Media (L) (minimum 1.5 foot)	≥ 1.50 ft	3.61 ft
Effective Porosity Water Quality Volume (WQV <sub>ep</sub> = 0.24 * Af * L)		2128 cf
Provided Water Quality Volume (WQV <sub>provided</sub> = Af * D + WQV <sub>ep</sub> )		3430 cf
	Total WQV	3430.5 cf
<b>Water Quality Elevation (WQE)</b>		
Elevation of Splitter/Overflow Weir (min. WQE)	≥ 927.5 ft msl	927.5 ft msl
Length of Splitter Weir		12 ft
Required Head to Pass Q100	≤ 0.50 ft	0.486 ft
Pond Freeboard Provided to Pass Q100	≥ 0.25 ft	0.275 ft
<b>FOR FILTRATION RAIN GARDENS</b>		
Rain Garden Pond Drawdown Time (max 48 hours)	≤ 48.00 hr	48.00 hr
Underdrain Orifice Size (diameter)		4.00 in
Underdrain Orifice Size (area)		12.57 sq. in.
<b>FOR INFILTRATION RAIN GARDENS</b>		
Infiltration Rate (in/hr)	≥ 0.25 in/hr.	0.87 in/hr
Rain Garden Pond Drawdown Time (max 48 hours)	≤ 48.00 hr	48.00 hr
<b>WATER QUALITY CREDIT</b>		
Impervious area treated by Partial Filtration Rain Garden	0.617 ac.	
IAF	1.000	
WQV <sub>imp</sub> /WQV <sub>ecm</sub>	1.000	
BMPDF	1.000	
WQC = IAF * BMPDF, (Equation 1.6.7-1)	1.000	

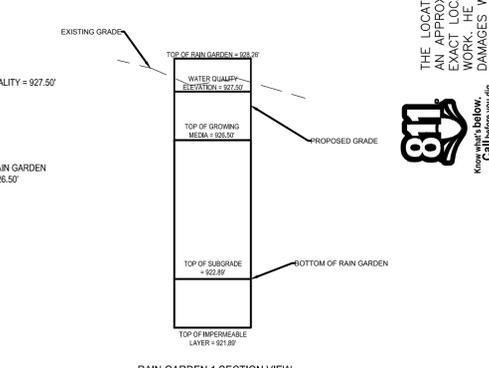
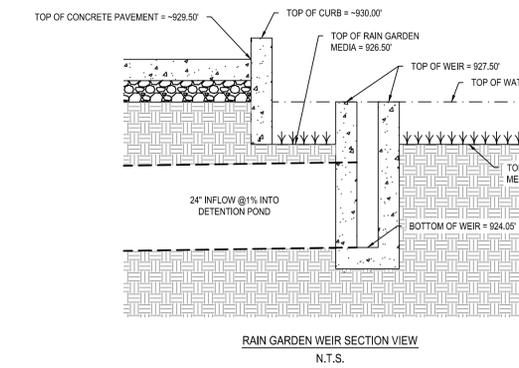


- NOTE:
- ALL IRRIGATION SYSTEM DISTRIBUTION AND LATERAL PIPING (I.E., FROM THE PUMPS TO THE SPRAY HEADS) MUST BE SCHEDULED 80 PVC. ALL PIPES AND ELECTRICAL BUNDLES PASSING BENEATH DRIVEWAYS OR PAVED AREAS MUST BE SLEEVED WITH PVC CLASS 200 PIPE WITH SOLVENT WELDED JOINTS. SLEEVE DIAMETER MUST EQUAL TWICE THAT OF THE PIPE OR ELECTRICAL BUNDLE.
  - ALL VALVES MUST BE DESIGNED SPECIFICALLY FOR SEDIMENT BEARING WATER AND BE OF APPROPRIATE DESIGN FOR THE INTENDED PURPOSE. ALL REMOTE CONTROL, GATE, AND QUICK COUPLING VALVES MUST BE LOCATED IN TEN-INCH OR LARGER PLASTIC VALVE BOXES. ALL PIPES AND VALVES MUST BE MARKED TO INDICATE THAT THEY CONTAIN NON-POTABLE WATER. ALL PIPING MUST BE BURIED TO PROTECT IT FROM WEATHER AND VANDALISM. THE DEPTH AND METHOD OF BURIAL MUST BE ADEQUATE TO PROTECT THE PIPE FROM VEHICULAR TRAFFIC SUCH AS MAINTENANCE EQUIPMENT. VELOCITIES IN ALL PIPELINES SHOULD BE SUFFICIENT TO PREVENT SETTLING OF SOLIDS. THE IRRIGATION DESIGN AND LAYOUT MUST BE INTEGRATED WITH THE TREE PROTECTION PLAN AND PRESENTED AS PART OF THE SITE PLAN OR SUBDIVISION CONSTRUCTION PLAN.
  - SYSTEMS MUST INCLUDE A PLUG VALVE TO ALLOW FLUSHING AT THE END OF EVERY LINE. REFERENCE: ECM 1.6.7.5, (A)(3)
  - ALL PIPES IN THE RAIN GARDEN MUST BE 6" SCHEDULE 40 PVC UNDERDRAIN PIPE.
  - LIMESTONE TO BE SAW CUT AND REMOVED TO AT OR BELOW 922.10' TO ALLOW FOR SOIL BELOW BOTTOM OF RAIN GARDEN TO BE BROUGHT IN AS SELECT FILL TO ALLOW FOR A HIGH INFILTRATION FACTOR.
  - BIOFILTRATION MEDIUM SHALL COMPLY WITH ECM 1.6.7(C)(4)(A) AND ITEM NO. 6605 - BIOFILTRATION MEDIUM 1-4-16 FROM THE CITY OF AUSTIN STANDARD SPECIFICATIONS MANUAL.
  - ALL RAIN GARDENS SHALL HAVE A FIXED SEDIMENT DEPTH MARKER. SEE SHEET 40 FOR DETAILS.
  - THE GEOMEMBRANE LINER SHALL LINE THE WALLS OF THE RAIN GARDEN UP TO THE WATER QUALITY ELEVATION.

R-11 RAIN GARDEN CALCULATIONS FOR DEVELOPMENT PERMITS (FOR VERTICAL POND CALCULATIONS ONLY):		
If Af (Provided) is greater than Af calculated all values will be calculated based upon Af (Provided) to obtain assumed removal efficiencies.		
Rain Garden Type	Partial Infiltr. (Raised outlet/partial underdrain)	
Media Type	Bio Media	
Drainage Area to Rain Garden (DA) (< 2 acres)	1.09 ac.	
Drainage Area Impervious Cover	56.52%	
Capture Depth (CD)	0.87 in	
100-year Peak Flow Rate to Control (Q100)	13.66 cfs	
Water Quality Elevation (Provided)	927.50 ft. (MSL)	
Elevation of Splitter/Overflow Weir (min. WQE) (Provided)	927.50	
Top of Water Quality Pond/Top of Wall (Provided)	928.26	
Raingarden Depth of Ponding (D) (maximum 1.0 foot)	1.00 ft.	
Depth of Filtration Media (L) (minimum 1.5 foot)	3.61 ft.	
Head over growing medium, (H); Note: H=D	1.00 ft.	
Top of Growing Medium	926.50 ft. (MSL)	
Bottom of Raingarden elevation	922.89 ft. (MSL)	
Length of Splitter Weir (Provided)	12 ft.	
Required Head to Pass Q <sub>100</sub> ; Assumed Rectangular Weir w/ C=3.36	0.486 ft.	
Pond Freeboard Provided to Pass Q <sub>100</sub>	0.275 ft.	
<b>FOR FILTRATION RAIN GARDENS</b>		
Rain Garden Pond Drawdown Time (maximum 48 hours)	48.00 hrs.	
Underdrain Orifice Size (diameter)	4.00 in	
Af ≥ WQV/(H + 0.24*L) See ECM 1.6.7.5 (H) for variable descriptions	1302.19 sq. ft.	
Af (Provided)	1302.19 sq. ft.	
Water Quality Volume (Provided)	3430 cf	
WQV <sub>imp</sub> = 12 * Af * (H + 0.24 * L) / A	0.62 in.	COA Rq'd. 0.87
<b>FOR INFILTRATION RAIN GARDENS</b>		
Infiltration Rate (in/hr.)	0.87 in/hr.	
Infiltration Rate (in/hr.) OVERRIDE	0.87 in/hr. OVERRIDE	
Rain Garden Pond Drawdown Time	48.00 hrs.	
Ai ≥ 0.87*WQV/(H + 0.24*L) See ECM 1.6.7.5 (H) for variable descriptions	1302.19 sq. ft.	
Ai (Provided)	1302.19 sq. ft.	
WQV <sub>imp</sub> = 12 * Ai * (H + 0.24 * L) / (0.87 * A)	0.71 in.	COA Rq'd. 0.87
Water Quality Volume (Provided)	3430 cf	
<b>FOR PARTIAL INFILTRATION RAIN GARDENS</b>		
Invert of the raised outlet pipe (ft.)	923.69 ft. (MSL)	
Depth from top of growing medium to invert of raised outlet pipe, L1 (ft.)	2.81 ft.	
Subgrade Surface Elevation (ft. (MSL))	922.89 ft. (MSL)	
Depth from top of subgrade surface to invert of raised outlet pipe, L2 (ft.)	0.80 ft.	
Design infiltration rate of subgrade (i <sub>sub</sub> )	2.00 ft./day	
Infiltration factor, I <sub>f</sub>	4.00 ft.	
Af ≥ WQV / (H + 0.24 * L1 + 0.24 * I <sub>f</sub> ) See ECM 1.6.7.5 (H) for variable descriptions	1302.00 sq. ft.	COA Calc. 1294.41
Af (Provided)	1302.19 sq. ft.	
WQV <sub>imp</sub> = 12 * Af * (H + 0.24 * L1 + 0.24 * I <sub>f</sub> ) / A	0.87 in.	COA Rq'd. 0.87
Water Quality Volume (Provided)	3430 cf	COA Rq'd. 3410
<b>WATER QUALITY CREDIT</b>		
Impervious area treated by Rain Garden A <sub>IC</sub> = A <sub>provided</sub> * IC / (3630 * CD)	0.62 ac.	0.61727509
WQV <sub>imp</sub>	0.87 in	0.23434696
WQV <sub>ecm</sub>	0.87 in	
WQV <sub>imp</sub> /WQV <sub>ecm</sub> ≤ 1 (Will be restricted to a maximum of 1)	1.000	
BMPDF Verify per ECM Figure 1.6.7-1	1.000	
BMPDF (If above is not reasonable)	0.87	OVERRIDE
Water Quality Credit (WQC) See R-11 Sheet for specific calculations	1.000	



Surface Area (sq. ft.)	1302.19
Orifice coefficient (use 0.6 per DCM)	0.6
h <sub>1</sub> (ft)	3.81
h <sub>2</sub> (ft)	0
t (hrs.)	48
A <sub>o</sub> orifice area (sq. ft.)	0.006
Orifice diameter (in.)	1.06



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TWIN ROCK COMMERCIAL CENTER  
12029 JOLLYVILLE RD., AUSTIN, TX 78759

RAIN GARDEN (1 OF 2)

STATE OF TEXAS  
MARISSA A. WRICK  
134601  
LICENSED PROFESSIONAL ENGINEER

SHEET 38 OF 57

BROWN & GAY ENGINEERS, INC.  
1701 DIRECTORS BLVD., SUITE 1000  
AUSTIN, TX 78721  
TELE: 512-979-4606 www.browngay.com

DESIGNED BY: RM  
REVIEWED BY: MW  
DRAWN BY: RM/AC

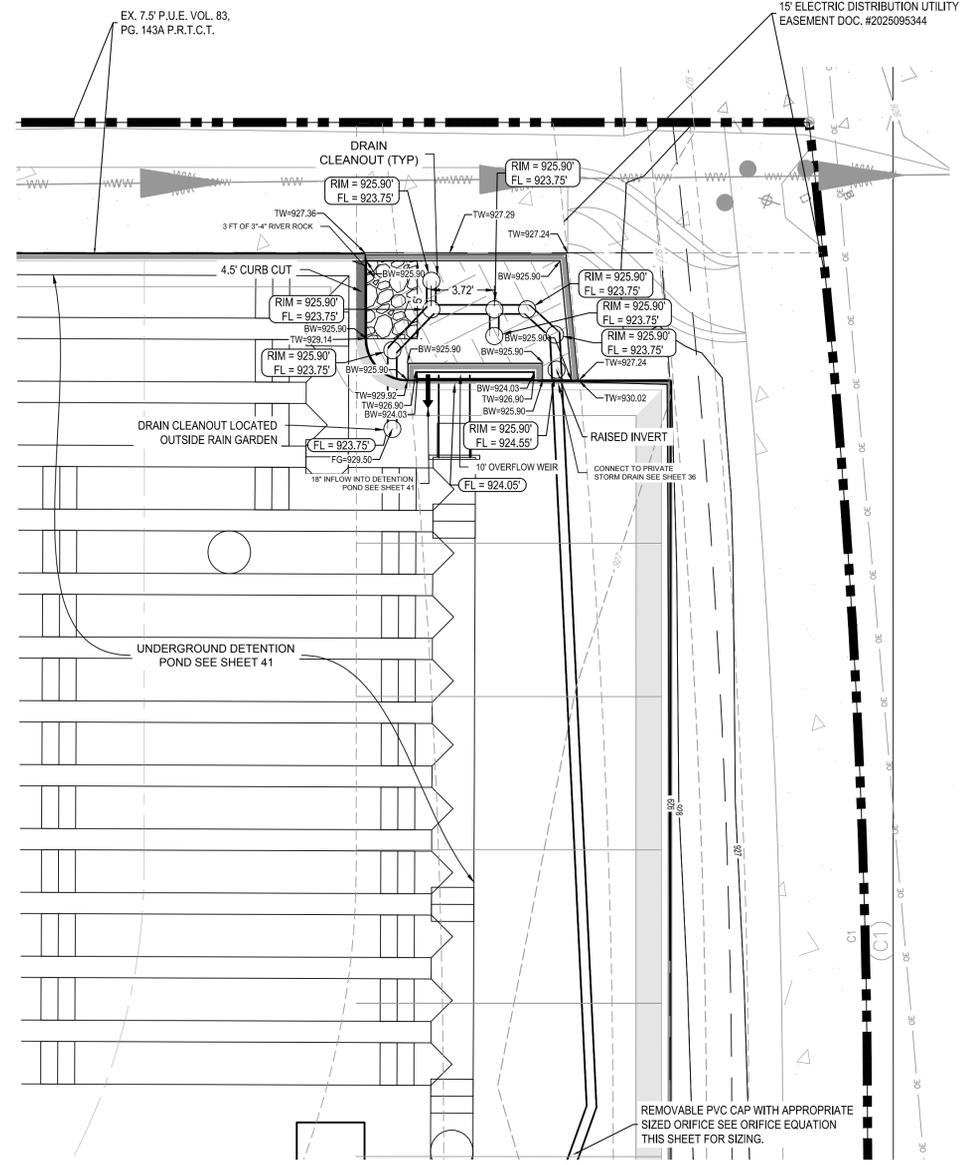
12029 JOLLYVILLE RD., AUSTIN, TX 78759

APPENDIX R-11  
RAIN GARDEN 2 CALCULATIONS  
FOR DEVELOPMENT PERMITS  
Twin Rock, SP-2024-0173C

Legend	
Not In Compliance	
Do Not Modify Values	

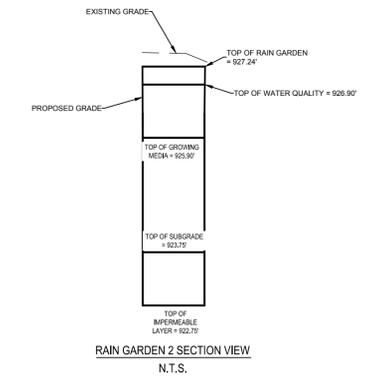
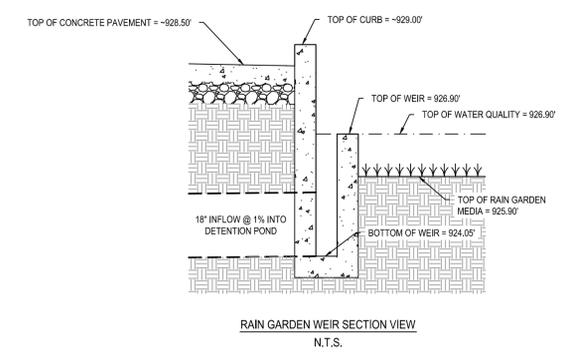
DRAINAGE AREA DATA:	Required	Provided
Drainage area to control (DA < 2 acre)	≤ 2.00 ac.	0.0520432 ac.
Drainage Area Impervious Cover		24.97%
Capture Depth (CD) = (0.5+((C-20)/100))	0.550 in.	
<b>WATER QUALITY CONTROL CALCULATIONS</b>		
Water Quality Volume	≥ 104 cf	175 cf
The Water Quality Control is to be RAIN GARDEN		
100-year peak flow rate to control (Q100)	0.6 cfs	
<b>FOR FILTRATION RAIN GARDENS</b>		
Filtration Pond Area (Af or Ai)	≥ 76.62 sf	76.83 sf
Depth of Ponding (D) (maximum 1.0 foot)	≤ 1.00 ft	1.00 ft
Depth of Filtration Media (L) (minimum 1.5 foot)	≥ 1.50 ft	2.15 ft
Effective Porosity Water Quality Volume (WQV <sub>ep</sub> = 0.24 * Af * L)		99 cf
Provided Water Quality Volume (WQV <sub>provided</sub> = Af * D + WQV <sub>ep</sub> )		175 cf
Total WQV		175 cf
<b>FOR INFILTRATION RAIN GARDENS</b>		
Infiltration Rate (in/hr)	≥ 0.25 in/hr.	
Rain Garden Pond Drawdown Time (max 48 hours)	≤ 48.00 hr	
<b>WATER QUALITY CREDIT</b>		
Impervious area treated by Partial Filtration Rain Garden	0.022 ac.	
IAF	1.000	
WQV <sub>bmp</sub> /WQV <sub>ecm</sub>	1.000	
BMPDF	1.000	
WQC = IAF * BMPDF, (Equation 1.6.7-1)	1.000	

R-11, RAIN GARDEN CALCULATIONS FOR DEVELOPMENT PERMITS (FOR VERTICAL POND CALCULATIONS ONLY):				
If Af (Provided) is greater than Af calculated all values will be calculated based upon Af (Provided) to obtain assumed removal efficiencies.				
Rain Garden Type	Partial Infiltr. (Raised outlet/partial underdrain)			
Media Type	Bio Media			
Drainage Area to Rain Garden (DA) (< 2 acres)	0.05 ac.			
Drainage Area Impervious Cover	24.97%			
Capture Depth (CD)	0.55 in.			
100-year Peak Flow Rate to Control (Q100)	0.6 cfs			
Water Quality Elevation (Provided)	926.90 ft. (MSL)			
Elevation of Splitter/Overflow Weir (min. WQE) (Provided)	926.90			
Top of Water Quality Pond/ Top of Wall (Provided)	927.24			
Raingarden Depth of Ponding (D) (maximum 1.0 foot)	1.00 ft.			
Depth of Filtration Media (L) (minimum 1.5 foot)	2.15 ft.			
Head over growing medium, (H); Note: H=D	1.00 ft.			
Top of Growing Medium	925.90 ft. (MSL)			
Bottom of Raingarden elevation	923.75 ft. (MSL)			
Length of Splitter Weir (Provided)	10 ft.			
Required Head to Pass Q <sub>100</sub> ; Assumed Rectangular Weir w/ C=3.36	0.068 ft.			
Pond Freeboard Provided to Pass Q <sub>100</sub>	0.275 ft.			
<b>FOR FILTRATION RAIN GARDENS</b>				
Rain Garden Pond Drawdown Time (maximum 48 hours)	48.00 hrs.			
Underdrain Orifice Size (diameter)	1.00 in.			
Af ≥ WQV / (H + 0.24 * L) See ECM 1.6.7.5 (H) for variable descriptions	sq. ft.			
Af (Provided)	76.83 sq. ft.			
Water Quality Volume (Provided)	cf			
WQV <sub>bmp</sub> = 12 * Af * (H + 0.24 * L) / A	0.62 in.	COA Rq'd.		0.55
<b>FOR INFILTRATION RAIN GARDENS</b>				
Infiltration Rate (in/hr.)	in/hr.			
Infiltration Rate (in/hr.) OVERRIDE	in/hr. OVERRIDE			
Rain Garden Pond Drawdown Time	hrs.			
Ai ≥ 0.87 * WQV / (H + 0.24 * L) See ECM 1.6.7.5 (H) for variable descriptions	sq. ft.			
Ai (Provided)	76.83 sq. ft.			
WQV <sub>bmp</sub> = 12 * Ai * (H + 0.24 * L) / (0.87 * A)	0.71 in.	COA Rq'd.		0.55
Water Quality Volume (Provided)	cf			
<b>FOR PARTIAL INFILTRATION RAIN GARDENS</b>				
Invert of the raised outlet pipe (ft.)	924.55 ft. (MSL)			
Depth from top of growing medium to invert of raised outlet pipe, L <sub>1</sub> (ft.)	1.35 ft.			
Subgrade Surface Elevation (ft. (MSL))	923.75 ft. (MSL)			
Depth from top of subgrade surface to invert of raised outlet pipe, L <sub>2</sub> (ft.)	0.80 ft.			
Design infiltration rate of subgrade (i <sub>sub</sub> )	2.00 ft./day			
Infiltration factor, I <sub>f</sub>	4.00 ft.			
Af ≥ WQV / (H + 0.24 * L <sub>1</sub> + 0.24 * I <sub>f</sub> ) See ECM 1.6.7.5 (H) for variable descriptions	76.62 sq. ft.	COA Calc.		45.53
Af (Provided)	76.83 sq. ft.			
WQV <sub>bmp</sub> = 12 * Af * (H + 0.24 * L <sub>1</sub> + 0.24 * I <sub>f</sub> ) / A	0.93 in.	COA Rq'd.		0.55
Water Quality Volume (Provided)	175 cf	COA Rq'd.		104
<b>WATER QUALITY CREDIT</b>				
Impervious area treated by Rain Garden A <sub>IC</sub> = A <sub>provided</sub> * I <sub>C</sub> / (3630 * CD)	0.02 ac.		0.021897521	
WQV <sub>inh</sub>	0.93 in.		0.009613362	
WQV <sub>ecm</sub>	0.55 in.			
WQV <sub>inh</sub> / WQV <sub>ecm</sub> ≤ 1 (Will be restricted to a maximum of 1)	1.00			
BMPDF Verify per ECM Figure 1.6.7-1	1.0000			
BMPDF (If above is not reasonable)		OVERRIDE		
Water Quality Credit (WQC) See R-11 Sheet for specific calculations	1.0000			



Velocity into Rain Garden 2	
100-yr Flow	0.6 cfs
Length of Curb Cut	4.50 ft
Height of curb cut	0.5 ft
Area of flow	2.25 ft <sup>2</sup>
Velocity	0.27 fps

Surface Area (sq. ft.)	76.83
Orifice coefficient (use 0.6 per DCM)	0.6
h <sub>1</sub> (ft)	2.61
h <sub>2</sub> (ft)	0
t (hrs.)	48
A <sub>o</sub> orifice area (sq. ft.)	0.000
Orifice diameter (in.)	0.23



LEGEND

- PROPERTY BOUNDARY
- DRAINAGE AREA BOUNDARY
- - - 1044 - - - EXISTING MAJOR CONTOUR
- - - 1045 - - - EXISTING MINOR CONTOUR
- 1045 — PROPOSED MAJOR CONTOUR
- 1044 — PROPOSED MINOR CONTOUR
- DRAIN CLEANOUTS
- RAIN GARDEN
- 3"-4" RIVER ROCK

- NOTE:
- ALL IRRIGATION SYSTEM DISTRIBUTION AND LATERAL PIPING (I.E., FROM THE PUMPS TO THE SPRAY HEADS) MUST BE SCHEDULE 80 PVC. ALL PIPES AND ELECTRICAL BUNDLES PASSING BENEATH DRIVEWAYS OR PAVED AREAS MUST BE SLEEVED WITH PVC CLASS 200 PIPE WITH SOLVENT WELDED JOINTS. SLEEVE DIAMETER MUST EQUAL TWICE THAT OF THE PIPE OR ELECTRICAL BUNDLE.
  - ALL VALVES MUST BE DESIGNED SPECIFICALLY FOR SEDIMENT BEARING WATER AND BE OF APPROPRIATE DESIGN FOR THE INTENDED PURPOSE. ALL REMOTE CONTROL, GATE, AND QUICK COUPLING VALVES MUST BE LOCATED IN TEN-INCH OR LARGER PLASTIC VALVE BOXES. ALL PIPES AND VALVES MUST BE MARKED TO INDICATE THAT THEY CONTAIN NON-POTABLE WATER. ALL PIPING MUST BE BURIED TO PROTECT IT FROM WEATHER AND VANDALISM. THE DEPTH AND METHOD OF BURIAL MUST BE ADEQUATE TO PROTECT THE PIPE FROM VEHICULAR TRAFFIC SUCH AS MAINTENANCE EQUIPMENT. VELOCITIES IN ALL PIPELINES SHOULD BE SUFFICIENT TO PREVENT SETTLING OF SOLIDS. THE IRRIGATION DESIGN AND LAYOUT MUST BE INTEGRATED WITH THE TREE PROTECTION PLAN AND PRESENTED AS PART OF THE SITE PLAN OR SUBDIVISION CONSTRUCTION PLAN.
  - SYSTEMS MUST INCLUDE A PLUG VALVE TO ALLOW FLUSHING AT THE END OF EVERY LINE. REFERENCE: ECM 1.6.7.5.(A)(3)
  - ALL PIPES IN THE RAIN GARDEN MUST BE 6" SCHEDULE 40 PVC UNDERDRAIN PIPE. LIMESTONE TO BE SAW CUT AND REMOVED TO AT OR BELOW 922.75' TO ALLOW FOR SOIL BELOW BOTTOM OF RAIN GARDEN TO BE BROUGHT IN AS SELECT FILL TO ALLOW FOR A HIGH INFILTRATION FACTOR
  - BIOFILTRATION MEDIUM SHALL COMPLY WITH ECM 1.6.7.(C)(4)(A) AND ITEM NO. 6605 - BIOFILTRATION MEDIUM 1-4-16 FROM THE CITY OF AUSTIN STANDARD SPECIFICATIONS MANUAL.
  - ALL RAIN GARDENS SHALL HAVE A FIXED SEDIMENT DEPTH MARKER. SEE SHEET 40 (LINK IT) FOR DETAILS.
  - THE GEOMEMBRANE LINER SHALL LINE THE WALLS OF THE RAIN GARDEN UP TO THE WATER QUALITY ELEVATION.

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.



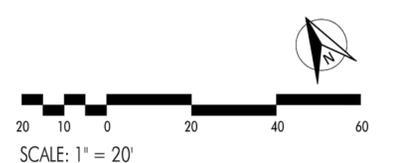
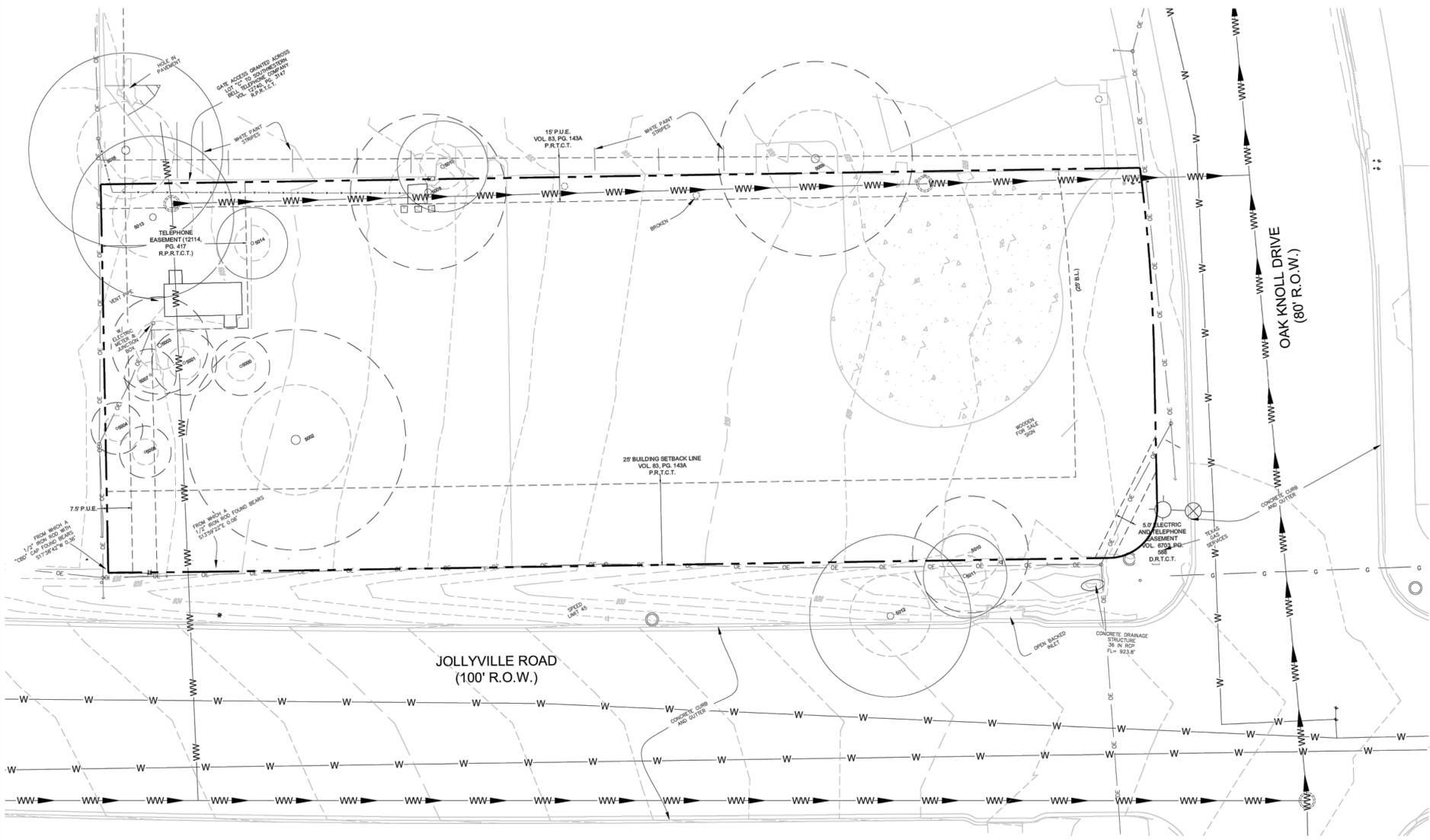
TWIN ROCK COMMERCIAL CENTER  
12029 JOLLYVILLE RD., AUSTIN, TX 78759  
RAIN GARDEN (2 OF 2)



REV	DESCRIPTION	DATE	APR

DESIGNED BY: RM  
REVIEWED BY: MW  
DRAWN BY: RM/AC

**BGE**  
BROWN & GAY ENGINEERS, INC.  
1701 DIRECTORS BLVD., SUITE 1000  
AUSTIN, TX 78731  
TYPE Registration No. F-1046  
TEL: 512-979-4600 www.browngay.com



**APPENDIX F CALCULATIONS:**

SURVEYED		
Total Appendix F tree inches surveyed	126.0	cal. in.
Heritage tree inches surveyed	0.0	cal. in.
Non-Appendix F tree inches surveyed	76.0	cal. in.
Invasive tree inches surveyed	138.0	cal. in.
REMOVED		
Total Appendix F tree inches removed	115.0	cal. in.
Heritage Tree inches removed	0.0	cal. in.
Total Non-Appendix F tree inches removed	0.0	cal. in.
Invasive tree inches removed	69.0	cal. in.
Total Dead, Diseased, or Imminent Hazard (DDI) inches removed	0.0	cal. in.
DDI Appendix F inches removed	0.0	cal. in.
DDI Heritage tree inches removed	0.0	cal. in.
DDI Non-Appendix F inches removed	0.0	cal. in.
DDI Invasive inches removed	0.0	cal. in.

**TREE PRESEVATION:**

TREE NO.	TREE TYPE	TREES SURVEYED (CAL. IN.)	TREES REMOVED (CAL. IN.)	TREES SAVED (CAL. IN.)	STATUS	CONDITION (SEE TREE ASSESSMENT TABLE)	CLASSIFICATION
5000	LIVE OAK	10.0	10.0		REMOVED	Good	APP F
5001	LIVE OAK	12.0	12.0		REMOVED	Fair	APP F
5002 (P)	CHINESE PISTACHE	37.0	37.0		REMOVED	Invasive	
5003	HACKBERRY	17.0	17.0		REMOVED	Fair	APP F
5004	HACKBERRY	16.0	16.0		REMOVED	Poor	APP F
5005	PECAN	9.0	9.0		REMOVED	Fair	APP F
5007	PECAN	9.0	9.0		REMOVED	Fair	APP F
5008 (P)	HACKBERRY	24.0	24.0		REMOVED	Fair	APP F
5009 (P)	BRADFORD PEAR	32.0	32.0		REMOVED	Fair	May consider as Invasive
5010	ASH JUNIPER	18.0	18.0		REMOVED	Poor	APP F
5011 (P)	CHINABERRY	16.0		16.0	SAVED	Invasive	
5012 (P)	CHINABERRY	25.0		25.0	SAVED	Invasive	
5013 (P)	CHINABERRY	28.0		28.0	SAVED	Invasive	
5014	HACKBERRY	11.0		11.0	SAVED	Poor	APP F
5015	BRADFORD PEAR	14.0		14.0	SAVED	Fair	
5016 (P)	BRADFORD PEAR	30.0		30.0	SAVED	Poor	
	<b>TOTAL TREES SURVEYED (CAL. IN.)</b>	<b>308.0</b>	<b>184.0</b>	<b>124.0</b>			

**TREE ASSESSMENT:**

#	Species	Condition	Summary
5000	Live Oak	Good	Slight canopy imbalance to the NE.
5001	Live Oak	Fair	Significant canopy imbalance to the east.
5002	Chinese Pistache	Invasive	Assumed to be 5002 based on provided survey, no tag present. Healthy canopy with minimal deadwood. Even weight distribution and minimal lean. Low branches on all sides.
5003	Hackberry	Fair	Significant amount of soil buildup around root collar.
5004	Hackberry	Poor	Slight lean and canopy imbalance to the SE. Fused stems with included bark. History of directional pruning due to proximity to utility pole and lines. Significant vine coverage.
5005	Pecan	Fair	Severe vine coverage.
5007	Pecan	Fair	Seasonally defoliated. Minor storm damage. Buried root collar.
5008	Hackberry	Fair	Moderate storm damage. Significant vine and mistletoe coverage.
5009	Pear	Fair	Tree assumed to be 5009 based on survey, no tag present. Measurement taken at 40 inches due to significant swelling around branch union at 54 inches. Moderate storm damage and branch dieback.
5010	Ash Juniper	Poor	Tree has been excessively pruned likely due to location under utility lines. Moderate branch dieback.
5011	Chinaberry	Invasive	Located in drainage ditch and under utility lines. Tree has slight lean and weighting to the south.
5012	Chinaberry	Invasive	History of large stem failure. Significant poison ivy present. Root collar buried on SW side along curb.
5013	Chinaberry	Invasive	Tree has lost all 3 of its main leaders. Signs of decay present in canopy and large amount of epicormic growth. Recommend removal.
5014	Hackberry	Poor	Frost cracks down majority of trunk with little response growth. Chain link fence fusing into trunk. Weighted to the SE.
5015	Pear	Fair	Tree assumed to be 5015 based on provided survey, no tag present. Significant weight and lean to the NE. Epicormic growth and minor branch dieback.
5016	Pear	Poor	Tree assumed to be 5016 based on provided survey, no tag is present. History of large stem failure with decay column visible. Cavity connects from east side to NW side of trunk and is approximately 3 feet tall.

**SITE PLAN APPROVAL** SHEET \_\_\_ OF \_\_\_

FILE NUMBER: SP-2024-XXXX APPLICATION DATE: \_\_\_\_\_

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EXPIRATION DATE (25-5-81, LDC) \_\_\_\_\_ CASE MANAGER \_\_\_\_\_

PROJECT EXPIRATION DATE (ORD. #970905-A) \_\_\_\_\_ DW/PZ \_\_\_\_\_ 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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LAND STRATEGIES INC.

1983 - 2025  
**42**  
YEARS OF EXCELLENCE

1411 W. 5TH ST.  
SUITE 100  
AUSTIN, TX 78703  
PH: (512) 328-6050  
FAX: (512) 328-4172  
EMAIL: LSI@LANDSTRATEGIES.COM

REGISTERED LANDSCAPE ARCHITECT  
PAUL W. LINNEN  
9117  
STATE OF TEXAS  
1369772025

NOTES:  
1.

TWIN ROCK  
12029 JOLLYVILLE RD., AUSTIN TX 78759  
LSI # 219501

LANDSCAPE PLANS (1 OF 6)

REVISIONS

SHEET NAME  
**TREE SURVEY**

SHEET  
52 OF 57



LAND STRATEGIES INC.

1983 - 2025  
42  
YEARS OF EXCELLENCE

1411 W. 5TH ST.  
SUITE 100  
AUSTIN, TX 78703  
PH: (512) 328-6050  
FAX: (512) 328-6172  
EMAIL: LSI@LSIAustin.COM



NOTES:  
1.

TWIN ROCK  
12029 JOLLYVILLE RD., AUSTIN TX 78759  
EST. # 219601  
LANDSCAPE PLANS (2 OF 6)

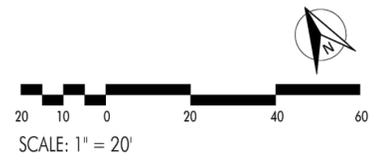
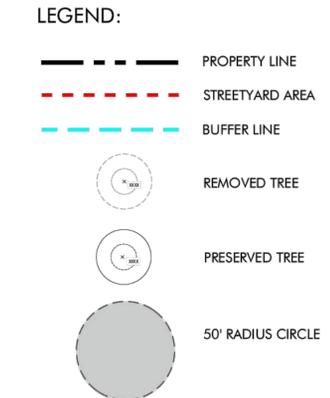
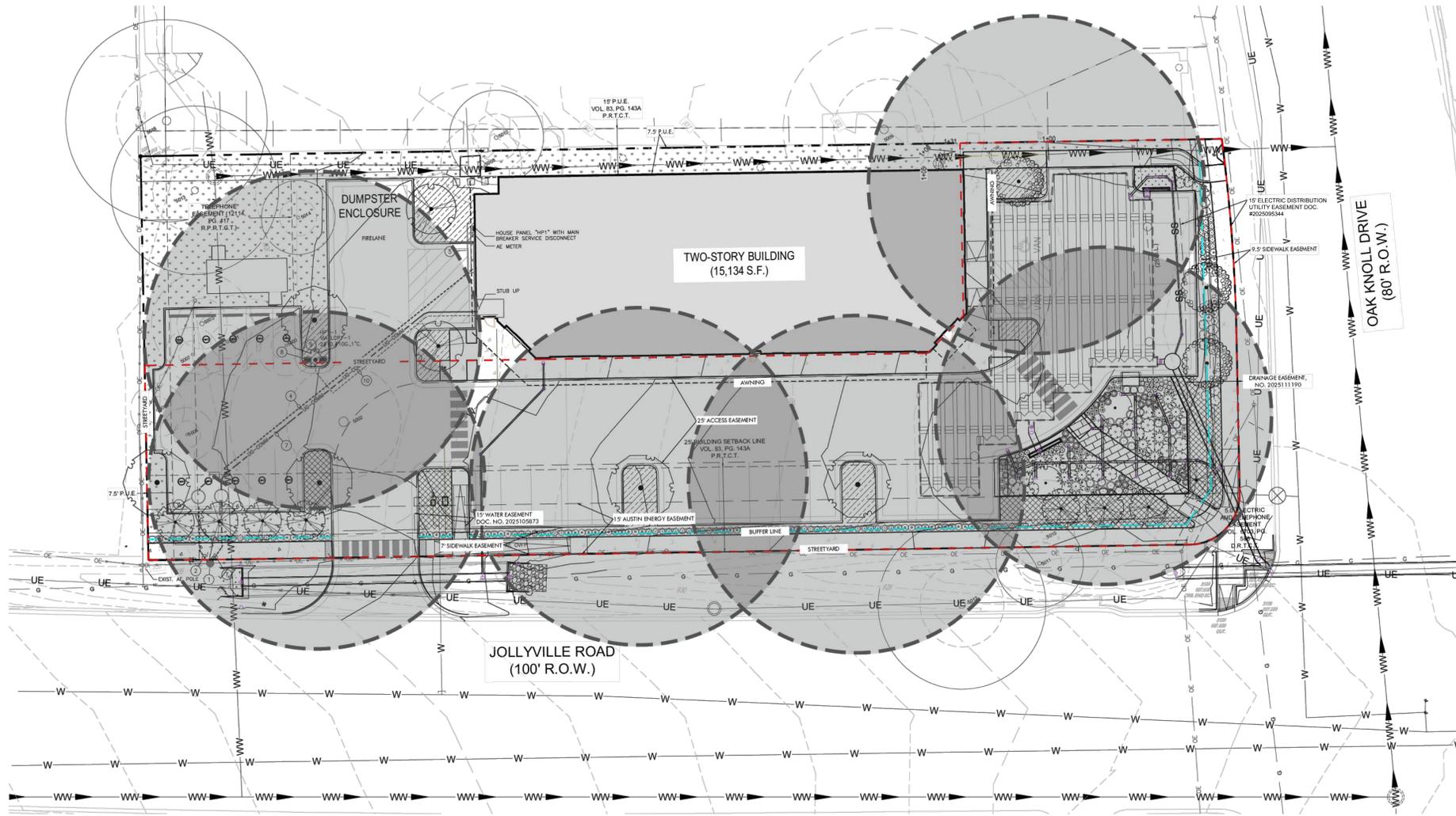
REVISIONS

SITE PLAN APPROVAL SHEET \_\_\_ OF \_\_\_  
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DIRECTOR, DEVELOPMENT SERVICES DEPARTMENT  
RELEASED FOR GENERAL COMPLIANCE: \_\_\_\_\_ ZONING: \_\_\_\_\_  
REV. 1 \_\_\_\_\_ CORRECTION 1 \_\_\_\_\_  
REV. 2 \_\_\_\_\_ CORRECTION 2 \_\_\_\_\_  
REV. 3 \_\_\_\_\_ CORRECTION 3 \_\_\_\_\_

SHEET

53 OF 57



**NOTES:**  
A tree is located within 50 feet of each parking space, in accordance with ECM 2.4.2.C and ECM Appendix V, Figure 2-3.

SITE PLAN APPROVAL SHEET \_\_\_ OF \_\_\_  
FILE NUMBER: SP-2024-XXXX APPLICATION DATE: \_\_\_\_\_  
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DIRECTOR, DEVELOPMENT SERVICES DEPARTMENT  
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LAND STRATEGIES INC.  
1983 - 2025  
**42**  
YEARS OF EXCELLENCE

1411 W. 5TH ST.  
SUITE 100  
AUSTIN, TX 78703  
PH: (512) 328-6050  
FAX: (512) 328-6172  
EMAIL: LSI@LandStrategies.com



NOTES:  
1.

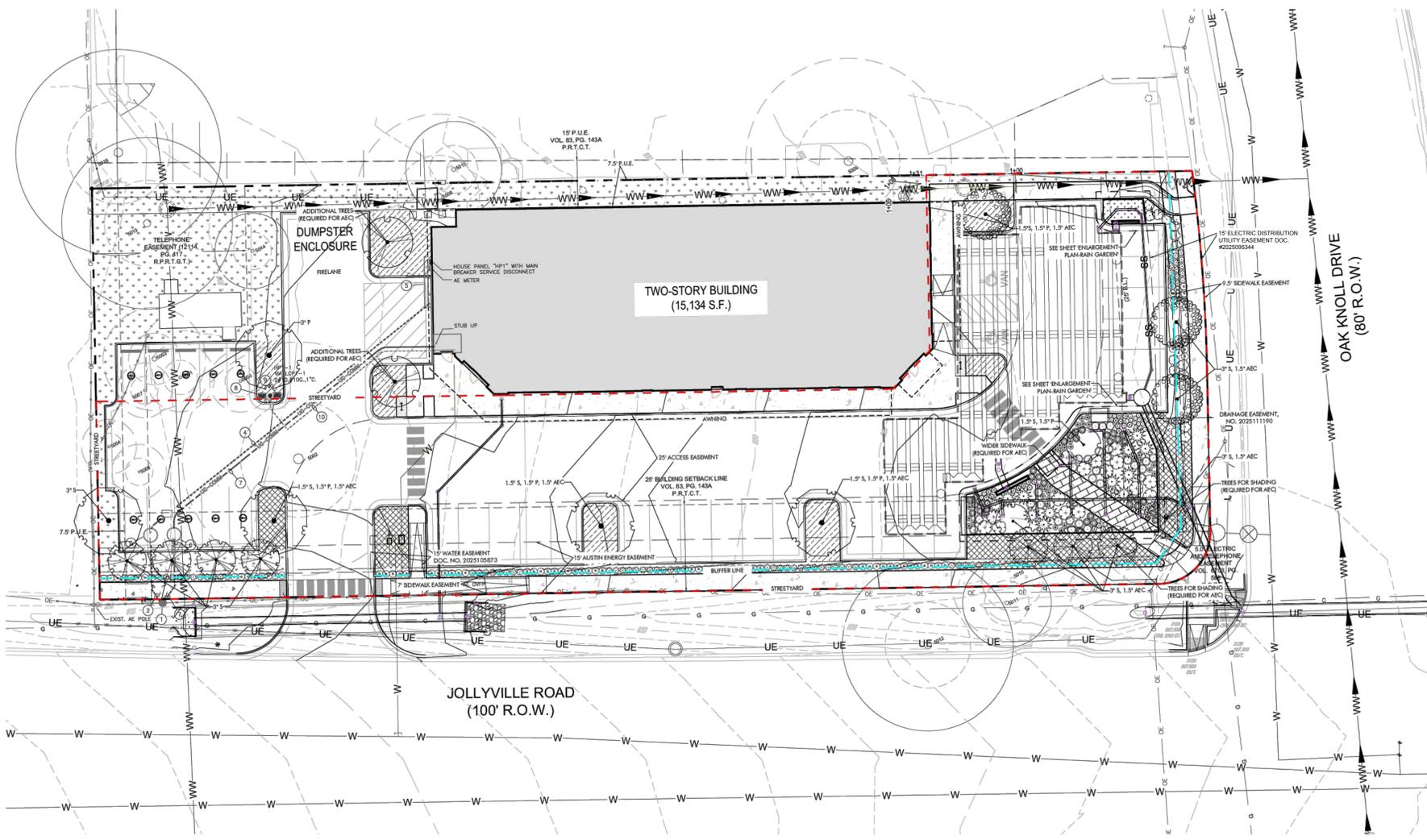
TWIN ROCK  
12029 JOLLYVILLE RD., AUSTIN TX 78759  
L.S.I. # 219501  
**LANDSCAPE PLANS (3 OF 6)**

REVISIONS

LANDSCAPE PLAN & CALCULATIONS

SHEET

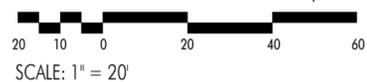
54 OF 57



**PLANT SCHEDULE**

SYMBOL	CODE	BOTANICAL / COMMON NAME	SIZE	QTY	
	CER TXA	Cercis canadensis texensis / Texas Redbud	3" Cal.	2	
	COR DRU	Cornus drummondii / Roughleaf Dogwood	3" Cal.	2	
	FRU MEX	Prunus mexicana / Mexican Plum	4.5" cal.	3	
	RHU COP	Rhus copallina 'Flameleaf' / Flameleaf Sumac	4.5" cal.	5	
	SOP SEC	Sophora secundiflora / Texas Mountain Laurel	4.5" cal.	8	
SYMBOL	CODE	BOTANICAL / COMMON NAME	SIZE	SPACING	QTY
	CHA LA2	Chasmanthium latifolium / Inland Sea Oats	3 gal.	30" o.c.	28
	DIA TAS	Dianella tasmanica / Flax Lily	3 gal.	24" o.c.	65
	ENG PER	Engelmannia peristenia / Engelmann's Daisy	1 gal.	18" o.c.	34
	MAL DRU	Malvaviscus drummondii / Turk's Cap	5 gal.	48" o.c.	15
	MUH REV	Muhlenbergia reverchonii / Sheep Muhly	3 gal.	18" o.c.	32
	MUH RIG	Muhlenbergia rigens / Deer Muhly	1 gal.	15" o.c.	33
	NAS TEN	Nassella tenuissima / Mexican Feather Grass	5 gal.	24" o.c.	85
	PAV LAP	Pavonia laslopetala / Rock Rose	3 gal.	36" o.c.	4
	PHY ANG	Physostegia angustifolia / Obedient Plant	3 gal.	24" o.c.	34
	SAB MIN	Sabal minor / Dwarf Palmetto	5 gal.	60" o.c.	12
	SAL GRE	Salvia greggii / Autumn Sage	5 gal.	36" o.c.	14
GROUND COVERS					
	DIC SER	Dichondra sericea / Silverleaf Ponyfoot	1 gal.	12" o.c.	1,210
	POA ARA	Poa arachnifera / Texas Bluegrass	4"	18" o.c.	36
	STE PAL	Stenotaphrum secundatum 'Palmetto' / Palmetto St. Augustine Grass	soil		4,514 sq
	TRA AS	Trachelospermum asiaticum 'Asiatic' / Asiatic Jasmine	1 gal.	12" o.c.	1,233

- LEGEND:**
- PROPERTY LINE
  - - - STREETYARD AREA
  - - - BUFFER LINE
  - REMOVED TREE
  - PRESERVED TREE
  - S STREET YARD TREE
  - P PARKING TREE
  - AEC AEC REQUIRED TREE



**APPENDIX C CALCULATIONS:**

STREET YARD	Required	Provided	
Total Site Area	N/A	38,894.72 sf	
Total Street-yard Area	N/A	23,808.29 sf	
Street-yard/ Landscape (20%)	4,761.66 sf	4,718.00 sf	19.8%

TREES (Street yard)	Total Required	16 ea.	Total Provided	17 ea.
JOLLYVILLE ROAD & OAK KNOLL DRIVE	Required	16 ea.	Provided	17 ea.
			Existing Trees	0 ea.
			Proposed Trees	17 ea.

ISLANDS, MEDIANS, OR PENINSULAS	Required	Provided
Street-yard area	232.50 sf	2485.00 sf
Non street-yard area	15.00 sf	626.00 sf

BUFFERING POINTS (STREETYARD)	Required	395	Total Provided	439
Tree (existing)	6" and greater	0	9	0 pts.
Large Trees	3"	0	9	0 pts.
Small Trees	3"	0	9	0 pts.
Small Trees	2"	0	6	0 pts.
Large Shrubs	5 Gal.	18	3	54 pts.
Medium Shrubs	5 Gal.	85	3	255 pts.
Small Shrubs	3 Gal.	65	2	130 pts.
Decorative Wall (3' min height)	N/A			
Berm (3' min @ no< 4:1 slope)	N/A			

Existing Tree Credit	Total	0
JOLLYVILLE ROAD & OAK KNOLL DRIVE		0 ea.
2" - 6" diameter	0 ea. X 1=	0 ea.
6" diameter or greater	0 ea. X 2=	0 ea.

**NOTE:**  
1. Finished elevation for parking-lot islands, medians, peninsulas, and similar landscape areas must be at least six (6) inches below the finished parking lot elevation to allow for placement of six (6) inches of topsoil [LDC 25-2-1007(F)(4)].  
2. Screening for solid waste collection and loading areas shall be the same as, or of equal quality to, the principal building materials.  
3. Any trees planted within 20 lateral feet of underground electric equipment must install root barriers between the tree and the equipment with a minimum installation of 4 feet deep and five feet from the equipment.

ALTERNATIVE LANDSCAPE CALCULATIONS	
Landscape Area/Street Yard	-4 pts.
Landscape Islands, Medians or Peninsula	N/A pts.
Tree / Streetyard	N/A pts.
Trees / Parking	N/A pts.
Medians or Peninsula within 50' of parking	N/A pts.
<b>Total Negative</b>	<b>-4 pts.</b>

ALTERNATIVE LANDSCAPE - COMPENSATION	
All native plant materials	5 pts.
Other	N/A pts.
<b>Total Compensation</b>	<b>5 pts.</b>

**SITE PLAN APPROVAL** SHEET \_\_\_ OF \_\_\_

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DIRECTOR, DEVELOPMENT SERVICES DEPARTMENT

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REV. 1 \_\_\_\_\_ CORRECTION 1 \_\_\_\_\_

REV. 2 \_\_\_\_\_ CORRECTION 2 \_\_\_\_\_

REV. 3 \_\_\_\_\_ CORRECTION 3 \_\_\_\_\_

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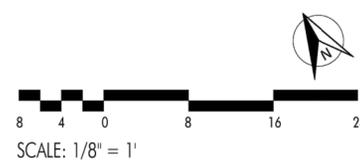
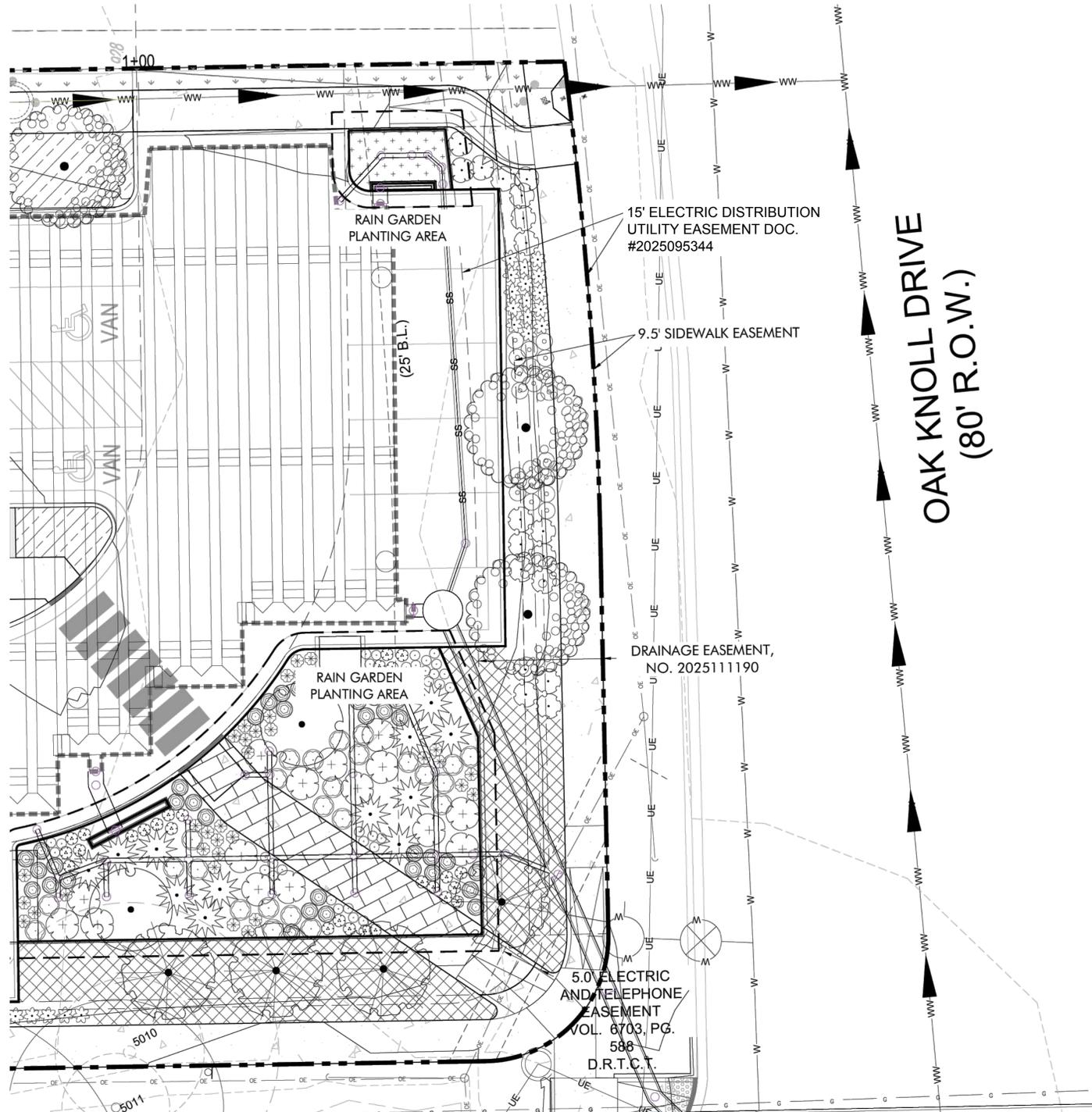
### PLANT SCHEDULE RAIN GARDEN

SYMBOL	CODE	BOTANICAL / COMMON NAME	SIZE	QTY	
<b>TREES</b>					
	COR DRU	Cornus drummondii / Roughleaf Dogwood	3" Cal.	2	
<b>SHRUBS</b>					
	CHA LA2	Chasmanthum latifolium / Inland Sea Oats	3 gal.	28	
	ENG PER	Engelmannia peristenia / Engelmann's Daisy	1 gal.	34	
	MAL DRU	Malvastrum drummondii / Turk's Cap	5 gal.	15	
	MUH REV	Muhlenbergia reverchonii / Seep Muhly	3 gal.	32	
	MUH RIG	Muhlenbergia rigens / Deer Muhly	1 gal.	33	
	PHY ANG	Physostegia angustifolia / Obedient Plant	3 gal.	34	
	SAB MIN	Sabal minor / Dwarf Palmetto	5 gal.	12	
<b>GROUND COVERS</b>					
	POA ARA	Poa arachnifera / Texas Bluegrass	4"	16' o.c.	36

RAIN GARDEN PLANTING				
1490 s.f. x 0.2 = 298 plants required				
Common name (Refer to Plant Schedule for scientific name)	Size	Spacing	Quantity	1 gallon equivalent
ROUGHLEAF DOGWOOD	3" CAL. (5 gal.+)	10' O.C.	2	8
DWARF PALMETTO	5 gal.	5' O.C.	12	48
TURK'S CAP	5 gal.	4' O.C.	15	60
OBEDIENT PLANT	3 gal.	2.5' O.C.	34	68
INLAND SEA OATS	3 gal.	3' O.C.	28	56
SEEP MUHLY	1 gal.	4' O.C.	32	32
DEER MUHLY	1 gal.	1.5' O.C.	33	33
ENGELMANN DAISSY	1 gal.	1.5' O.C.	34	34
TEXAS BLUEGRASS	4" pot	1' O.C.	36	9
<b>TOTAL</b>				<b>340</b>

### LEGEND:

- PROPERTY LINE
- RAIN GARDEN PLANTING AREA
- REMOVED TREE
- PRESERVED TREE



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**SITE PLAN APPROVAL** SHEET \_\_\_ OF \_\_\_

FILE NUMBER: SP-2024-XXXXC APPLICATION DATE: \_\_\_\_\_

APPROVED BY COMMISSION ON \_\_\_\_\_ UNDER SECTION \_\_\_\_\_ OF CHAPTER \_\_\_\_\_ OF THE CITY OF AUSTIN CODE.

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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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TREE PROTECTION REQUIREMENTS

A. Duration of Tree Protection

1. Installation
Tree protection shall be installed prior to the start of any site work, including demolition or site preparation, and maintained continuously throughout the project.

2. Removal

Tree protection shall be removed at the end of the project after all construction and final grading is complete, but before final inspection. Any premature removal or failure of tree protection can lead to Critical Root Zone impacts as described in ECM 3.5.2 and may require remedial tree care. It is the permit holder's responsibility to avoid damage to preserved trees where tree protection has been removed or not installed.

B. Fencing Specifications

1. Material Requirements

Fencing is the primary method of tree protection. Fencing is intended to prevent access to the Critical Root Zone. Tree fencing shall be chain-link mesh with a minimum height of 5 feet. Fencing shall be installed on steel t-posts with a maximum spacing of 10 feet between the posts. More robust or existing permanent fencing may be approved as an alternative to chain-link fencing. Plastic fencing material shall not be used as tree protection.

2. Location of Fencing

Fencing shall be installed around or beyond the Critical Root Zone of all preserved trees or any natural areas designated for preservation. Fencing must be continuous and create a closed, inaccessible area of root zone protection.

3. Maintenance of Fenced Areas

Fencing shall not be temporarily moved or removed during development without prior authorization. There shall be minimal slack or sagging in the fence. The fenced Critical Root Zone shall not be used for tool or material storage of any kind and shall be kept free of litter.

4. Exceptions to Fencing Requirements

Any section of the Critical Root Zone not protected by fencing or covered by existing hardscape requires mulch (see ECM 3.6.1.C). Exceptions to the CRZ fencing requirement shall be justified by site-specific considerations. Some exceptions are for areas:

- i. that have been approved for impacts, such as the footprint of a building; ii. covered by existing hardscape, such as a patio or driveway (note: if hardscape is removed the exposed soil beneath becomes subject to tree protection requirements); iii. required for access to the work area; and iv. approved for use as a staging area.
Within the Half CRZ, fencing requirements will only be modified for existing hardscape or to allow an access path adjacent to approved structures (see ECM 3.6.1.C.3). CRZ fencing modifications shall be shown on the development plans or approved by the inspector.

C. Mulch Specifications

1. Material Requirements

Mulch is required in any section of the Critical Root Zone that is not protected by fencing or under existing hardscape and has not been approved for impacts (such as building footprint or driveway). Mulch used for tree protection shall be any natural wood type. Rough single grind mulch, which resists compaction better than double grind and is usually less expensive is preferred but any natural wood type is acceptable. Dyed mulch or mulch made from non-biological material such as rubber or stone shall not be used as tree protection.

2. Depth of Mulch

Mulch shall be installed to a minimum depth of 8 inches. Mulch may need to be periodically replenished depending on the duration of the project. Since excessive mulch is harmful to trees, mulch shall not be installed to a depth greater than 12 inches. Mulch used for tree protection shall be removed at the end of the project. Mulch shall never be piled against tree trunks.

3. Mulch Within the Half CRZ

When mulch is used as alternative protection within the Half Critical Root Zone it shall be topped by decking to provide additional protection against compaction.

4. Exceptions to Mulch Requirements

Mulch is not required within fenced sections of the Critical Root Zone where existing turf or ground cover is present and undisturbed. Sections of bare or disturbed dirt within the fenced CRZ shall be covered by a three-inch layer of mulch.

D. Trunk and Branch Wrapping

1. Trunk Wrap

Wrapping is not required or recommended for most preserved trees. When necessary, trunk wrap shall be installed to protect the first 8 feet of tree height whenever protective fencing is located 5 feet or less from the trunk or when fencing cannot be placed around the tree. This will usually only be the case when existing hardscape provides Half Critical Root Zone protection or a structure has been approved for construction within the Half CRZ using an existing historical footprint. These circumstances can result in fencing closer to the trunk than would otherwise be allowed. Because trees vary in form, 8 feet is a general guideline rather than an absolute standard. More or less height of protection may be appropriate.

2. Branch Wrap

Branch wrap may be required when a major limb is over an access route or close to a proposed structure. Proximity of scaffolding or other necessary construction equipment needs to be considered.

3. Material Requirements

Dimensional lumber, such as 2x4s, shall be oriented parallel to and continuously around the trunk or branch and secured in place by tightening wires run around the outside of the lumber. Wrapping shall never be secured directly to the tree by screws or other means. Wrapping shall be loosened and retightened every six months to prevent the tree from being damaged as it grows outwards.

E. Protection for Natural Areas

Natural areas indicated for preservation on plans shall be protected by fencing that meets the standards for tree fencing in this section. Alternative protection allowed for trees is not acceptable for natural area preservation. Fencing shall be installed at the Limit of Construction line shown on plans.

BEFORE CONSTRUCTION

All trees and natural areas shown on plan to be preserved shall be protected per ECM 3.6.1.

Tree protection shall be installed prior to the start of any site work, including demolition or site preparation. Refer to ECM 3.6.1.A.

Fencing for tree protection shall be chain-link mesh with a minimum height of 5 feet and shall be installed around or beyond the Critical Root Zone except as allowed in ECM 3.6.1.B.4.

Unfenced sections of the Critical Root Zone shall be covered with mulch at a minimum depth of 8 inches and a maximum depth of 12 inches per ECM 3.6.1.C.

Where fencing is located 5 feet or less from the trunk of a preserved tree, trunk wrapping shall be installed per ECM 3.6.1.D.

Erosion and sedimentation controls shall be installed and maintained so as not to cause impacts that exceed preservation criteria listed in ECM 3.5.3.D.

DURING CONSTRUCTION

Trees approved for removal shall be removed in a manner that does not exceed preservation criteria for the trees to remain. Refer to ECM 3.5.2.A.

Fencing may not be temporarily moved or removed during development without prior authorization. The fenced Critical Root Zone shall not be used for tool or material storage of any kind and shall be kept free of litter. Refer to ECM 3.6.1.B.3.

Pruning shall be in compliance with the current ANSI A300 standard for tree care.

AFTER CONSTRUCTION

Tree protection shall be removed at the end of the project after all construction and final grading is complete, but before final inspection. Refer to ECM 3.6.1.A.

Landscape installation within the CRZ of preserved trees, including irrigation, soil and plantings, shall not exceed preservation criteria listed in ECM 3.5.2.

Documentation of tree work performed must be provided to inspector per ECM Appendix P-6.

THIS LIST IS NOT EXHAUSTIVE.

REFER TO APPROPRIATE ECM SECTIONS FOR FULL REQUIREMENTS.

LANDSCAPE NOTES:

- 1. Existing Trees to Be Saved Shall Be Protected by Fencing Before Construction Begins. Fencing Shall Consist of 5' Chain Link Fence with Poles on 8' Centers. No Equipment or Materials Shall Be Stored, Operated or Maintained Within The Fenced in Area. Fences Shall Be at Drip Line (Or as per the Tree Protection Plan) and Completely Surround the Tree or Cluster of Trees. No Fires or Cleaning of Concrete Trucks Will Be Allowed in These Areas.
2. Irrigation Shall Be by Automated Underground Irrigation System to Be Installed Prior to Planting. No Piping Shall Extend into Canopied Areas. Except as Shown on Approved Tree Protection Plan. Large Open Spaces Will Have Spray or Rotary Nozzles. Employ Underground Drip Irrigation Within 4 Feet of Curb.
3. Grade Changes That Do Not Appear on Site Plans Shall Be Brought to the Attention of the Landscape Architect by General Contractor Before Construction Begins.
4. Trenching Shall Not Occur Within Areas Enclosed by Tree Protection Fencing.
5. The Owner Will Continuously Maintain the Required Landscaping in Accordance with LDC Section 25-2-984.
6. For All Trees to Remain, a Comprehensive Tree Care Program, Including Fertilization of All Trees Encroached upon by Construction, Shall Be Implemented.
7. All Areas of Native Vegetation Beyond the Limit of Construction Are to Be Left Undisturbed. Native Areas to Be Saved Shall Be Cleaned, Pruned and Seeded under Direction of Landscape Architect.
8. Required Buffering of Street Yard Parking Will Be Accomplished Through the Use of Proposed, Existing, and Preserved Plant Material.
9. All Replacement Trees, Installed or Transplanted, Shall Have Adequate Irrigation Provided to Sustain Growth Through the First Year after Planting.
10. Areas Labeled "Turf" Are to Be Sodded with Bermuda Grass.
11. All Proposed Trees Are to Be a Minimum 6' in Height with a Min. Caliper of 1 1/2". All Caliper Measurements Will Be Taken at a Height of at Least 4'-6" above Ground Level Per City of Austin Code Vol. III, Ch. 25-2-1005, Note 'A'.
12. All Landscaping Shall Be Protected by Concrete Curbing, Wheel Stops or Equivalent Barriers in Vehicular Use Areas.
13. All Proposed Plant Material Shall Be from the City of Austin Preferred Plant List (Appendix-n).
14. All Required Planting Areas Shall Be a Min. Of 10' in Parking Areas.
15. No More than 50% of the Same Genus Shall Be Used for Compliance in Either the Shrub or Tree Ordinance Calculation.
16. The Owner Will Continuously Maintain the Required Landscaping in Accordance with LDC Section 25-2-984.
17. Special Precaution Should Be Taken in Areas with Continuous Electrical Easements to Avoid Contact with Underground Electric. Locate and Verify Conditions Of Utilities Prior to Any Excavation. Extreme Caution Shall Be Exercised in Excavating and Working near Existing Utilities.
18. 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. The Owner will continuously maintain the required landscaping in accordance with LDC 25-2-984. All landscaped areas are to be protected by 6 inch wheel curbs, wheelstops or other approved barriers as per ECM 2.4.7. [LDC 25-2-1004(A), ECM 2.4.7(A)]

REMEDIAL TREE CARE NOTES:

Per Appendix P-6 of the Technical Criteria Manual:

Trees will be Aerated and Provided Nutrients Prior to any Construction Activity.

- 1. As a condition of final acceptance of the site and in conformance with ECM section 3.5.4- All preserved trees with the limits of construction will be Aerated and provided with Supplements; Nutrients per the following guidelines. Macro and MicroNutrients are required, Humate/nutrient solutions with mycorrhizae components are highly recommended. These solutions are commonly utilized to provide remediation for trees affected by construction. Materials and Methods are to be approved by the City Arborist (974-1876) prior to application. The owner or general contractor shall select a fertilization contractor and insure coordination with the City Arborist.
2. Treatment is to commence prior to the beginning of construction activities and again after the completion of all construction. Areas to be treated include the entire critical root zone of trees as depicted on the City Approval plans. Trees are to be aerated by water injected into soil (under pressure via a soil probe at 50-125 psi) or by other method as approved by WPDR. The Proposed Nutrient Mix Specifications need to be provided to and approved by the City Arborist prior to application (Fax#974-3010). Applicants may also specify soil injections of Doggett X-L injecto 32-7-7 or equivalent at recommended rates. Construction which will be completed in less than 90 days should use materials at 1/2 recommended rates. Alternative organic fertilizer materials are acceptable when approved by the City Arborist. Within 7 days after fertilization is preformed, the contractor shall provide documentation of the work performed to the City Arborist, Development Services Department, P.O. Box 1088, Austin TX 78767. This note should be referenced as item #1 in the Sequence of Construction.

APPENDIX O - LANDSCAPE/IRRIGATION NOTES

Automatic irrigation systems shall comply with TCEQ Chapter 344, as well as the following requirements:

- 1. These requirements shall be noted on the Site Development Permit and shall be implemented as part of the landscape inspection:
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 more than a one-half inch (1/2") rainfall; and
h. newly planted trees shall have permanent irrigation consisting of drip or 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; 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 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.

STANDARD CONSTRUCTION METHODS AROUND TREES:

- 1. Prior to excavation within tree drip lines or the removal of trees adjacent to other trees that are to remain, make a clean cut between the disturbed and undisturbed root zones with a rock saw or similar equipment to minimize root damage.
2. In critical root zone areas that cannot be protected during construction with fencing and where heavy vehicular traffic is anticipated, cover those areas with 4 inches of organic mulch or gravel to minimize soil compaction.
3. Perform all grading within the critical root zone areas by hand or with small equipment to minimize root damage.
4. 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.
5. When installing concrete adjacent to the root zone of the tree, use a plastic vapor barrier behind the concrete to prohibit leaching of lime into the soil.
6. Tree roots scarred by equipment shall be cut cleanly and covered with top soil. When tree roots are pruned, a comparable portion of selected branches shall be cut from the top side. Limb pruning shall be made at the branch collar. All limbs greater than 1 inch in diameter shall be disinfected with alcohol or 5 ppm chlorine solution between trees to prevent transmitting diseases.
7. All trees damaged during construction shall receive an application of fertilizer within the drip line, applied at a rate of 4 pounds per caliper inch with an analysis of 15-15-15.
8. When an excavation or embankment is placed within the drip line of any tree greater than 8 inches in diameter, a dry well shall be constructed to protect the tree as indicated, when the cut or fill exceeds 8 inches.
9. Where paving is necessary within the drip line of any tree greater than 6 inch diameter, a permeable pavement and aeration system must be installed as indicated, except for street

ADDITIONAL PLAN NOTES:

- 1. All landscaped areas are to be protected by 6-inch wheel curbs, wheelstops or other approved barriers as per ECM 2.4.7.
2. Any trees planted within 20 lateral feet of underground electric equipment must install root barriers between the tree and the equipment with a minimum installation of four feet deep and five feet from the equipment. See Detail 3, Sheet L6
3. No posts or footing installation is allowed in the 1/2 CRZ.
4. For any post installation in the 1/2 CRZ:
a. Post holes to be dug by hand or air excavated.
b. Post holes shifted to avoid 1.5" diameter or greater roots
c. A vapor barrier will be installed between the poured concrete and the soil. See Detail 4, Sheet L6

REVISIONS: 2/20/2015 TWIN ROCKS DRAWINGS, LDM/CS, SUBMITTAL DRAWINGS SETS, LDCP SET 01.DWG, LDCP SET 02.DWG, 10/7/2025 5:46 PM



LAND STRATEGIES INC.

1983 - 2025
42
YEARS OF EXCELLENCE

1411 W. 5TH ST.
SUITE 100
AUSTIN, TX 78703
PH: (512) 328-0050
FAX: (512) 328-0172
EMAIL: LSI@LSIAustin.COM



NOTES:

- 1.

TWIN ROCK

12029 JOLLYVILLE RD., AUSTIN TX 78759
LSI # 319501

LANDSCAPE PLANS (5 OF 6)

REVISIONS

SITE PLAN APPROVAL SHEET \_\_\_ OF \_\_\_
FILE NUMBER: SP-2024-XXXX 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 EXPIRATIONS DATE (ORD. #970905-A) DWPR DDZ
DIRECTOR, DEVELOPMENT SERVICES DEPARTMENT
RELEASED FOR GENERAL COMPLIANCE: ZONING:
REV. 1 CORRECTION 1
REV. 2 CORRECTION 2
REV. 3 CORRECTION 3

Final plot 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 Permit and/or a notice of construction (if a building permit is not required), must also be approved prior to the Project Expiration Date.

LANDSCAPE NOTES & CALCULATIONS

SHEET



LAND STRATEGIES INC.

1983 - 2025  
42  
YEARS OF EXCELLENCE

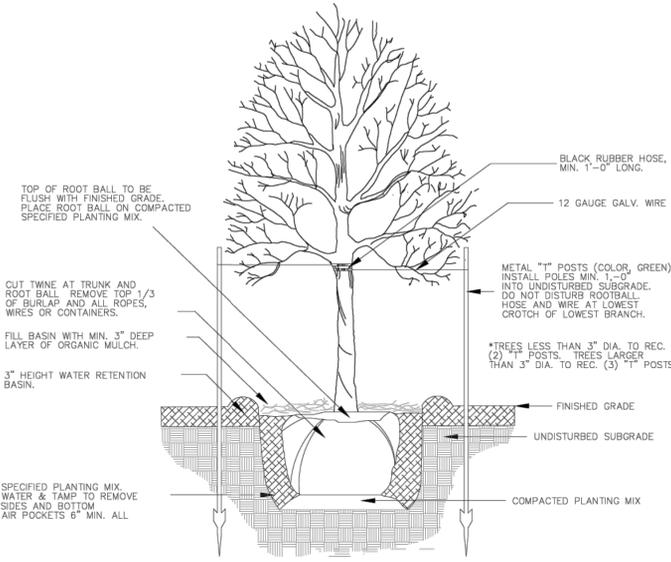
1411 W. 5TH ST.  
SUITE 100  
AUSTIN, TX 78703  
PH: (512) 328-6050  
FAX: (512) 328-6172  
EMAIL: LSI@LStustin.COM



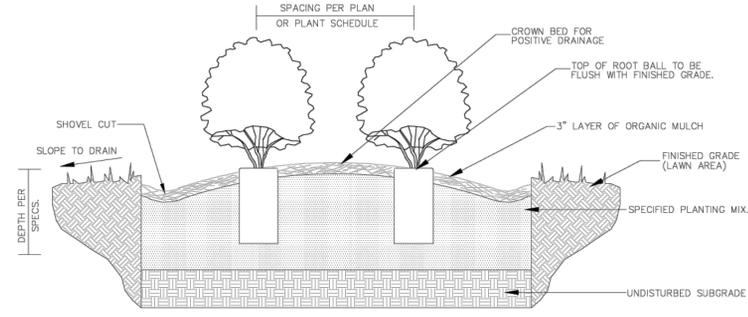
NOTES:  
1.

TWIN ROCK  
12029 JOLLYVILLE RD., AUSTIN TX 78759  
Est. # 2194501  
LANDSCAPE PLANS (6 OF 6)

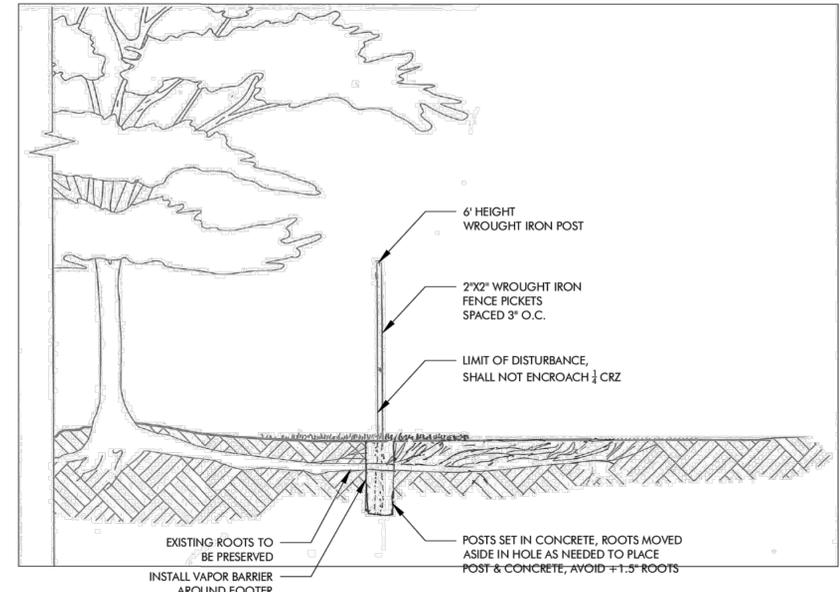
REVISIONS



1 TREE PLANTING/STAKING DETAIL  
SCALE: N.T.S.

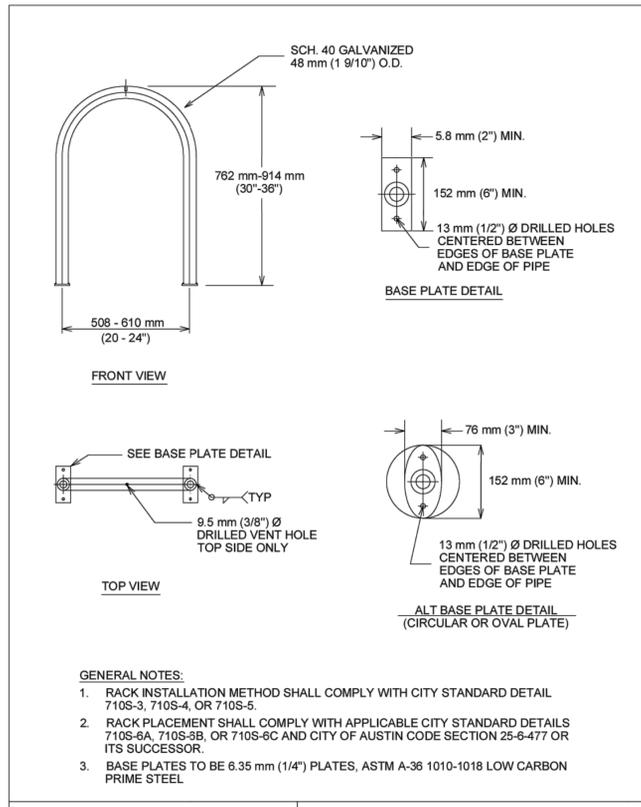


2 SHRUB/GROUND COVER PLANTING  
SCALE: N.T.S.



3 TREE ROOT PRESERVATION DETAIL  
SCALE: N.T.S.

- NOTES:
1. No posts or footing installation is allowed in the 1/4 CRZ.
  2. For any post installation in the 1/4 CRZ:
    - a. Post holes to be dug by hand or air excavated.
    - b. Post holes shifted to avoid 1.5" diameter or greater roots
    - c. A vapor barrier will be installed between the poured concrete and the soil.



4 BIKE RACK  
SCALE: N.T.S.

CITY OF AUSTIN DEPARTMENT OF PUBLIC WORKS		CLASS III STYLE BICYCLE PARKING	
RECORD COPY SIGNED BY COUNG TRAN	09/26/12 ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 710S-1 1 OF 1

SITE PLAN APPROVAL SHEET \_\_\_ OF \_\_\_

FILE NUMBER: SP-2024-XXXX 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 Permit and/or a notice of construction (if a building permit is not required), must also be approved prior to the Project Expiration Date.

E:\DATA\2024\20240915 TWIN ROCKS DRAWINGS\DWG\SUBMITTAL DRAWINGS\SET\LOC SET\105 LOC SET.DWG - 10/27/2025 9:44 AM

## Construction Site SWPPP Inspection Form

<b>Status</b>	<input type="checkbox"/> Complies	
	<input type="checkbox"/> Warning	No.
	<input type="checkbox"/> Project Shutdown	

<b>SWPPP</b>	On-Site		Up-to-date	
	Yes	No*	Yes	No*

<b>General Information</b>	Project:	Date:
	Address:	Inspector:
		Qualifications: see Appendix E of SWPPP
		Weather Conditions:
	Owner:	Site Conditions:
	Contractor:	___ Biweekly ___ Rain Event ___ Other

BMP	BMP Used		Maintenance Required?		Comments
	Yes	No	Yes*	No	
Channel Protection					
Check Dam					
Chemical Management					
Concrete Saw cutting Waste Management					
Concrete Waste Management					
Debris and Trash Management					
Diversion Dike					
Dust Control					
Erosion Control Blankets					
Erosion Control Logs					
Inlet Protection					
Interceptor Swale					
Lime Stabilization Management					
Mulching					
Organic Filter Berm					
Pipe Slope Drain					
Sandblasting Waste Management					
Sanitary Facilities					
Sediment Basin					
Sediment Logs					
Silt Fence					
Stabilized Construction Exit					
Stone Outlet Sediment Trap					
Temporary Sediment Tank					
Triangular Sediment Filter Dike					
Vegetation					
Wheel Wash					
Other					
Other					
Other					

\* Items marked in this column need to be addressed in the Record of Revision table.

**Permanent Stormwater Section**

**Attachment G – Inspection, Maintenance, Repair, and Retrofit Plan**



# Twin Rock Liquor Inspection, Maintenance, Repair, and Retrofit Plan

## **Vegetative Care**

Permanent vegetation shall consist of Bermuda grass, which will be seeded on disturbed areas to minimize runoff. Vegetation will be considered permanent if it is planted between March 2 and September 14, reaches a height of at least 1.5 inches, and covers 95 percent of the disturbed area. After seeding, the areas will be watered and hydro-mulched to support germination. Watering shall be applied uniformly and in compliance with Austin Water Utility City Code 6-4 to conserve water and minimize erosion runoff. When required, native plant seeding shall comply with the City of Austin Environmental Criteria Manual, Items 604S and 609S.

## **Sediment Removal**

Sediment removal is expected during construction activities. To aid in site restoration, an additional six inches of topsoil will be applied to all disturbed areas. This topsoil may be salvaged from the existing site, provided it meets the standards outlined in Specification 601S.

If the salvaged soil does not meet these criteria, the owner or engineer may propose its use by submitting a soil analysis and a written statement from a qualified professional in soils, agronomy, construction, or architecture. This documentation must demonstrate how the proposed soil will serve as an equivalent growth medium and specify any additives that will be used to enhance its suitability.

## **Inspection and Record Keeping**

A weekly inspection will be conducted to ensure compliance with the SWPPP. Inspectors must maintain detailed findings on-site and prepare and sign a SWPPP report. All SWPPP documentation, along with any ESC plans, must be recorded and uploaded to <https://www.mypermitnow.org>.

## **Maintenance of Jellyfish filter**

Inspection activities are typically conducted from surface observations and include observing if there is standing water present, observing if physical damage to the deck or cartridge lids is present, and observing the amount of debris in the maintenance access wall or inlet bay. Quarterly inspections are recommended during the first year of operation to assess sediment and pollutant accumulation, and a minimum of once per year. Inspection is recommended after each major storm event and is required if an upstream oil, fuel, or chemical spill occurs. It is recommended that sediment removal occurs when depth reaches 12 inches or greater, or within three years of the most recent sediment cleaning. Filter cartridges should be rinsed and reinstalled as required by the most recent inspection results or 12 months of the most recent filter rinsing. Tentacles should be in service no longer than five years and replaced if adequate hydraulic capacity is not met after filter rinsing. Damaged or missing cartridge deck components must be repaired or replaced. Filter cartridges must be inspected if an upstream oil, fuel, or chemical spill occurs, and replaced if damaged or compromised by the spill.

Responsible Party for Maintenance: Twin Rock

Contact Person: Raju Malik & Sandeep Kaur

Address: 12029 Jollyville Rd

City, State Zip: Austin, Tx, 78759

Telephone Number: 512-468-8969

Signature of Responsible Party: Raju Malik Sandeep Kaur

**Permanent Stormwater Section**  
**Attachment H – Pilot-Scale Field Testing Plan**

*Not Applicable*

**Permanent Stormwater Section**

**Attachment I – Measures for Minimizing Surface Stream Contamination**

*Not Applicable*

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

I \_\_\_\_\_ Raju Malik & Sandeep Kaur \_\_\_\_\_  
Print Name

\_\_\_\_\_ Owners \_\_\_\_\_  
Title - Owner/President/Other

of \_\_\_\_\_ N/A \_\_\_\_\_  
Corporation/Partnership/Entity Name

have authorized \_\_\_\_\_ Anna Fash \_\_\_\_\_  
Print Name of Agent/Engineer

of \_\_\_\_\_ BGE, Inc. \_\_\_\_\_  
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:

Raju Malik  
Applicant's Signature

11/24/2025  
Date

THE STATE OF Texas §

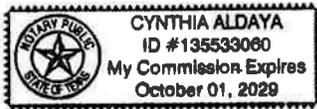
County of Travis §

BEFORE ME, the undersigned authority, on this day personally appeared Raju Malik 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 24 day of November 2025

Cynthia Aldaya  
NOTARY PUBLIC

Cynthia Aldaya  
Typed or Printed Name of Notary



MY COMMISSION EXPIRES: 10-01-2029

SIGNATURE PAGE:

*[Handwritten Signature]*

Applicant's Signature

*Nov. 24, 2025*

Date

THE STATE OF Texas §

County of Travis §

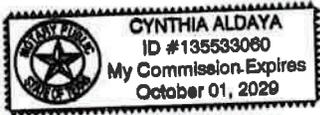
BEFORE ME, the undersigned authority, on this day personally appeared Sandeep Kaur known to me to be the person whose name is subscribed to the foregoing instrument, and acknowledged to me that (s)he executed same for the purpose and consideration therein expressed.

GIVEN under my hand and seal of office on this 24 day of November, 2025

*Cynthia Aldaya*

NOTARY PUBLIC

Cynthia Aldaya  
Typed or Printed Name of Notary



MY COMMISSION EXPIRES: 10-01-2029

# Application Fee Form

**Texas Commission on Environmental Quality**

Name of Proposed Regulated Entity: Twin Rock

Regulated Entity Location: 12029 Jollyville Rd, Austin, Tx, 78759

Name of Customer: Raju Malik & Sandeep Kaur

Contact Person: Anna Fash

Phone: 512-686-3525

Customer Reference Number (if issued): CN N/A

Regulated Entity Reference Number (if issued): RN N/A

**Austin Regional Office (3373)**

Hays

Travis

Williamson

**San Antonio Regional Office (3362)**

Bexar

Medina

Uvalde

Comal

Kinney

Application fees must be paid by check, certified check, or money order, payable to the **Texas Commission on Environmental Quality**. Your canceled check will serve as your receipt. **This form must be submitted with your fee payment.** This payment is being submitted to:

Austin Regional Office

San Antonio Regional Office

Mailed to: TCEQ - Cashier

Overnight Delivery to: TCEQ - Cashier

Revenues Section

Mail Code 214

P.O. Box 13088

Austin, TX 78711-3088

12100 Park 35 Circle

Building A, 3rd Floor

Austin, TX 78753

(512)239-0357

**Site Location (Check All That Apply):**

Recharge Zone

Contributing Zone

Transition Zone

<i>Type of Plan</i>	<i>Size</i>	<i>Fee Due</i>
Water Pollution Abatement Plan, Contributing Zone Plan: One Single Family Residential Dwelling	Acres	\$
Water Pollution Abatement Plan, Contributing Zone Plan: Multiple Single Family Residential and Parks	Acres	\$
Water Pollution Abatement Plan, Contributing Zone Plan: Non-residential	0.90 Acres	\$ 3,000
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	\$
Extension of Time	Each	\$

Signature: Raju Malik Anna Fash

Date: 11/20/2025

## Application Fee Schedule

Texas Commission on Environmental Quality

Edwards Aquifer Protection Program 30 TAC Chapter 213 (effective 05/01/2008)

### **Water Pollution Abatement Plans and Modifications**

#### **Contributing Zone Plans and Modifications**

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

#### **Organized Sewage Collection Systems and Modifications**

<b>Project</b>	<b>Cost per Linear Foot</b>	<b>Minimum Fee- Maximum Fee</b>
Sewage Collection Systems	\$0.50	\$650 - \$6,500

#### **Underground and Aboveground Storage Tank System Facility Plans and Modifications**

<b>Project</b>	<b>Cost per Tank or Piping System</b>	<b>Minimum Fee- Maximum Fee</b>
Underground and Aboveground Storage Tank Facility	\$650	\$650 - \$6,500

#### **Exception Requests**

<b>Project</b>	<b>Fee</b>
Exception Request	\$500

**Extension of Time Requests**

<b>Project</b>	<b>Fee</b>
Extension of Time Request	\$150



# TCEQ 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

<b>1. Reason for Submission</b> (If other is checked please describe in space provided.)		
<input checked="" type="checkbox"/> New Permit, Registration or Authorization (Core Data Form should be submitted with the program application.)		
<input type="checkbox"/> Renewal (Core Data Form should be submitted with the renewal form)	<input type="checkbox"/> Other	
<b>2. Customer Reference Number</b> (if issued)	<a href="#">Follow this link to search for CN or RN numbers in Central Registry**</a>	<b>3. Regulated Entity Reference Number</b> (if issued)
CN 0		RN Twin Rock

## SECTION II: Customer Information

<b>4. General Customer Information</b>		<b>5. Effective Date for Customer Information Updates</b> (mm/dd/yyyy)		06/03/2025	
<input checked="" type="checkbox"/> New Customer <input type="checkbox"/> Update to Customer Information <input type="checkbox"/> Change in Regulated Entity Ownership <input type="checkbox"/> Change in Legal Name (Verifiable with the Texas Secretary of State or Texas Comptroller of Public Accounts)					
<i>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).</i>					
<b>6. Customer Legal Name</b> (If an individual, print last name first: eg: Doe, John)				<i>If new Customer, enter previous Customer below:</i>	
Malik, Raju & Kaur, Sandeep					
<b>7. TX SOS/CPA Filing Number</b>		<b>8. TX State Tax ID</b> (11 digits)		<b>9. Federal Tax ID</b>	<b>10. DUNS Number</b> (if applicable)
N/A		N/A		(9 digits)	
<b>11. Type of Customer:</b>		<input type="checkbox"/> Corporation		<input checked="" type="checkbox"/> Individual	Partnership: <input type="checkbox"/> General <input type="checkbox"/> Limited
Government: <input type="checkbox"/> City <input type="checkbox"/> County <input type="checkbox"/> Federal <input checked="" type="checkbox"/> Local <input type="checkbox"/> State <input type="checkbox"/> Other				<input type="checkbox"/> Sole Proprietorship	<input type="checkbox"/> Other:
<b>12. Number of Employees</b>				<b>13. Independently Owned and Operated?</b>	
<input checked="" type="checkbox"/> 0-20 <input type="checkbox"/> 21-100 <input type="checkbox"/> 101-250 <input type="checkbox"/> 251-500 <input type="checkbox"/> 501 and higher				<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
<b>14. Customer Role</b> (Proposed or Actual) –as it relates to the Regulated Entity listed on this form. Please check one of the following					
<input checked="" type="checkbox"/> Owner <input type="checkbox"/> Operator <input type="checkbox"/> Owner & Operator <input type="checkbox"/> Other: <input type="checkbox"/> Occupational Licensee <input type="checkbox"/> Responsible Party <input type="checkbox"/> VCP/BSA Applicant					
<b>15. Mailing Address:</b>	12029 Jollyville Road				
City	Austin		State	TX	ZIP
					78759
	ZIP + 4	2310			
<b>16. Country Mailing Information</b> (if outside USA)				<b>17. E-Mail Address</b> (if applicable)	
				oakliquorcabinet@sbcglobal.net	

<b>18. Telephone Number</b> ( 512 ) 468-8969	<b>19. Extension or Code</b>	<b>20. Fax Number (if applicable)</b> ( ) -
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### **SECTION III: Regulated Entity Information**

<b>21. General Regulated Entity Information</b> <i>(If 'New Regulated Entity' is selected, a new permit application is also required.)</i>								
<input checked="" type="checkbox"/> New Regulated Entity <input type="checkbox"/> Update to Regulated Entity Name <input type="checkbox"/> Update to Regulated Entity Information								
<i>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).</i>								
<b>22. Regulated Entity Name</b> <i>(Enter name of the site where the regulated action is taking place.)</i>								
N/A								
<b>23. Street Address of the Regulated Entity:</b>  <i>(No PO Boxes)</i>	12029 Jollyville Road							
	<b>City</b>	Austin	<b>State</b>	TX	<b>ZIP</b>	78759	<b>ZIP + 4</b>	2310
<b>24. County</b>								

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

<b>25. Description to Physical Location:</b>									
<b>26. Nearest City</b>							<b>State</b>	<b>Nearest ZIP Code</b>	
<i>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).</i>									
<b>27. Latitude (N) In Decimal:</b>			<b>28. Longitude (W) In Decimal:</b>						
Degrees	Minutes		Seconds		Degrees	Minutes		Seconds	
30	25		53.9		97	46		13.3	
<b>29. Primary SIC Code</b> (4 digits)	<b>30. Secondary SIC Code</b> (4 digits)		<b>31. Primary NAICS Code</b> (5 or 6 digits)			<b>32. Secondary NAICS Code</b> (5 or 6 digits)			
5921	5993		445320			459991			
<b>33. What is the Primary Business of this entity?</b> <i>(Do not repeat the SIC or NAICS description.)</i>									
Sales, Cigar Shop, and Office									
<b>34. Mailing Address:</b>	12029 Jollyville Road								
	<b>City</b>	Austin	<b>State</b>	TX	<b>ZIP</b>	78759	<b>ZIP + 4</b>	2310	
<b>35. E-Mail Address:</b>	oakliquorcabinet@sbcglobal.net								
<b>36. Telephone Number</b>	<b>37. Extension or Code</b>			<b>38. Fax Number (if applicable)</b>					
( 512 ) 468-8969				( ) -					

**39. TCEQ Programs and ID Numbers** Check all Programs and write in the permits/registration numbers that will be affected by the updates submitted on this form. See the Core Data Form instructions for additional guidance.

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

**SECTION IV: Preparer Information**

<b>40. Name:</b>	Anna Fash - BGE, Inc.	<b>41. Title:</b>	Project Manager
<b>42. Telephone Number</b>	<b>43. Ext./Code</b>	<b>44. Fax Number</b>	<b>45. E-Mail Address</b>
( 512 ) 686-3525		( ) -	afash@bgeinc.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.

<b>Company:</b>	BGE, Inc.	<b>Job Title:</b>	Project Manager
<b>Name (In Print):</b>	Anna Fash	<b>Phone:</b>	( 512 ) 686-3525
<b>Signature:</b>		<b>Date:</b>	12/05/2025