Contributing Zone Plan
Optional Enhanced Measures Modification

For

Headwaters Fire Station
Lot 1 of the Headwaters Commercial East Phase 1 Subdivision
Dripping Springs TX, 78620



9/3/2025

Prepared By
Hill Country Civil, LLC
391 Landa St. Ste. 1204
New Braunfels, TX 78130
Ross Corder, PE

Hill Country Civil
Engineers • Consultants

Headwaters Fire Station
Lot 1 of the Headwaters Commercial East Phase 1 Subdivision
Optional Enhanced Measures

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Headwaters Fire Station
Lot 1 of the Headwaters Commercial East Phase 1 Subdivision
Optional Enhanced Measures

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Application Cover Page

Texas Commission on Environmental Quality

Edwards Aquifer Application Cover Page

Our Review of Your Application

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

Administrative Review

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

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

2. This Edwards Aquifer Application Cover Page form (certified by the applicant or agent) must be included in the application and brought to the administrative review meeting.

3. Administrative reviews are scheduled with program staff who will conduct the review. Applicants or their authorized agent should call the appropriate regional office, according to the county in which the project is located, to schedule a review. The average meeting time is one hour.

4. In the meeting, the application is examined for administrative completeness. Deficiencies will be noted by staff and emailed or faxed to the applicant and authorized agent at the end of the meeting, or shortly after. Administrative deficiencies will cause the application to be deemed incomplete and returned.

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

5. If an application is received by mail, courier service, or otherwise submitted without a review meeting, the administrative review will be conducted within 30 days. The applicant and agent will be contacted with the results of the administrative review. If the application is found to be administratively incomplete, it can be retrieved from the regional office or returned by regular mail. If returned by mail, the regional office may require arrangements for return shipping.

6. If the geologic assessment was completed before October 1, 2004 and the site contains "possibly sensitive" features, the assessment must be updated in accordance with the *Instructions to Geologists* (TCEQ-0585 Instructions).

Technical Review

1. When an application is deemed administratively complete, the technical review period begins. The regional office will distribute copies of the application to the identified affected city, county, and groundwater conservation district whose jurisdiction includes the subject site. These entities and the public have 30 days to provide comments on the application to the regional office. All comments received are reviewed by TCEQ.

2. A site assessment is usually conducted as part of the technical review, to evaluate the geologic assessment and observe existing site conditions. The site must be accessible to our staff. The site boundaries should be

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

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

Mid-Review Modifications

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

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

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

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

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

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

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

1. Regulated Entity Name: Hays County Emergency Services District #6 FS No. 72					**2. Regulated Entity No.:**				
3. Customer Name: Hays County Emergency Services District #6					**4. Customer No.: 605665900**				
5. Project Type: (Please circle/check one)	New		Modification		Extension		Exception		
6. Plan Type: (Please circle/check one)	WPAP	CZP	SCS	UST	AST	EXP	EXT	Technical Clarification	Optional Enhanced Measures
7. Land Use: (Please circle/check one)	Residential		Non-residential			**8. Site (acres):**		1.43	
9. Application Fee:	$4,000		**10. Permanent BMP(s):**			Batch Detention Pond			
11. SCS (Linear Ft.):	N/A		**12. AST/UST (No. Tanks):**			N/A			
13. County:	Hays		**14. Watershed:**			Barton Creek			

Application Distribution

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

http://www.tceq.texas.gov/assets/public/compliance/field_ops/eapp/EAPP%20GWCD%20map.pdf

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

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

San Antonio Region					
County:	**Bexar**	**Comal**	**Kinney**	**Medina**	**Uvalde**
Original (1 req.)	___	___	___	___	___
Region (1 req.)	___	___	___	___	___
County(ies)	___	___	___	___	___
Groundwater Conservation District(s)	___ Edwards Aquifer Authority ___Trinity-Glen Rose	___Edwards Aquifer Authority	___Kinney	___EAA ___Medina	___EAA ___Uvalde
City(ies) Jurisdiction	___Castle Hills ___Fair Oaks Ranch ___Helotes ___Hill Country Village ___Hollywood Park ___San Antonio (SAWS) ___Shavano Park	___Bulverde ___Fair Oaks Ranch ___Garden Ridge ___New Braunfels ___Schertz	NA	___San Antonio ETJ (SAWS)	NA

I certify that to the best of my knowledge, that the application is complete and accurate. This application is hereby submitted to TCEQ for administrative review and technical review. Ross Corder, PE
Print Name of Customer/Authorized Agent Ross Corder 08-15-2025 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):

Hill Country Civil
Engineers • Consultants

Modification of a Previously Approved Contributing Zone Plan

Texas Firm No. F-22872 | Hill Country Civil LLC, 391 Landa St. Ste. 1204, New Braunfels, TX 78130 | Phone: (210) 338-6330

Modification of a Previously Approved Contributing Zone Plan

Texas Commission on Environmental Quality

for Regulated Activities on the Edwards Aquifer Recharge Zone and Transition Zone and Relating to 30 TAC 213.4(j), 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 **Modification of a Previously Approved Contributing Zone Plan** is hereby submitted for TCEQ review and executive director approval. The request was prepared by:

Print Name of Customer/Agent: Ross Corder, PE

Date: 08/15/2025

Signature of Customer/Agent:



Project Information

1. Current Regulated Entity Name: Hays County Emergency Services District #6 FS No 72
   Original Regulated Entity Name: Headwaters Commercial East Phase 1
   Assigned Regulated Entity Number(s) (RN): _____
   Edwards Aquifer Protection Program ID Number(s): _____
   ☒ The applicant has not changed and the Customer Number (CN) is: 605665900
   ☒ The applicant or Regulated Entity has changed. A new Core Data Form has been provided.

2. ☒ **Attachment A: Original Approval Letter and Approved Modification Letters**. A copy of the original approval letter and copies of any modification approval letters are attached.

3. A modification of a previously approved plan is requested for (check all that apply):

☒ Any physical or operational modification of any best management practices or structure(s), including but not limited to temporary or permanent ponds, dams, berms, silt fences, and diversionary structures;
☐ Any change in the nature or character of the regulated activity from that which was originally approved;
☐ A change that would significantly impact the ability to prevent pollution of the Edwards Aquifer and hydrologically connected surface water; or
☒ Any development of land previously identified in a contributing zone plan as undeveloped.

4. ☒ Summary of Proposed Modifications (select plan type being modified). If the approved plan has been modified more than once, copy the appropriate table below, as necessary, and complete the information for each additional modification.

CZP Modification Summary	Approved Project	Approved Modification	Approved Modification *Excluding offsite	Approved Modification *Including offsite drainage*	Proposed Modification
Acres	4.03	22.72	17.15	24.15	1.43
Type of Develeopment	Infrast. And Commercial	Infrast. And Commercial	Infrast. And Commercial	Infrast. And Commercial	Infrast. And Commercial
Number of Residentail Lots	N/A	N/A	N/A	N/A	N/A
Impervious Cover (Acres)	2.16	8.76	8.17	8.61	0.84
Impervious Cover (%)	53.6	37.95	47.6	35.7	59.0
Permanent BMPs	Batch Extended Detention	Batch Extended Detention	Batch Extended Detention	Batch Extended Detention	Batch Extended Detention
Other	N/A	N/A	N/A	N/A	N/A

	Approved Project	Approved Modification	Approved Modification *Excluding offsite	Approved Modification *Including offsite drainage*	Proposed Modification
AST Modification	N/A	N/A	N/A	N/A	N/A
Summary	N/A	N/A	N/A	N/A	N/A
Number of ASTs	N/A	N/A	N/A	N/A	N/A
Other	N/A	N/A	N/A	N/A	N/A

	Approved Project	Approved Modification	Approved Modification *Excluding offsite	Approved Modification *Including offsite drainage*	Proposed Modification
UST Modification	N/A	N/A	N/A	N/A	N/A
Summary	N/A	N/A	N/A	N/A	N/A
Number of USTs	N/A	N/A	N/A	N/A	N/A
Other	N/A	N/A	N/A	N/A	N/A

5. ☒ **Attachment B: Narrative of Proposed Modification**. A detailed narrative description of the nature of the proposed modification is attached. It discusses what was approved,

including previous modifications, and how this proposed modification will change the approved plan.

6. ☒ **Attachment C: Current Site Plan of the Approved Projec**t. A current site plan showing the existing site development (i.e., current site layout) at the time this application for modification is attached. A site plan detailing the changes proposed in the submitted modification is required elsewhere.
   - ☐ The approved construction has not commenced. The original approval letter and any subsequent modification approval letters are included as Attachment A to document that the approval has not expired.
   - ☐ The approved construction has commenced and has been completed. Attachment C illustrates that the site was constructed as approved.
   - ☐ The approved construction has commenced and has been completed. Attachment C illustrates that the site was **not** constructed as approved.
   - ☒ The approved construction has commenced and has **not** been completed. Attachment C illustrates that, thus far, the site was constructed as approved.
   - ☐ The approved construction has commenced and has **not** been completed. Attachment C illustrates that, thus far, the site was **not** constructed as approved.

7. ☐ Acreage has not been added to or removed from the approved plan.
   ☒ Acreage has been added to or removed from the approved plan and is discussed in *Attachment B: Narrative of Proposed Modification*.

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

Attachment A: Original Approval Letter

Jon Niermann, *Chairman*
Emily Lindley, *Commissioner*
Bobby Janecka, *Commissioner*
Erin E. Chancellor, *Interim Executive Director*

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Protecting Texas by Reducing and Preventing Pollution

May 19, 2023

Mr. Blake Rue
Oryx HW Mixed, Inc.
P.O. Box 302663
Austin, Texas 787003

Re: Approval of a Contributing Zone Plan with Optional Enhanced Measures (CZP-OEM)
Headwaters Commercial East Phase 1; Located at the intersection of Flathead Dr. and Headwaters Blvd.; Dripping Springs, Hays County, Texas
Edwards Aquifer Protection Program ID: 11003491, Regulated Entity No. RN109921833

Dear Mr. Rue:

The Texas Commission on Environmental Quality (TCEQ) has completed its review on the application for the above-referenced project submitted to the Edwards Aquifer Protection Program (EAPP) by Malone Wheeler, Inc. on behalf of the applicant, Oryx HW Mixed, Inc. on February 15, 2023. Final review of the application was completed after additional material was received on May 17, 2023.

As presented to the TCEQ, the application was prepared in general compliance with the requirements of 30 Texas Administrative Codes (TAC) Chapter §213. The permanent best management practices (BMPs) and measures represented in the application were prepared by a Texas licensed professional engineer (PE). All construction plans and design information were sealed, signed, and dated by a Texas licensed PE. Therefore, the application for the construction of the proposed project and methods to protect the Edwards Aquifer are **approved,** subject to applicable state rules and the conditions in this letter.

This approval expires two years from the date of this letter, unless, prior to the expiration date, more than 10 percent of the construction has commenced on the project or an extension of time has been officially requested. This approval or extension will expire, and no extension will be granted if more than 50 percent of the project has not been completed within ten years from the date of this letter.

The applicant or a person affected may file with the chief clerk a motion for reconsideration of the executive director's final action on this Edwards Aquifer protection plan. A motion for reconsideration must be filed in accordance with 30 TAC §50.139.

PROJECT DESCRIPTION

The proposed non-residential project will have an area of approximately 5.8 acres. The project will include the construction of one building, parking, sidewalks, a water quality facility, utilities, and associated appurtenances. The impervious cover will be 1.3 acres (22.3 percent). Project wastewater will be disposed of by conveyance to the existing Headwaters Water Reclamation Plant.

PERMANENT POLLUTION ABATEMENT MEASURES

To prevent the pollution of stormwater runoff originating on-site or upgradient of the site and potentially flowing across and off the site after construction, one batch detention basin, designed using the TCEQ technical guidance, *RG-348, Complying with the Edwards Aquifer Rules: Technical Guidance on Best Management Practices* and *RG-348A Optional Enhanced Measures for the Protection of Water Quality in the Edward Aquifer (Revised),* will be constructed/implemented to treat stormwater runoff. The required total suspended solids (TSS) treatment for this project is 1,188 pounds of TSS generated from the 1.3 acres of impervious cover. The approved permanent BMPs and measures meet the required 80 percent removal of the increased load in TSS caused by the project.

The permanent BMP shall be operational prior to occupancy or use of the proposed project. Inspection, maintenance, repair, and retrofit of the permanent BMPs shall be in accordance with the approved application.

GEOLOGY

According to the Geologic Assessment (GA) included with the application, the surficial unit of the site is the Glen Rose Formation. No sensitive geologic features were identified in the GA. The site assessment conducted on April 18, 2023, by TCEQ staff determined the site to be generally as described by the GA.

STANDARD CONDITIONS

1. The plan holder (applicant) must comply with all provisions of 30 TAC Chapter §213 and all technical specifications in the approved plan. The plan holder should also acquire and comply with additional and separate approvals, permits, registrations or authorizations from other TCEQ Programs (i.e., Stormwater, Water Rights, Dam Safety, Underground Injection Control) as required based on the specifics of the plan.

2. In addition to the rules of the Commission, the plan holder must also comply with state and local ordinances and regulations providing for the protection of water quality as applicable.

Prior to Commencement of Construction:

3. The plan holder of any approved Edwards Aquifer protection plan must notify the EAPP and obtain approval from the executive director prior to initiating any modification to the activities described in the referenced application following the date of the approval.

4. The plan holder must provide written notification of intent to commence construction, replacement, or rehabilitation of the referenced project. Notification must be submitted to the EAPP no later than 48 hours prior to commencement of the regulated activity. Notification must include the date on which the regulated activity will commence, the name of the approved plan and program ID number for the regulated activity, and the name of the prime contractor with the name and telephone number of the contact person.

5. Temporary erosion and sedimentation (E&S) controls as described in the referenced application, must be installed prior to construction, and maintained during construction. Temporary E&S controls may be removed when vegetation is established, and the construction area is stabilized. The TCEQ may monitor stormwater discharges from the site to evaluate the adequacy of temporary E&S control measures. Additional controls may be necessary if excessive solids are being discharged from the site.

During Construction:

6. The application must indicate the placement of permanent aboveground storage tanks facilities for static hydrocarbons and hazardous substances with cumulative storage capacity of 500 gallons or more. Subsequent permanent storage tanks on this project site require a modification to be submitted and approved prior to installation.

7. If sediment escapes the construction site, the 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). Sediment must be removed from sediment traps or sedimentation ponds not later than when design capacity has been reduced by 50 percent. Litter, construction debris, and construction chemicals shall be prevented from becoming stormwater discharge pollutants.

8. Intentional discharges of sediment laden water are not allowed. If dewatering becomes necessary, the discharge must be filtered through appropriately selected BMPs.

9. The following records shall be maintained and made available to the executive director 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.

10. Stabilization measures shall be initiated as soon as practicable in portions of the site where construction activities have temporarily or permanently ceased, and construction activities will not resume within 21 days. When the initiation of stabilization measures by the 14th day is precluded by weather conditions, stabilization measures shall be initiated as soon as practicable.

After Completion of Construction:

11. Owners of permanent BMPs and temporary measures must ensure that the BMPs and measures are constructed and function as designed. A Texas licensed PE **must certify** in writing that the permanent BMPs or measures were constructed as designed. The certification letter must be submitted to the EAPP within 30 days of site completion.

12. The applicant shall be 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 or the ownership of the property is transferred to the entity. A copy of the transfer of responsibility must be filed with the executive director through the EAPP within 30 days of the transfer. TCEQ form, Change in Responsibility for Maintenance on Permanent BMPs and Measures (TCEQ-10263), may be used.

The holder of the approved Edwards Aquifer protection plan is responsible for compliance with Chapter §213 and any condition of the approved plan through all phases of plan implementation. Failure to comply with any condition within this approval letter is a violation of Chapter §213 and is subject to administrative rule or orders and penalties as provided under §213.10 of this title (relating to Enforcement). Such violations may also be subject to civil penalties and injunction. Upon legal transfer of this property, the new owner is required to comply with all terms of the approved Edwards Aquifer protection plan.

This action is taken as delegated by the executive director of the Texas Commission on Environmental Quality. If you have any questions or require additional information, please contact Mr. James “Bo” Slone, P.G. of the Edwards Aquifer Protection Program at (512) 239-5711 or the regional office at 512-339-2929.

Sincerely,

Lillian Butler

Lillian Butler, Section Manager
Edwards Aquifer Protection Program
Texas Commission on Environmental Quality

LIB/jcs

cc: Mr. Landon McClellan, P.E., Malone Wheeler, Inc.

Jon Niermann, *Chairman*
Emily Lindley, *Commissioner*
Bobby Janecka, *Commissioner*
Erin E. Chancellor, *Interim Executive Director*

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Protecting Texas by Reducing and Preventing Pollution

December 16, 2022

Mr. Blake Rue
Oryx Holdings, LLC
P.O. BOX 302663
Austin, Texas 78703

Re: Edwards Aquifer, Hays County

NAME OF PROJECT: Oakwood Market; Located at the intersection of Kibo Ridge and Beverly Dr.; Dripping Springs, Texas

TYPE OF PLAN: Request for Modification of an Approved Contributing Zone Plan with Optional Enhanced Measures (CZP-OEM MOD); 30 Texas Administrative Code (TAC) Chapter 213 Subchapter B Edwards Aquifer

Edwards Aquifer Protection Program ID No. 11003249; Regulated Entity No. RN109921833

Dear Mr. Rue:

The Texas Commission on Environmental Quality (TCEQ) has completed its review of the CZP-OEM MOD for the above-referenced project submitted to the Austin Regional Office by Malone Wheeler, Inc. on behalf of Oryx Holdings, LLC on September 13, 2022. Final review of the CZP-OEM MOD was completed after additional material was received on December 9, 2022. As presented to the TCEQ, the Temporary and Permanent Best Management Practices (BMPs) were selected, and construction plans were prepared by a Texas Licensed Professional Engineer to be in general compliance with the requirements of 30 TAC Chapter 213. These planning materials were sealed, signed, and dated by a Texas Licensed Professional Engineer. Therefore, based on the engineer's concurrence of compliance, the planning materials for construction of the proposed project and pollution abatement measures are hereby approved subject to applicable state rules and the conditions in this letter. The applicant or a person affected may file with the chief clerk a motion for reconsideration of the executive director's final action on this Edwards Aquifer Protection Plan. A motion for reconsideration must be filed no later than 23 days after the date of this approval letter. *This approval expires two (2) years from the date of this letter unless, prior to the expiration date, more than 10 percent of the construction has commenced on the project or an extension of time has been requested.*

BACKGROUND

A Contributing Zone Plan with Optional Enhanced Measures (CZP-OEM) was approved in a letter dated October 30, 2018, for Headwaters Commercial (EAPP ID No. 11001211). The project included the construction of a batch detention basin (WQP 1).

PROJECT DESCRIPTION

The proposed non-residential project will have an area of approximately 1.23 acres. It will include a mixed-use commercial building, parking lot, and associated utilities. The impervious cover will be 0.88 acres (71.5 percent). Project wastewater will be disposed of by conveyance to the existing Headwaters Water Reclamation Plant.

PERMANENT POLLUTION ABATEMENT MEASURES

To prevent the pollution of stormwater runoff originating on-site or upgradient of the site and potentially flowing across and off the site after construction, a batch detention basin (WQP 1; EAPP ID No. 11001211), designed using the TCEQ technical guidance document, Complying with the Edwards Aquifer Rules: Technical Guidance on Best Management Practices (2005), will be used to treat stormwater runoff. The required total suspended solids (TSS) treatment for this project is 804 pounds of TSS generated from the 0.88 acres of impervious cover. The approved measures meet the required 80 percent removal of the increased load in TSS caused by the project.

GEOLOGY

According to the Geologic Assessment included with the application, the site is located in the Edwards Aquifer Contributing Zone and is characterized surficially by the Glen Rose Formation. No sensitive geologic recharge features were identified in the Geologic Assessment. The TCEQ site assessment conducted on November 29, 2022, determined the site to be generally as described.

SPECIAL CONDITIONS

I. This modification is subject to all Special and Standard Conditions listed in the CZP-OEM approval letter dated October 30, 2018.

II. All permanent pollution abatement measures shall be operational prior to occupancy of the facility.

STANDARD CONDITIONS

1. Pursuant to Chapter 7 Subchapter C of the Texas Water Code, any violations of the requirements in 30 TAC Chapter 213 may result in administrative penalties.
2. The holder of the approved Edwards Aquifer protection plan must comply with all provisions of 30 TAC Chapter 213 and all best management practices and measures contained in the approved plan. Additional and separate approvals, permits, registrations and/or authorizations from other TCEQ Programs (i.e., Stormwater, Water Rights, UIC) can be required depending on the specifics of the plan.
3. In addition to the rules of the Commission, the applicant may also be required to comply with state and local ordinances and regulations providing for the protection of water quality.

Prior to Commencement of Construction:

4. All contractors conducting regulated activities at the referenced project location shall be provided a copy of this notice of approval. At least one complete copy of the approved Contributing Zone Plan and this notice of approval shall be maintained at the project location until all regulated activities are completed.
5. Any modification to the activities described in the referenced CZP application following the date of approval may require the submittal of a plan to modify this approval, including the payment of appropriate fees and all information necessary for its review and approval prior to initiating construction of the modifications.

6. The applicant must provide written notification of intent to commence construction, replacement, or rehabilitation of the referenced project. Notification must be submitted to the Austin Regional Office no later than 48 hours prior to commencement of the regulated activity. Written notification must include the name of the approved plan and file number for the regulated activity, the date on which the regulated activity will commence, and the name of the prime contractor with the name and telephone number of the contact person.
7. Temporary erosion and sedimentation (E&S) controls, i.e., silt fences, rock berms, stabilized construction entrances, or other controls described in the approved Storm Water Pollution Prevention Plan (SWPPP) must be installed prior to construction and maintained during construction. Temporary E&S controls may be removed when vegetation is established and the construction area is stabilized. If a water quality pond is proposed, it shall be used as a sedimentation basin during construction. The TCEQ may monitor stormwater discharges from the site to evaluate the adequacy of temporary E&S control measures. Additional controls may be necessary if excessive solids are being discharged from the site.

<u>During Construction:</u>

8. During the course of regulated activities related to this project, the applicant or his agent shall comply with all applicable provisions of 30 TAC Chapter 213, Edwards Aquifer. The applicant shall remain responsible for the provisions and conditions of this approval until such responsibility is legally transferred to another person or entity.
9. If sediment escapes the construction site, the 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). Sediment must be removed from sediment traps or sedimentation ponds not later than when design capacity has been significantly reduced. 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).
10. Intentional discharges of sediment laden water are not allowed. If dewatering becomes necessary, the discharge will be filtered through appropriately selected best management practices. These may include vegetated filter strips, sediment traps, rock berms, silt fence rings, etc.
11. The following records shall be maintained and made available to the executive director 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.
12. Stabilization measures shall be initiated as soon as practicable in portions of the site where construction activities have temporarily or permanently ceased, and construction activities will not resume within 21 days. When the initiation of stabilization measures by the 14th day is precluded by weather conditions, stabilization measures shall be initiated as soon as practicable.
13. This approval does not authorize the installation of temporary aboveground storage tanks on this project. If the contractor desires to install a temporary aboveground storage tank for use during construction, an application to modify this approval must be submitted and approved prior to installation. The application must include information related to tank location and spill containment. Refer to Standard Condition No. 5, above.
14. All water wells, including injection, dewatering, and monitoring wells, must be in compliance with the requirements of the Texas Department of Licensing and Regulation under Title 16 TAC 76 (relating to Water Well Drillers and Pump Installers) and all other locally applicable rules, as appropriate.

<u>After Completion of Construction:</u>

15. Upon legal transfer of this property, the new owner(s) is required to comply with all terms of the approved Contributing Zone Plan. If the new owner intends to commence any new

regulated activity on the site, a new Contributing Zone Plan that specifically addresses the new activity must be submitted to the executive director. Approval of the plan for the new regulated activity by the executive director is required prior to commencement of the new regulated activity.

16. A Contributing Zone Plan approval or extension will expire and no extension will be granted if more than 50 percent of the total construction has not been completed within ten years from the initial approval of a plan. A new Contributing Zone Plan must be submitted to the Austin Regional Office with the appropriate fees for review and approval by the executive director prior to commencing any additional regulated activities.
17. At project locations where construction is initiated and abandoned, or not completed, the site shall be returned to a condition such that the aquifer is protected from potential contamination.

This action is taken under authority delegated by the Executive Director of the Texas Commission on Environmental Quality. If you have any questions or require additional information, please contact Betsy Yockey of the Edwards Aquifer Protection Program of the Austin Regional Office at (512)339-2929.

Sincerely,

Lillian Butler

Lillian Butler, Section Manager
Edwards Aquifer Protection Program
Texas Commission on Environmental Quality

LIB/bmy

cc: Mr. Landon McClellan, P.E., Malone Wheeler, Inc.

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Attachment B: Narrative of Proposed Modifications

Attachment B: Narrative of Proposed Modifications

Headwaters Fire Station is located at 404 Headwaters Blvd., Dripping Spring, TX. The 1.43-acre property is located fully within the city limits of Dripping Springs. No portion of the property is within the FEMA 100-yr Floodplain based on FIRM Panel 48209C0108G effective date 01/17/2025.

In accordance with 30 TAC Chapter 213, this CZP application is being submitted for the proposed development to occur onsite.

The property is currently partially developed with access to driveways throughout the lot and parking. There is an existing Batch Detention Pond that has been designed and approved to accept and treat the stormwater from the site in the ultimate conditions. The proposed development consists of 1 new building, additional parking and driveway access throughout the lot.

The existing development currently contains 0.28 ac of impervious cover approved under a previous CZP Mod for this property. New development will disturb approximately 0.84 acres, of which, 0.84 acres is proposed impervious cover. Based on the total site acreage of 1.43 acres, the total impervious cover percentage with the proposed improvements is 59%.

This project has an existing regional Batch Detention Pond, located offsite northeast of the development. The approved and constructed existing regional Batch Detention Pond was designed by Malone Wheeler with a Contributing Zone Plan (CZP) signed and sealed January 17th, 2023.

The existing pond captures the flows from the proposed drainage area. The total area of the basins draining to the pond is approximately 3.89 acres. The water quality volume requirements for TCEQ were compared with the City of Austin and it was determined that the City of Austin's requirements were more demanding. Using the procedure recommended by the City of Austin, the existing water quality volume of 18,847 cubic feet was obtained. The volume of the water quality portion of the pond was sized to be more than the minimum and less than the maximum area allowed, as per the City of Austin guidelines. The volume of water quality within the Batch Detention Pond is more than the required minimum.

Wastewater flows generated by the project will be by the Headwater MUD.

Water will be provided by the Headwaters MUD.

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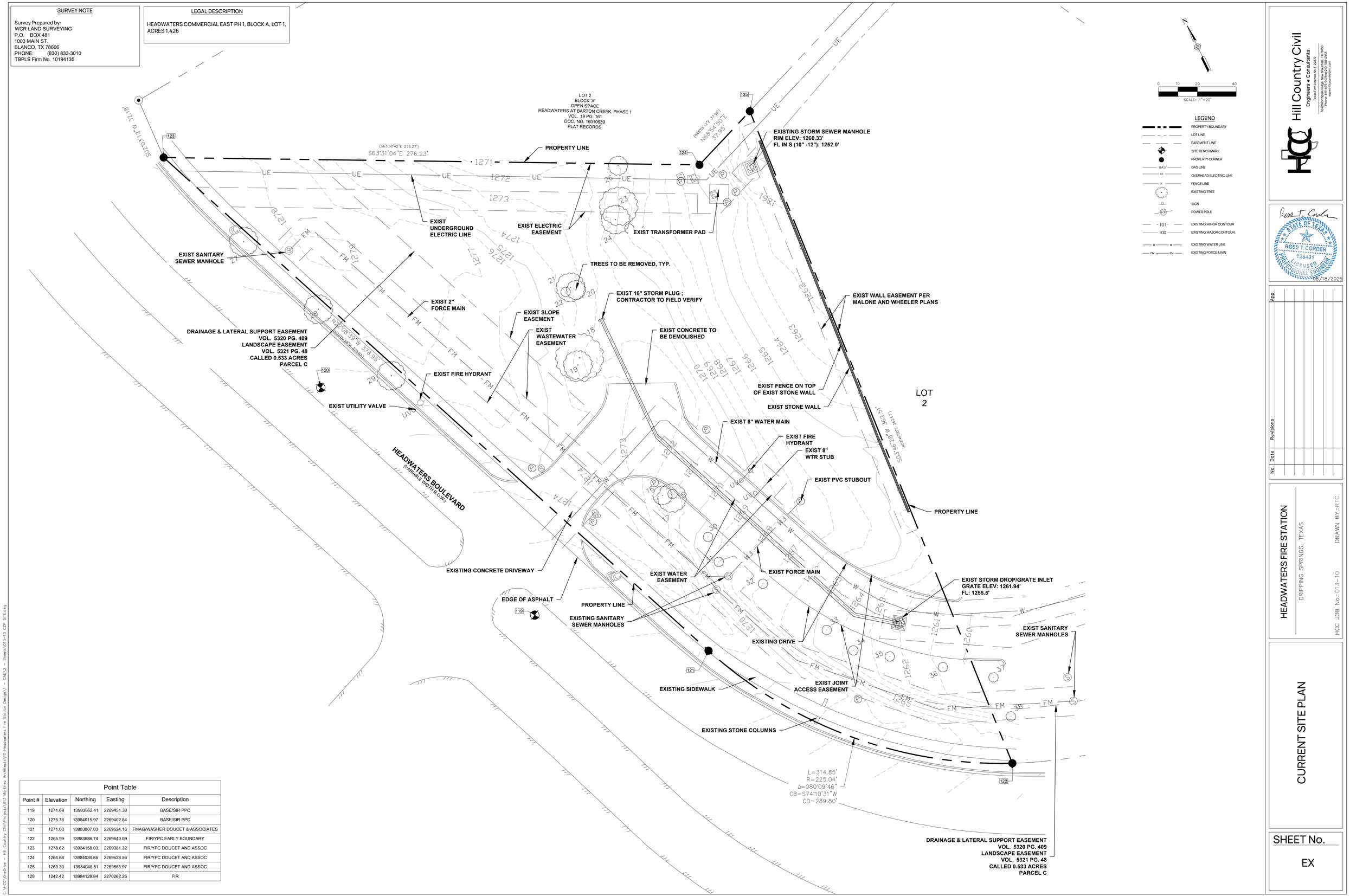
Attachment C: Current Site Plan of Approval Project

SURVEY NOTE

Survey Prepared by:
WCR LAND SURVEYING
P.O. BOX 481
1003 MAIN ST.
BLANCO, TX 78606
PHONE: (830) 833-3010
TBPLS Firm No. 10194135

LEGAL DESCRIPTION

HEADWATERS COMMERCIAL EAST PH 1, BLOCK A, LOT 1, ACRES 1.426



Point Table				
Point #	Elevation	Northing	Easting	Description
119	1271.69	13983862.41	2269451.38	BASE/SIR PPC
120	1275.76	13984015.97	2269402.84	BASE/SIR PPC
121	1271.03	13983807.03	2269524.16	FMAG/WASHER DOUCET & ASSOCIATES
122	1265.99	13983686.74	2269640.09	FIR/YPC EARLY BOUNDARY
123	1278.62	13984158.03	2269381.32	FIR/YPC DOUCET AND ASSOC
124	1264.68	13984034.85	2269628.56	FIR/YPC DOUCET AND ASSOC
125	1260.30	13984048.51	2269663.97	FIR/YPC DOUCET AND ASSOC
129	1242.42	13984129.84	2270262.26	FIR

SCALE: 1"=20'

LEGEND

- PROPERTY BOUNDARY
- LOT LINE
- EASEMENT LINE
- SITE BENCHMARK
- PROPERTY CORNER
- GAS LINE
- OVERHEAD ELECTRIC LINE
- FENCE LINE
- EXISTING TREE
- SIGN
- POWER POLE
- EXISTING MINOR CONTOUR
- EXISTING MAJOR CONTOUR
- EXISTING WATER LINE
- EXISTING FORCE MAIN

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ROSS T. CORDER
125401
LICENSED PROFESSIONAL ENGINEER
08/18/2025

No.	Date	Revisions

HEADWATERS FIRE STATION
DRIPPING SPRINGS, TEXAS

HCC JOB No.: 013-10 DRAWN BY:.RTC

CURRENT SITE PLAN

SHEET No.
EX

C:\HCC\OneDrive - Hill Country Civil\Projects\013 Martinez Architects\10 Headwaters Fire Station Design\1 - CAD\2 - Sheets\013-10 CZP SITE.dwg

Copyright Hill Country Civil, LLC 18 AUGUST 2025

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Application Form

Contributing Zone Plan Application

Texas Commission on Environmental Quality

for Regulated Activities on the Contributing Zone to the Edwards Aquifer and Relating to 30 TAC §213.24(1), 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 **Contributing Zone Plan Application** is hereby submitted for TCEQ review and Executive Director approval. The application was prepared by:

Print Name of Customer/Agent: Ross Corder, PE

Date: 08/15/2025

Signature of Customer/Agent:



Regulated Entity Name: Hays County Emergency Services District #6 FS No 72

Project Information

1. County: Hays
2. Stream Basin: Barton Creek
3. Groundwater Conservation District (if applicable): Hays Trinity
4. Customer (Applicant):

   Contact Person: Scott Collard
   Entity: Hays County Emergency Services District #6
   Mailing Address: 400 Sportsplex Dr.
   City, State: Dripping Springs, TX Zip: 78620
   Telephone: (512) 894-0704 Fax: _____
   Email Address: scollard@northhaysfire.com

5. Agent/Representative (If any):

   Contact Person: Ross Corder, PE
   Entity: Hill Counrty Civil
   Mailing Address: 391 Landa St. Ste. 1204
   City, State: New Braunfels Zip: 78130
   Telephone: (210) 378-4953 Fax: _____
   Email Address: ross@hillcountrycivil.com

6. Project Location:

   ☒ The project site is located inside the city limits of Dripping Springs.
   ☐ 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.

7. ☒ The location of the project site is described below. Sufficient detail and clarity has been provided so that the TCEQ's Regional staff can easily locate the project and site boundaries for a field investigation.

   404 Headwaters Blvd, Dripping Springs, TX 78620

8. ☒ **Attachment A - Road Map**. A road map showing directions to and the location of the project site is attached. The map clearly shows the boundary of the project site.

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

   ☒ Project site boundaries.
   ☒ USGS Quadrangle Name(s).

10. ☒ **Attachment C - Project Narrative**. A detailed narrative description of the proposed project is attached. 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

11. 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/Not cleared)
☐ Other: _____

12. The type of project is:

☐ Residential: # of Lots: _____
☐ Residential: # of Living Unit Equivalents: _____
☒ Commercial
☐ Industrial
☐ Other: _____

13. Total project area (size of site): 1.43 Acres

Total disturbed area: 1.43 Acres

14. Estimated projected population: 1

15. The amount and type of impervious cover expected after construction is complete is shown below:

Table 1 - Impervious Cover

Impervious Cover of Proposed Project	***Sq. Ft.***	***Sq. Ft./Acre***	***Acres***
Structures/Rooftops	6,579.70	÷ 43,560 =	0.15
Parking	7,522.87	÷ 43,560 =	0.17
Other paved surfaces	22,476.96	÷ 43,560 =	0.52
Total Impervious Cover	36,579.53	÷ 43,560 =	0.84

Total Impervious Cover 0.84 **÷ Total Acreage** 1.43 **X 100 =** 59**% Impervious Cover**

16. ☒ **Attachment D - Factors Affecting Surface Water Quality**. A detailed description of all factors that could affect surface water quality is attached. If applicable, this includes the location and description of any discharge associated with industrial activity other than construction.

17. ☒ Only inert materials as defined by 30 TAC 330.2 will be used as fill material.

For Road Projects Only

Complete questions 18 - 23 if this application is exclusively for a road project.

☒ N/A

18. 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.

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

- ☐ Concrete
- ☐ Asphaltic concrete pavement
- ☐ Other: _____

20. Right of Way (R.O.W.):

Length of R.O.W.: _____ feet.
Width of R.O.W.: _____ feet.
L x W = _____Ft^2 ÷ 43,560 Ft^2/Acre = _____ acres.

21. Pavement Area:

Length of pavement area: _____ feet.
Width of pavement area: _____ feet.
L x W = _____Ft^2 ÷ 43,560 Ft^2/Acre = _____ acres.
Pavement area _____ acres ÷ R.O.W. area _____ acres x 100 = _____% impervious cover.

22. ☐ A rest stop will be included in this project.

☐ A rest stop will not be included in this project.

23. ☐ 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

24. ☒ **Attachment E - 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 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

25. ☒ Wastewater is to be discharged in the contributing zone. Requirements under 30 TAC §213.6(c) relating to Wastewater Treatment and Disposal Systems have been satisfied.

☐ N/A

26. Wastewater will be disposed of by:

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

☐ **Attachment F - 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):

The sewage collection system will convey the wastewater to the Headwaters Water Reclamation Plant (name) Treatment Plant. The treatment facility is:

☒ Existing.
☐ Proposed.

☐ N/A

Permanent Aboveground Storage Tanks(ASTs) ≥ 500 Gallons

Complete questions 27 - 33 if this project includes the installation of AST(s) with volume(s) greater than or equal to 500 gallons.

☒N/A

27. Tanks and substance stored:

Table 2 - Tanks and Substance Storage

AST Number	*Size (Gallons)*	*Substance to be Stored*	*Tank Material*
1			
2			
3			
4			
5			

Total x 1.5 = _____ Gallons

28. ☐ The AST will be placed within a containment structure that is sized to capture one and one-half (1 1/2) times the storage capacity of the system. For facilities with more than

one tank system, the containment structure is sized to capture one and one-half (1 1/2) times the cumulative storage capacity of all systems.

☐ **Attachment G - Alternative Secondary Containment Methods**. Alternative methods for providing secondary containment are proposed. Specifications showing equivalent protection for the Edwards Aquifer are attached.

29. Inside dimensions and capacity of containment structure(s):

Table 3 - Secondary Containment

Length (L)(Ft.)	*Width(W)(Ft.)*	*Height (H)(Ft.)*	*L x W x H = (Ft3)*	*Gallons*

Total: _____ Gallons

30. Piping:

☐ All piping, hoses, and dispensers will be located inside the containment structure.
☐ Some of the piping to dispensers or equipment will extend outside the containment structure.
☐ The piping will be aboveground
☐ The piping will be underground

31. ☐ The containment area must be constructed of and in a material impervious to the substance(s) being stored. The proposed containment structure will be constructed of: _____.

32. ☐ **Attachment H - AST Containment Structure Drawings**. A scaled drawing of the containment structure is attached that shows the following:

☐ Interior dimensions (length, width, depth and wall and floor thickness).
☐ Internal drainage to a point convenient for the collection of any spillage.
☐ Tanks clearly labeled
☐ Piping clearly labeled
☐ Dispenser clearly labeled

33. ☐ Any spills must be directed to a point convenient for collection and recovery. Spills from storage tank facilities must be removed from the controlled drainage area for disposal within 24 hours of the spill.

☐ In the event of a spill, any spillage will be removed from the containment structure within 24 hours of the spill and disposed of properly.

☐ In the event of a spill, any spillage will be drained from the containment structure through a drain and valve within 24 hours of the spill and disposed of properly. The drain and valve system are shown in detail on the scaled drawing.

Site Plan Requirements

Items 34 - 46 must be included on the Site Plan.

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

    Site Plan Scale: 1" = 30'.

35. 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): 48209C0108G dated 01/17/2025.

36. ☒ 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, etc. are shown on the site plan.

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

37. ☒ A drainage plan showing all paths of drainage from the site to surface streams.

38. ☒ The drainage patterns and approximate slopes anticipated after major grading activities.

39. ☒ Areas of soil disturbance and areas which will not be disturbed.

40. ☒ Locations of major structural and nonstructural controls. These are the temporary and permanent best management practices.

41. ☒ Locations where soil stabilization practices are expected to occur.

42. ☐ Surface waters (including wetlands).

    ☒ N/A

43. ☐ Locations where stormwater discharges to surface water.

    ☒ There will be no discharges to surface water.

44. ☐ Temporary aboveground storage tank facilities.

    ☒ Temporary aboveground storage tank facilities will not be located on this site.

45. ☐ Permanent aboveground storage tank facilities.

☒ Permanent aboveground storage tank facilities will not be located on this site.

46. ☒ Legal boundaries of the site are shown.

Permanent Best Management Practices (BMPs)

Practices and measures that will be used during and after construction is completed.

47. ☒ Permanent BMPs and measures must be implemented to control the discharge of pollution from regulated activities after the completion of construction.

☐ N/A

48. ☒ 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

49. ☒ 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

50. 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.

51. 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 I - 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.

52. ☒ **Attachment J - 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.

53. ☒ **Attachment K - 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.

54. ☐ **Attachment L - BMPs for Surface Streams**. A description of the BMPs and measures that prevent pollutants from entering surface streams is attached.

☒ N/A

55. ☒ **Attachment M - Construction Plans**. Construction plans and design calculations for the proposed permanent BMPs and measures have been prepared by or under the direct supervision of a Texas Licensed Professional Engineer, and are signed, sealed, and dated. Construction plans for the proposed permanent BMPs and measures are

attached and include: Design calculations, TCEQ Construction Notes, all proposed structural plans and specifications, and appropriate details.

☐ N/A

56. ☒ **Attachment N - Inspection, Maintenance, Repair and Retrofit Plan**. A site and BMP specific plan for the inspection, maintenance, repair, and, if necessary, retrofit of the permanent BMPs and measures is attached. The plan fulfills all of the following:

☒ Prepared and certified by the engineer designing the permanent BMPs and measures
☒ Signed by the owner or responsible party
☒ Outlines specific procedures for documenting inspections, maintenance, repairs, and, if necessary, retrofit.
☒ Contains a discussion of record keeping procedures

☐ N/A

57. ☐ **Attachment O - 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

58. ☐ **Attachment P - 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 result in water quality degradation.

☒ N/A

Responsibility for Maintenance of Permanent BMPs and Measures after Construction is Complete.

59. ☒ 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.

60. ☒ 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.

Administrative Information

61. ☒ 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.

62. ☒ Any modification of this Contributing Zone Plan may require TCEQ review and Executive Director approval prior to construction, and may require submission of a revised application, with appropriate fees.

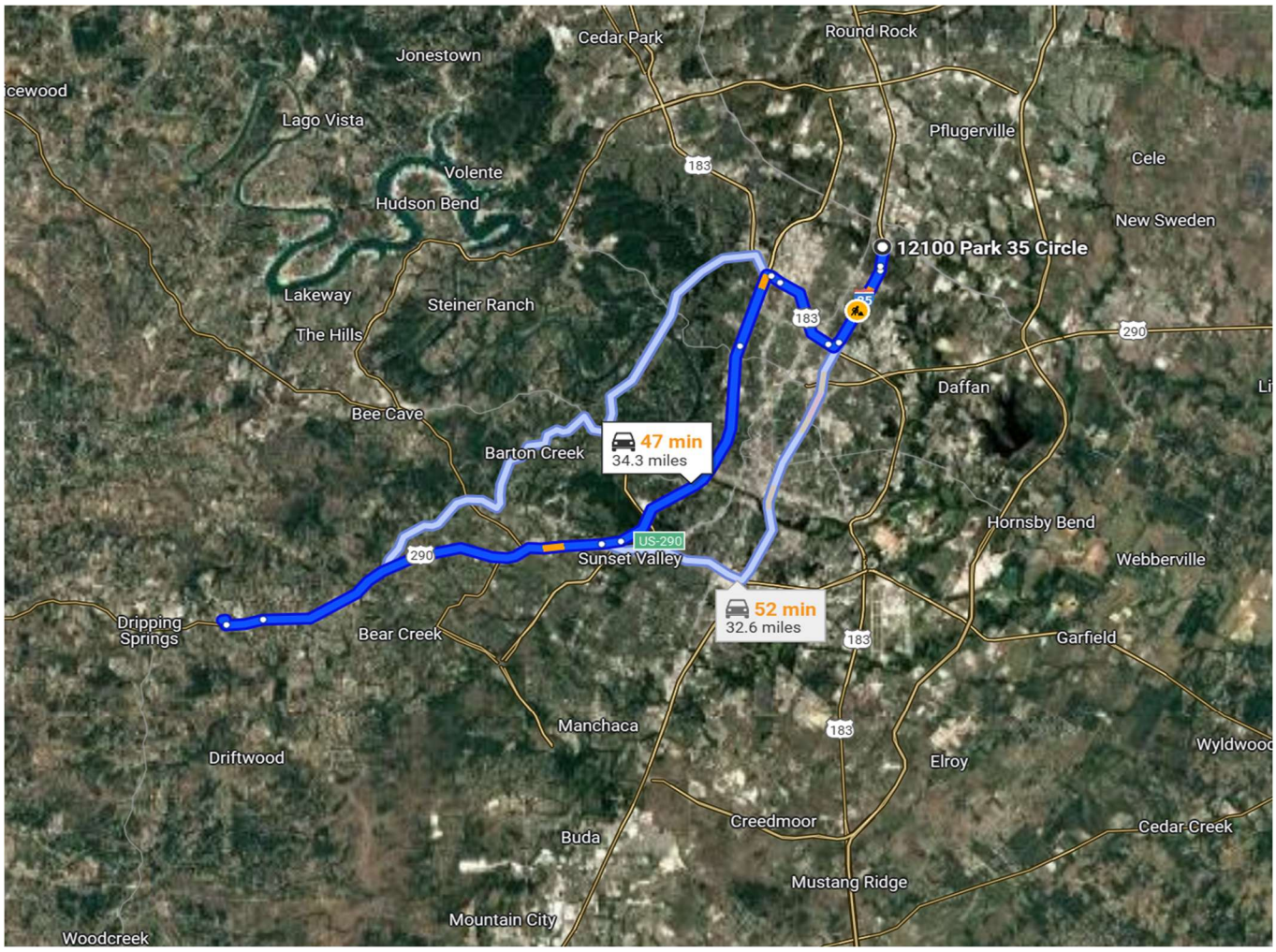
63. ☒ The site description, controls, maintenance, and inspection requirements for the storm water pollution prevention plan (SWPPP) developed under the EPA NPDES general permits for stormwater discharges have been submitted to fulfill paragraphs 30 TAC §213.24(1-5) of the technical report. All requirements of 30 TAC §213.24(1-5) have been met by the SWPPP document.

☒ The Temporary Stormwater Section (TCEQ-0602) is included with the application.

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Attachment A: Road Map

Attachment A: Road Map



TCEQ
12100 Park 35 Cir, Austin, TX 78753
Get on I-35 S from S I-35 Frontage Rd
2 min (1.0 mi)
Continue on I-35 S. Take US-183 N, TX-1 Loop S/MoPac, N Mopac Expy and TX-1 Loop S to TX-71 W/US-290W. Take exit US-290 from TX-1 Loop S
19 min (19.4 mi)
Follow US-290W to Headwaters Blvd in Dripping Springs
21min (14.0 mi)
404 Headwaters BLVD, Dripping Springs
Texas 78620

Attachment B: USGS Quad Map

USGS
science for a changing world

U.S. DEPARTMENT OF THE INTERIOR
U.S. GEOLOGICAL SURVEY

The National Map
US Topo

DRIPPING SPRINGS QUADRANGLE
TEXAS
7.5-MINUTE SERIES

HEADWATERS
COMMERCIAL EAST
PHASE 1
BOUNDARY

Produced by the United States Geological Survey
North American Datum of 1983 (NAD83)
World Geodetic System of 1984 (WGS84). Projection and
1 000-meter grid: Universal Transverse Mercator, Zone 14R
10 000-foot ticks: Texas Coordinate System of 1983 (south
central and central zones)

This map is not a legal document. Boundaries may be
generalized for this map scale. Private lands within government
reservations may not be shown. Obtain permission before
entering private lands.

Imagery.....NAIP, October 2014
Roads..... U.S. Census Bureau, 2014 - 2015
Names.....GNIS, 2015
Hydrography.....National Hydrography Dataset, 2014
Contours.....National Elevation Dataset, 2002
Boundaries.....Multiple sources; see metadata file 1972 - 2015

Wetlands.....FWS National Wetlands Inventory 1977 - 2014

UTM GRID AND 2016 MAGNETIC NORTH
DECLINATION AT CENTER OF SHEET

U.S. National Grid
100,000-m Square ID
NU
Grid Zone Designation
14R

SCALE 1:24 000

1 0.5 0 KILOMETERS 1 2
1000 500 0 METERS 1000 2000
1 0.5 0 1
MILES
1000 0 1000 2000 3000 4000 5000 6000 7000 8000 9000 10000
FEET

CONTOUR INTERVAL 20 FEET
NORTH AMERICAN VERTICAL DATUM OF 1988

This map was produced to conform with the
National Geospatial Program US Topo Product Standard, 2011.
A metadata file associated with this product is draft version 0.6.19

TEXAS
QUADRANGLE LOCATION

1	2	3
4		5
6	7	8

1 Hammetts Crossing
2 Shingle Hills
3 Bee Cave
4 Henly
5 Signal Hill
6 Rough Hollow
7 Driftwood
8 Mountain City
ADJOINING QUADRANGLES

ROAD CLASSIFICATION
Expressway
Secondary Hwy
Ramp
Local Connector
Local Road
4WD
Interstate Route
US Route
State Route

DRIPPING SPRINGS, TX
2016

NSN. 7643016395933
NGA REF NO. USGSX24K12801

F:\Headwaters\Projects\20-013-AUS Headwaters Commercial East Ph 1\Drawings\Exhibits\CZP\USGS MAP.dwg, 9/23/2022 2:43:13 PM, MWV

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Attachment C: Project Narrative

Attachment C: Project Narrative

The project is located at 404 Headwaters Blvd., Dripping Springs, TX. 78620. The property consists of one (1) lot and totals 1.43 acres. The site is currently developed with driveway access throughout the lot. Existing drainage flows from west to east. The proposed development will consist of removal of some pavement, addition of one (1) building, the addition of parking, and utilities. The total impervious cover proposed with this development is approximately 0.84 acres.

The proposed development is considered the ultimate development for the site. Increases in runoff generated from the proposed development will be mitigated by the existing regional Batch Detention Pond, previously designed, approved, and constructed.

No portion of the property is within the FEMA 100-yr Floodplain based on FIRM Panel 48209C0108G effective date 01/17/2025.

This site was previously analyzed as part of a larger commercial development called "Headwaters Commercial East Phase 1". In this analysis the ultimate build out conditions were analyzed and used to design analyze and size the existing regional Batch Detention Pond. Please refer to the construction documents and drainage report Malone and Wheeler for the region Batch Detention Pond and drainage area analysis.

The Headwaters at Barton Creek Restated Development Agreement area, recorded in document number 20021129 of the Official Public Records of Hays County, contains 1,539.46 acres located at the intersection of W. Highway 290 and Headwaters Boulevard. The commercial development portion ("Headwaters Commercial") is approximately 166.8-acres of the Headwaters Development Agreement area. The commercial site is located within the Planned Development District No. #6 ("PDD#6") of Dripping Springs in Hays County, Texas.

Proposed drainage conditions for Headwaters Fire Station are consistent with the existing drainage patterns and the previously analyzed Headwaters Commercial East Phase 1. Generally, storm water runoff from the development is planned to be collected in inlets to designed to contain the 25-yr and 100-yr storm. Runoff captured by the inlets will then be conveyed to the previously design and approved detention pond. The storm sewer network and detention pond have been designed and sized to accommodate the proposed development.

Temporary stormwater BMPs will include a stabilized construction entrance, concrete washout, inlet protection, and silt fence.

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Attachment D: Factors Affecting Surface Water Quality

Attachment D: Factors Affecting Surface Water Quality

The list below are potential sources of pollution that may be reasonably expected to impact the quality of stormwater runoff from the site during construction.

- Hydrocarbons from asphalt paving construction
- Oil, fuel, grease and hydraulic fluid from construction equipment and automobiles
- Soil erosion due to site clearing, grading and demolition activities
- Trash, litter and construction debris from workers and construction activities
- Concrete truck washout
- Concrete/masonry
- Fertilizers
- Cleaning solvents

The list below are potential sources of pollution that may be reasonably expected to impact the quality of stormwater runoff from the site after construction or after development.

- Trash and litter typical of daily use from customers and tenants
- Oil, fuel, grease and hydraulic fluid from vehicles parked/traveling onsite
- Dirt and dust from landscape areas and vehicles
- Fertilizers
- Cleaning solvents

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Attachment E: Volume and Character of Stormwater

Attachment E: Volume and Character of Stormwater

The proposed Headwaters Fire Station project is located on 1.43 acres of the 5.82 acres Headwaters Commercial East Phase 1 plat by Early Land Surveying signed and sealed 5/11/2022. The tract is developed as a commercial fire station. Existing elevation at the site is from 1,261' along the east property limit, to 1,278' at the northwest corner of the lot. There is one proposed building with a finished floor elevation of 1271.50'. Storm runoff from approximately 0.151 acres of building roof, 0.173 acres of parking, and 0.516 acres of other paved surfaces will be captured into the existing underground pipe system and will be conveyed into the existing regional Batch Detention Pond.

Phase 1 of this development analyzed and sized the water quality pond for the ultimate build out of the commercial development. The proposed improvements are the ultimate build out and account for 59% of impervious cover. Storm water for all areas will drain into respective swales, storm sewer, and finally drain to the water quality. The site is divided into seven (7) drainage areas:

- A-1 (0.33 ac.) has 61% impervious cover and will drain towards the south. Drainage from this area will drain to a grate inlet and enter a storm drain network that ultimately discharges into the existing regional Batch Detention Pond.
- A-2 (0.35 ac.) has 80% impervious cover and will drain towards the south. Drainage from this area will drain to a grate inlet and enter a storm drain network that ultimately discharges into the existing regional Batch Detention Pond.
- A-3 (0.07 ac.) has 71% impervious cover and drains towards the south and will enter an existing developed portion of the ultimate development. Drainage from this area will drain to an existing grate inlet and enter a storm drain network that ultimately discharges into the existing regional Batch Detention Pond.
- C-1 (0.21 ac.) has 48% impervious cover and drains to the east. Drainage from this area drains into an existing storm drain inlet and enters a storm drain network that ultimately discharges into the existing regional Batch Detention Pond.
- C-5 (0.15 ac.) has 100% impervious cover drains to the east. Drainage from this area drains into the existing regional Batch Detention Pond.
- X-3 (0.13 ac.) has 0% impervious cover and drains to the north.
- X-4 (0.05 ac.) has 60% impervious cover and drains to the west where it discharges into the existing Headwater Boulevard road. This drainage area is discharges less than existing conditions and was previously analyzed in the approved drainage report.
- X-5 (0.10 ac.) has 30% impervious cover and drains to the west where it discharges into the existing Headwater Boulevard road. This drainage area is discharges less than existing conditions and was previously analyzed in the approved drainage report

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Attachment F: Suitability Letter From Authorized Agent *(NOT APPLICABLE)*

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Attachment G: Alternative Secondary Containment Methods *(NOT APPLICABLE)*

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Attachment H: AST Containment Structure Drawings (If AST) *(NOT APPLICABLE)*

Attachment I: 20% or Less Impervious Cover Waiver *(NOT APPLICABLE)*

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Attachment J: BMPs for Upgradient Stormwater

Attachment J: BMPs for Upgradient Stormwater

There are no existing offsite flows onto the site. No permanent BMPs are required to prevent pollution.

All temporary BMPs are shown on the plan set and are described more fully in the SWPP in Section 3 of this application.

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Attachment K: BMPs for On-Site Stormwater

Attachment K: BMPs for On-Site Stormwater

The proposed Headwaters Fire Station project is located on 1.43 acres of the 5.82 acres Headwaters Commercial East Phase 1 plat by Early Land Surveying signed and sealed 5/11/2022. The tract is developed as a commercial fire station. Existing elevation at the site is from 1,261' along the east property limit, to 1,278' at the northwest corner of the lot. There is one proposed building with a finished floor elevation of 1271.50'. Storm runoff from approximately 0.151 acres of building roof, 0.173 acres of parking, and 0.516 acres of other paved surfaces will be captured into the existing underground pipe system and will be conveyed into the existing regional Batch Detention Pond.

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- X-5 (0.10 ac.) has 30% impervious cover and drains to the west where it discharges into the existing Headwater Boulevard road. This drainage area is discharges less than existing conditions and was previously analyzed in the approved drainage report

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Attachment L: BMPs for Surface Streams
(NOT APPLICABLE)

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Attachment M: Construction Plans

CIVIL CONSTRUCTION SET

FOR

HEADWATERS FIRE STATION

DRIPPING SPRINGS, TX

CONTACT INFORMATION

OWNER / DEVELOPER:

NORTH HAYS COUNTY FIRE & RESCUE ESD #6
400 SPORTSPLEX DRIVE
DRIPPING SPRINGS, TX 78620
CONTACT: SCOTT COLLARD
PHONE: (512) 894-0704

ENGINEER:

HILL COUNTRY CIVIL, LLC
391 LANDA STREET, STE. 1204
NEW BRAUNFELS, TX 78130
CONTACT: ROSS CORDER, PE
PHONE: (210) 378-4953
EMAIL: ROSS@HILLCOUNTRYCIVIL.COM

SURVEYOR:

WCR LAND SURVEYING
P.O. BOX 481
1003 MAIN ST.
BLANCO, TX 78606
CONTACT: CHRIS JURICA
PHONE: (830) 833-3010

LEGAL DESCRIPTION
HEADWATERS COMMERCIAL EAST PH 1, BLOCK A, LOT 1,
ACRES 1.426

PROJECT ADDRESS
404 HEADWATERS BLVD.
DRIPPING SPRINGS, TX 78620

WATERSHED
BARTON CREEK WATERSHED

ZONING
THE TRACT IS ZONED AS PLANNED DEVELOPMENT DISTRICT #6

FLOOD PLAIN NOTE

THIS PROPERTY DOES NOT LIE WITHIN THE 100 YEAR FLOODPLAIN, AND HAS A ZONE "X" RATING AS SHOWN ON THE FLOOD INSURANCE RATE MAPS F.I.R.M. MAP No. 48209C0108G, DATED JANUARY 17, 2025.

CONTRIBUTING PLAN ZONE NOTE

THIS PROPERTY IS LOCATED OVER THE EDWARDS AQUIFER CONTRIBUTING ZONE.

ENGINEER'S CERTIFICATION

Ross Corder

ROSS CORDER, PE

391 LANDA ST. STE. 1204
NEW BRAUNFELS, TEXAS 78130

(210) 378-4953

ALL RESPONSIBILITY FOR THE ADEQUACY OF THESE PLANS REMAINS WITH THE ENGINEER WHO PREPARED THEM. IN APPROVING THESE PLANS, THE CITY MUST RELY UPON THE ADEQUACY OF WORK OF THE DESIGN ENGINEER.

WATER NOTE

THE PROJECT SITE IS SERVED BY THE WATER SERVICE FOR THE SITE IS SERVED BY THE HEADWATERS MUNICIPAL UTILITY DISTRICT.

WASTEWATER NOTE

WASTEWATER SERVICE FOR THE SITE IS SERVED BY THE HEADWATERS MUNICIPAL UTILITY DISTRICT.HAYS COUNTY.

DETENTION AND WATER QUALITY MAINTENANCE NOTE

A WATER QUALITY BMP MAINTENANCE PLAN HAS BEEN PREPARED FOR THIS DEVELOPMENT AND IS ON FILE AT CITY HALL IN SITE DEVELOPMENT CASE NO. SD2022-0029.

CITY OF DRIPPING SPRINGS SIGNATURE BLOCK

TORY CARPENTER — DATE
CITY OF DRIPPING SPRINGS PLANNING DIRECTOR

CHAD GILPIN, P.E. — DATE
CITY ENGINEER

DILLON POLK — DATE
EMERGENCY SERVICE DISTRICT No. 6

DANE SORENSEN — DATE
CITY UTILITIES DIRECTOR

DRIPPING SPRINGS WATER SUPPLY CORPORATION — DATE

CITY OF DRIPPING SPRINGS SITE DEVELOPMENT PERMIT #SD2025-006

HCC JOB NUMBER: 013-10



LOCATION MAP
N.T.S

Sheet List Table	
Sheet Number	Sheet Title
1	COVER SHEET
2	GENERAL CONSTRUCTION NOTES
3	PLAT (1 OF 2)
4	PLAT (2 OF 2)
5	EXISTING CONDITIONS AND DEMOLITION PLAN
6	EROSION CONTROL PLAN
7	EROSION CONTROL DETAILS (1 OF 2)
8	EROSION CONTROL DETAILS (2 OF 2)
9	SITE PLAN
10	FIRE PROTECTION PLAN
11	OVERALL GRADING PLAN
12	GRADING PLAN SHEET 1
13	GRADING PLAN SHEET 2
14	GRADING PLAN SHEET 3
15	EXISTING DRAINAGE AREA MAP
16	PROPOSED DRAINAGE AREA MAP
17	PHASE 1 EXISTING WATER QUALITY AND DETENTION
18	PHASE 1 EXISTING WATER QUALITY AND DETENTION
19	PHASE 1 EXISTING WATER QUALITY AND DETENTION
20	UTILITY PLAN
21	UTILITY DETAILS (1 OF 3)
22	UTILITY DETAILS (2 OF 3)
23	UTILITY DETAILS (3 OF 3)
24	SITE DETAILS

TRENCH EXCAVATION SAFETY PROTECTION

CONTRACTOR, SUB-CONTRACTOR AND/OR CONTRACTOR'S INDEPENDENTLY RETAINED EMPLOYEE, OR STRUCTURAL/GEOTECHNICAL/SAFETY EQUIPMENT CONSULTANT, SHALL REVIEW THESE PLANS AND GEOTECHNICAL REPORT, THE INSTALLATION SITES WITHIN THE PROJECT AREA IN ORDER TO IMPLEMENT CONTRACTORS TRENCH EXCAVATION SAFETY PROTECTION PLAN, SYSTEMS AND/OR PROCEDURES SHALL PROVIDE FOR ADEQUATE TRENCH SAFETY PROTECTION THAT COMPLY WITH AS A MINIMUM OSHA STANDARDS, SPECIFICALLY , CONTRACTOR AND/OR RETAINED EMPLOYEE OR SAFETY CONSULTANT SHALL IMPLEMENT A TRENCH SAFETY PLAN IN ACCORDANCE WITH OSHA REGULATIONS GOVERNING THE PRESENCE AND ACTIVITIES OF INDIVIDUALS WORKING IN AND/OR AROUND THE EXPOSED TRENCH EXCAVATION.

CAUTION!

CONTRACTOR SHALL EXERCISE CAUTION DURING DEMOLITION, EXCAVATION, CLEARING AND CONSTRUCTION ACTIVITIES NEAR OVERHEAD ELECTRIC LINES. CONTRACTOR SHALL COMPLY WITH ALL SAFETY REGULATIONS WHEN OPERATING NEAR POWER LINES.

DIG TESS:

CONTRACTOR SHALL CONTACT 1-800-DIG-TESS A MINIMUM OF 48 HOURS PRIOR TO THE START OF CONSTRUCTION ACTIVITY (ON OR OFFSITE) FOR THE PROJECT.

Hill Country Civil
Engineers ● Consultants
Texas Firm # 20187
391 Landa Street, Ste. 1204, New Braunfels, TX 78130
Phone 877-669-5378 or 210-378-4953
www.hillcountrycivil.com

ROSS T. CORDER
125401
LICENSED
PROFESSIONAL ENGINEER
08/18/2025

No.	Date	Revisions	App.

HEADWATERS FIRE STATION
DRIPPING SPRINGS, TEXAS
HCC JOB No. 013-10
DRAWN BY: RTC

COVER SHEET

SHEET No.
1
OF 24

C:\HCC\CivilCAD\Hwy - Hill Country Civil\Projects\013 Martinez Architects\10 Headwaters Fire Station Design\1 - CAD\2 - Sheets\015-10 CVR.dwg

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HCC GENERAL CONSTRUCTION NOTES:

1. CONTRACTOR SHALL COMPLY WITH ALL LOCAL, STATE AND FEDERAL BUILDING CODES APPLICABLE TO THIS PROJECT. FURTHERMORE, THE CONTRACTOR WILL BE RESPONSIBLE FOR SECURING REQUIRED PERMITS AND SHALL NOTIFY ALL GOVERNMENT AGENCIES, TCEQ, AND/OR UTILITY AGENCIES AFFECTED BY THE PROPOSED CONSTRUCTION IMPROVEMENTS.

2. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL SAFETY SYSTEMS, PLANS AND DESIGNS APPLICABLE TO THE PROJECT. HILL COUNTRY CIVIL DOES NOT EXTEND TO OR INCLUDE DESIGNS OR PLANS PERTAINING TO THE SAFETY OF THE CONTRACTOR, SUBCONTRACTORS, EMPLOYEES OR PROJECT SITE. IT IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR TO ENSURE ALL SAFETY REGULATIONS, CODES AND ORDINANCES ARE BEING MET DURING THE DURATION OF THE PROJECT.

3. CONTRACTOR SHALL FOLLOW ALL SAFETY REQUIREMENTS AND REGULATIONS OUTLINED BY THE OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION.

4. CONTRACTOR SHALL KEEP A COPY OF THE APPROVED PLANS AT THE JOBSITE THROUGHOUT THE DURATION AND COMPLETION OF THE PROJECT.

5. PRIOR TO START OF CONSTRUCTION, CONTRACTOR SHALL COORDINATE WITH LOCAL TV, ELECTRIC, GAS, WATER, SEWER AND PHONE PROVIDERS AS REQUIRED TO PROVIDE SERVICE TO THE PROJECT SITE. IN ADDITION, CONTRACTOR SHALL COORDINATE ANY INTERRUPTIONS OF UTILITY SERVICE TO THE APPLICABLE SERVICE PROVIDER.

6. CONTRACTOR TO EXERCISE EXTREME CAUTION WHEN OPERATING NEAR OR AROUND EXISTING GAS LINES. CONTRACTOR SHALL NOTIFY GAS COMPANY 72 HOURS PRIOR TO CONSTRUCTION WHEN OPERATING NEAR GAS LINE FACILITIES.

7. CONTRACTOR SHALL PROTECT ALL EXISTING FACILITIES INCLUDING BUT NOT LIMITED TO UTILITIES, PAVEMENT, STREETS, CURB AND GUTTER, TREES, LANDSCAPING, IRRIGATION SYSTEMS, ETC., IMPACTED BY THE PROJECT CONSTRUCTION LIMITS. CONTRACTOR RESTORE ANY DISTURBED AREAS IMPACTED BY CONSTRUCTION TO ITS ORIGINAL OR BETTER CONDITION, INCLUDING ANY AREAS DAMAGED REQUIRING REPAIR (NO SEPARATE PAY ITEM).

8. CONTRACTOR SHALL CONTACT 1-800-DIG-TESS A MINIMUM OF 48 HOURS PRIOR TO THE START OF CONSTRUCTION ACTIVITY (ON OR OFFSITE) FOR THE PROJECT. FURTHERMORE, CONTRACTOR SHALL BE REQUIRED TO LOCATE ALL PUBLIC OR PRIVATE UTILITIES INCLUDING BUT NOT LIMITED TO: WATER, TELEPHONE, SEWER, FIBER OPTIC, ELECTRIC, DUCT BANKS, IRRIGATION LINES AND GAS LINES.

9. LOCATION AND DEPICTION OF UTILITIES SHOWN ARE FOR REFERENCE ONLY AND PER NOTE 8 ABOVE, SHOULD BE CONFIRMED BEFORE STARTING CONSTRUCTION. ANY DAMAGE TO EXISTING UTILITIES SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR AND ANY REPAIR COSTS SHALL BE BORNE BY THE CONTRACTOR

10. CONTRACTOR SHALL PROTECT EXISTING TREES, BOTH DEPICTED ON THE CONSTRUCTION DRAWINGS AND THOSE TREES WHICH ARE NOT AS WELL. ANY TREES THAT EXIST ON SITE NOT SHOWN TO BE REMOVED, BUT APPEAR TO BE DISTURBED, OR REQUIRED TO BE REMOVED IN ORDER TO MEET THE PROPOSED SITE PLAN, SHALL BE COORDINATED WITH THE LANDSCAPE ARCHITECT, CIVIL ENGINEER OR OWNER PRIOR TO REMOVAL.

11. DURING CONSTRUCTION, CONTRACTOR SHALL MAINTAIN UNRESTRICTED DRAINAGE. NO PONDING OF STORM DRAINAGE SHALL BE PERMITTED IN AREAS OF PREPARED SUBGRADE OR EXCAVATION, EMBANKMENT. IF PONDING SHOULD OCCUR, CONTRACTOR SHALL IMMEDIATELY PUMP OUT OR GRAVITY DRAIN PONDING WATER OUT OF IMPACTED AREAS. IF ANY DAMAGE OCCURRED TO SUBGRADE, BUILDING PAD OR EXCAVATION AREAS, THE SOILS MUST BE DRIED OUT, REMOVED, REPLACED AND RE-COMPACTED.

12. DISTURBED AREAS (CONSTRUCTION AREAS) SHALL BE STRIPPED OF VEGETATION, LOOSE TOPSOIL, ORGANICS, BRUSH AND DEBRIS. AFTERWARDS, THE EXPOSED SUBGRADE SHALL SHALL BE PROOF ROLLED WITH A MINIMUM 25 TON PNEUMATIC ROLLER. ANY WEAK AREAS DETECTED SHALL BE REMOVED AND REPLACED WITH SUITABLE SOILS OF SIMILAR TYPE (CLASSIFICATION, MOISTURE CONTENT AND DENSITY).

13. IF REQUIRED TO MODIFY EXISTING GRADE, FILL MATERIALS SHOULD BE PLACED ON PREPARED SURFACES IN LIFTS NOT EXCEED 8 INCHES (LOOSE MEASURE), WITH COMPACTED THICKNESS NOT TO EXCEED 6 INCHES OR AS INDICATED IN SITE GEOTECHNICAL REPORT. FILL SHALL BE COMPACTED TO OPTIMUM MOISTURE CONTENT OR UP TO +3 PERCENTAGE POINTS OF OPTIMUM MOISTURE CONTENT TO A MINIMUM OF 95% MAXIMUM DENSITY AS DETERMINED BY TXDOT, TEX-114-E OR AS DESCRIBED IN THE SITE GEOTECHNICAL REPORT.

14. ALL FILL MATERIALS SHALL BE CLEAR OF DEBRIS, ORGANICS AND VEGETATION. IF IMPORTED FILL IS USED, IT SHALL BE A RELATIVELY HOMOGENEOUS PARTICLE SIZE DISTRIBUTION, WITH MAX SIZE OF 3 INCHES , PLASTICITY INDEX BETWEEN 7 AND 20 AND A LIQUID LIMIT LESS THAN 40; OR AS INDICATED ON THE GEOTECHNICAL REPORT.

15. ANY EXCESS EXCAVATION MATERIALS NOT USED, SHALL BECOME PROPERTY OF THE CONTRACTOR AND SHALL BE DISPOSED OF OFFSITE IN ACCORDANCE WITH FEDERAL, STATE AND LOCAL LAWS.

16. CONTRACTOR IS RESPONSIBLE FOR FILING WITH THE TCEQ FOR THE TEMPORARY STORM WATER POLLUTION PREVENTION PLAN NOTICE TO PROCEED AND NOTICE OF TERMINATION AT THE START AND END OF CONSTRUCTION.

17. AFTER COMPLETION OF CONSTRUCTION, THE SITE SHALL BE THOROUGHLY CLEANED OF CONSTRUCTION DEBRIS, SEDIMENT, MATERIAL, ETC. PRIOR TO TURNING OVER TO OWNER.

18. CONTRACTOR SHALL INCLUDE IN THEIR BASE BID ANY TRAFFIC AND/OR PEDESTRIAN CONTROL DEVICES, PLANS OR LAYOUT NECESSARY FOR CONSTRUCTION; INCLUDING SEQUENCING OF CONSTRUCTION, DELIVERIES OF CONSTRUCTION MATERIAL AND EQUIPMENT, AND DEMOLITION ACTIVITIES, SO THAT THE ADJACENT ROADWAYS AND NEIGHBORING PROPERTIES HAVE SUITABLE VEHICULAR AND PEDESTRIAN ACCESS.

19. NOTES, CALLOUTS OR ITEMS NOTED AS "BY-OTHERS" SHALL BE CONSIDERED OUTSIDE THE SCOPE OF SERVICES PERFORMED BY HILL COUNTRY CIVIL. THESE ITEMS ARE CALLED OUT FOR REFERENCE ONLY, AND THE CONTRACTOR SHALL CONFIRM WITH OWNER, OTHER CONSULTANT OR MANUFACTURE FOR PLANS, OR DESIGNS DETAILING THOSE SPECIFIC ITEMS.

20. CONTRACTOR IS RESPONSIBLE FOR ALL VERTICAL AND HORIZONTAL CONTROL THROUGHOUT CONSTRUCTION.

HEADWATERS MUD WATER AND WASTEWATER NOTES

1. ALL WATER AND WASTEWATER FACILITIES SHALL COMPLY WITH THE LATEST CITY OF AUSTIN STANDARDS AND SPECIFICATIONS UNLESS NOTED OTHERWISE.

2. THE CONTRACTOR SHALL CONTACT THE TEXAS EXCAVATION SYSTEM AT 1-800-344-6377 FOR EXISTING UTILITY LOCATIONS 48 HOURS PRIOR TO ANY EXCAVATION. THE CONTRACTOR SHALL ALSO CONTACT THE HEADWATERS MUD FOR ASSISTANCE IN OBTAINING EXISTING WATER LOCATIONS. KNOWN EXISTING UTILITIES ARE SHOWN ON THE DRAWINGS. PRIOR TO THE START OF CONSTRUCTION, THE CONTRACTOR SHALL VERIFY THE LOCATIONS OF ALL UTILITIES THAT ARE TO BE EXTENDED, TIED TO, CROSSED, OR ALTERED, OR SUBJECT TO DAMAGE/INCONVENIENCE BY THE CONSTRUCTION OPERATIONS.

3. PRESSURE TAPS SHALL BE IN ACCORDANCE WITH THE CITY OF AUSTIN STANDARD SPECIFICATIONS. THE CONTRACTOR SHALL PERFORM ALL EXCAVATION, ETC. AND SHALL FURNISH, INSTALL AND AIR TEST THE SLEEVE AND VALVE. A HEADWATERS MUD REPRESENTATIVE MUST BE PRESENT WHEN THE CONTRACTOR MAKES A TAP AND/OR ASSOCIATED TESTS. A MINIMUM OF TWO (2) WORKING DAYS NOTICE IS REQUIRED. "SIZE ON SIZE" TAPS WILL NOT BE PERMITTED UNLESS MADE BY THE USE OF AN APPROVED FULL-CIRCLE GASKETED TAPPING SLEEVE. CONCRETE BLOCKING SHALL BE PLACED BEHIND AND UNDER ALL TAP SLEEVES A MINIMUM OF 24 HOURS PRIOR TO THE BRANCH BEING PLACED IN SERVICE.

4. FIRE HYDRANTS SHALL CONFORM TO AWWA STANDARD C502 AND SHALL BE AMERICAN DARLING 5 1" B-84-B. HYDRANTS MUST BE EQUIPPED WITH A 5" STORZ CONNECTOR WITH A BLIND CAP AFFIXED TO THE STEAMER CONNECTION. THE 2.5" CONNECTIONS MUST BE NH THREAD. A BLUE REFLECTIVE MARKER SHALL IDENTIFY THE LOCATION OF EACH HYDRANT.

5. FIRE HYDRANTS ON MAINS UNDER CONSTRUCTION SHALL BE SECURELY WRAPPED WITH A POLY WRAP BAG AND TAPED INTO PLACE. THE POLY WRAP SHALL BE REMOVED WHEN THE MAINS ARE ACCEPTED AND PLACED INTO SERVICE.

6. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL COORDINATION BETWEEN HIMSELF AND OTHER CONTRATORS AND UTILITIES IN THE VICINITY OF THE PROJECT. THIS INCLUDES GAS, WASTEWATER, WATER, ELECTRICAL, TELEPHONE, CABLE TV, AND STREET DRAINAGE WORK. ONCE THE CONTRACTOR BECOMES AWARE OF A POSSIBLE CONFLICT, IT IS THE CONTRACTOR'S RESPONSIBILITY TO NOTIFY THE ENGINEER WITHIN TWENTY-FOUR (24) HOURS.

7. ALL NEWLY INSTALLED PIPES AND RELATED PRODUCTS MUST CONFORM TO AMERICAN NATIONAL STANDARDS INSTITUTE/NATIONAL SANITATION FOUNDATION (ANSI/NSF) STANDARD 61 AND MUST BE CERTIFIED BY AN ORGANIZATION ACCREDITED BY ANSI.

8. PIPE MATERIAL FOR WATER MAINS SHALL BE PVC (AWWA C-900 DR-14), BLUE IN COLOR OR DUCTILE IRON (PER CITY OF AUSTIN STANDARDS). WATER SERVICES (2" OR LESS) SHALL BE POLYEHTHYLENE TUBING (BLACK OR BLUE, PE 4710, CLASS 250, SDR-9).

9. ALL PLASTIC PIPES FOR USE IN PUBLIC WATER SYSTEMS MUST ALSO BEAR THE NATIONAL SANITATION FOUNDATION SEAL OF APPROVAL (NSF-PW) AND HAVE AN ASTM DESIGN PRESSURE RATING OF AT LEAST 150 PSI OR A STANDARD DIMENSION RATIO OF 26 OR LESS.

10. THRUST RESTRAINTS SHALL BE IN ACCORDANCE WITH THE CITY OF AUSTIN STANDARD PRODUCTS LIST.

11. WATER LINE TESTING AND STERILIZATION SHALL BE IN ACCORDANCE WITH TCEQ AND CITY OF AUSTIN STANDARDS.

12. FORCE MAIN TESTING SHALL BE IN ACCORDANCE WITH TCEQ AND CITY OF AUSTIN STANDARDS.

13. NO PIPE WHICH HAS BEEN USED FOR ANY PURPOSE OTHER THAN THE CONVEYANCE OF DRINKING WATER SHALL BE ACCEPTED OR RELOCATED FOR USE IN ANY PUBLIC DRINKING WATER SUPPLY.

14. PIPE BEDDING FOR WATER AND WASTEWATER SHALL BE PER CITY OF AUSTIN STANDARD SPECIFICATIONS FO RPIPE BEDDING STONE, CONTROLLED LOW STRENGTH MATERIAL OR PEA GRAVEL. NO SAND OR STONE SCREENINGS SHALL BE PERMITTED.

15. ALL MECHANICAL RESTRAINTS SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURERS' INSTRUCTIONS.

16. WHERE WATER LINES CROSS WASTEWATER LINES AND THERE IS LESS THAN 9 FEET OF CLEARANCE BETWEEN LINES, MEASURED FROM OUTSIDE OF PIPE TO OUTSIDE OF PIPE, THE WASTEWATER LINE SHALL BE PLACED SO THAT THE WASTEWATER PIPE SECTION IS CENTERED ON THE WATER LINE. SEE ADDITIONAL REQUIREMENTS IN TCEQ SECTION 290 AND 217 FOR SEPARATIONS, ENCASEMENT AND SLEEVING REQUIREMENTS.

17. PIPE MATERIAL FOR GRAVITY WASTEWATER MAINS SHALL BE PVC (ASTM D3034, SDR 26 OR D224 SDR 26), GREEN IN COLOR. GRAVITY WASTEWATER LINES IF INSTALLED WITH LESS THAN 9' OF SEPARATION FROM WATER LINES SHALL BE SDR-26 ASTM D2241 PVC WITH A MINIMUM PRESSURE RATING OF 150 PSI FOR BOTH PIPES AND JOINTS UNLESS OTHERWISE NOTED.

18. MANDREL TESTING AND LOW PRESSURE AIR TEST WILL BE REQUIRED ON ALL GRAVITY WASTEWATER PIPES PER CITY OF AUSTIN STANDARDS.

19. PIPE FOR PRESSURE WASTEWATER MAINS GREATER THAN OR EQUAL TO 4" DIAMETER SHALL BE C900 PVC DR-25 (165 PSI), GREEN IN COLOR AND MARKED FORCE MAIN. PIPE FOR PRESSURE WASTEWATER MAINS LESS THAN 4" DIAMETER SHALL BE PVC ASTM D2241, SDR-21 (200 PSI) AND GREEN IN COLOR UNLESS OTHERWISE SPECIFIED.

20. ALL IRON PIPE AND FITTINGS SHALL BE WRAPPED WITH MINIMUM 8-MIL POLYETHYLENE.

21. THE CONTRACTOR SHALL CONTACT THE HEADWATERS MUD AT LEAST 48 HOURS PRIOR TO CONNECTING TO EXISTING MUD WATER OR WASTEWATER LINES.

22. ALL MANHOLES SHALL BE CONCRETE WITH RING AND COVER. RING SHALL BE GRAY CAST IRON, ASTM A48, CLASS 30B OR HIGHER OR DUCTILE IRON, ASTM A536, GRADE 60-40-18 OR HIGHER. COVER SHALL BE DUCTILE IRON, ASTM A536, GRADE 60-40-18 OR HIGHER. ALL MANHOLES SHALL BE VACUUM TESTED, SEE ADDITIONAL TCEQ NOTES.

23. THE CONTRACTOR MUST APPLY FOR TEMPORARY WATER PER THE ORDER ESTABLISHING WATER, WASTEWATER, SERVICE RATES, CHARGES AND TAP FEES, AND ADOPTING GENERAL POLICIES WITH RESPECT TO THE DISTRICT'S WATER, WASTEWATER AND DRAINAGE SYSTEM AS AMENDED.

24. LINE FLUSHING OR ANY ACTIVITY USING A LARGE QUANTITY OF WATER MUST BE SCHEDULED WITH THE MUD REPRESENTATIVE.

25. THE CONTRACTOR, AT THEIR EXPENSE, SHALL PERFORM STERILIZATION OF ALL POTABLE WATER LINES CONSTRUCTED AND SHALL PROVIDE ALL EQUIPMENT (INCLUDING TEST GAUGES), SUPPLIES (INCLUDING CONCENTRATED CHLORINE DISINFECTING MATERIAL), AND NECESSARY LABOR REQUIRED FOR THE STERILIZATION PROCEDURE. WHERE MEANS OF FLUSHINGS IS NECESSARY, THE CONTRACTOR, AT THEIR EXPENSE, SHALL PROVIDE FLUSHING DEVICES AND REMOVE SAID DEVICES PRIOR TO FINAL ACCEPTANCE BY THE HEADWATERS MUD. ALL FLUSHING MUST BE COORDINATED WITH THE MUD.

26. THE CONTRACTOR SHALL PROVIDE SAMPLING TAPS PER TCEQ MINIUM REQUIREMENTS AND SHALL NOTE WATERLINE STATION FOR EACH TAP. SAMPLES FOR BACTERIOLOGICAL TESTING WILL BE COLLECTED NOT LESS THAN 24 HOURS AFTER THE TREATED LINE HAS BEEN FLUSHED OF THE CONCENTRATED CHLORINE SOLUTION AND CHARGED WITH WATER APPROVED BY THE MUD. WATER SAMPLES SHALL BE COLLECTED AND SENT TO A TCEQ ACCREDITED LAB FOR TESTING. ALL TEST RESULTS SHALL BE PROVIDED TO THE MUD.

27. THE CONTRACTOR, AT THEIR OWN EXPENSE, SHALL PERFORM LOW PRESSURE AIR TESTING FOR ALL GRAVITY WASTEWATER PIPE INSTALLED AND HYDROSTATIC TESTING OF ALL FORCE MAINS AND WASTEWATER LINES INSTALLED. THE CONTRACTOR SHALL PROVIDE ALL EQUIPMENT (INCLUDING PUMPS AND GAUGES), SUPPLIES AND LABOR NECESSARY TO PERFORM THE TEST. THE CONTRACTOR SHALL NOTIFY MUD NO LESS THAN 48 HOURS PRIOR TO PERFORMING STERILIZATION, QUALITY TESTING OR PRESSURE TESTING. A MUD INSPECTOR SHALL BE PRESENT FOR ALL TESTS.

28. THE CONTRACTOR SHALL NOT OPEN OR CLOSE ANY VALVES UNLESS AUTHORIZED BY THE MUD.

29. ALL VALVE BOXES AND COVERS SHALL BE CAST IRON UNLESS OTHERWISE NOTED.

30. THE CONTRACTOR IS HEREBY NOTIFIED THAT CONNECTING TO, SHUTTING DOWN, OR TERMINATING EXISTING UTILITY LINES MAY HAVE TO OCCUR AT OFF-PEAK HOURS. SUCH HOURS ARE USUALLY OUTSIDE NORMAL WORKING HOURS AND POSSIBLY BETWEEN 12 MIDNIGHT AND 6 AM.

31. ALL WASTEWATER CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE TEXAS COMMISSION ON ENVIRONMENTAL QUALITY (TCEQ) REGULATIONS, TAC CHAPTER 217, AS APPLICABLE (SEE ADDITIONAL TCEQ NOTES). WHENEVER TCEQ AND HEADWATERS MUD SPECIFICATIONS CONFLICT, THE MORE STRINGENT SHALL APPLY.

32. ANY EXISTING UTILITIES, PAVEMENT, CURBS, SIDEWALKS, STRUCTURES, TREES, ETC., THAT ARE DAMAGED OR REMOVED SHALL BE REPAIRED OR REPLACED BY THE CONTRACTOR AT NO COST TO THE MUD.

33. WHEN CONSTRUCTION IS BEING CARRIED OUT WITHIN EASEMENTS, THE CONTRACTOR SHALL CONFINE HIS WORK TO WITHIN THE PERMANENT AND TEMPORARY EASEMENTS. PRIOR TO ACCEPTANCE, THE CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVING ALL TRASH AND DEBRIS WITHIN THE PERMANENT EASEMENTS. CLEANUP SHALL BE TO THE SATISFACTION OF THE ENGINEER.

34. MINIMUM DEPTH OF COVER FOR WASTEWATER AND WATER LINES SHALL BE 48". STORM SEWER LINES SHALL BE 24" UNDER NATURAL GROUND OR 36" UNDER THE RIGHT-OF-WAY.

35. CONTACT INFORMATION FOR HEADWATERS MUD
    MUD ENGINEER:
    LANDON MCCLELLAN, P.E. LANDONM@MALONEWHEELER.COM 512-899-0601

    MUD OPERATOR:
    DANIEL TATUM DTATUM@CROSSROADSUS.COM

EROSION CONTROL NOTES:

1. THE CONTRACTOR SHALL INSTALL EROSION/SEDIMENTATION CONTROLS AND TREE PROTECTIVE FENCING PRIOR TO ANY WORK (CLEARING, GRUBBING OR EXCAVATION).

2. THE PLACEMENT OF EROSION/SEDIMENTATION CONTROLS SHALL BE IN ACCORDANCE WITH THE CITY OF DRIPPING SPRINGS OR CITY OF AUSTIN ENVIRONMENTAL CRITERIA MANUAL AS REFERENCE AND THE APPROVED EROSION AND SEDIMENTATION CONTROL PLAN.

3. THE PLACEMENT OF TREE 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 THE CITY OF DRIPPING SPRINGS REPRESENTATIVES AFTER INSTALLATION OF THE EROSION/SEDIMENTATION CONTROLS AND TREE PROTECTION MEASURE S AND PRIOR TO BEGINNING ANY WORK. THE CONTRACTOR SHALL NOTIFY ENGINEER AND THE CITY OF DRIPPING SPRINGS AT LEAST THREE (3) DAYS PRIOR TO THE MEETING DATE.

5. THE CONTRACTOR IS REQUIRED TO INSPECT THE E.S.C. CONTROLS AND SLIT FENCES AT WEEKLY INTERVALS AND AFTER SIGNIFICANT RAINFALL EVENTS TO ENSURE 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 INCHES.

GRADING NOTES:

1. CHANNEL DRAINAGE SLOPES SHALL BE NO STEEPER THAN 3:1 UNLESS OTHERWISE NOTED.
2. POSITIVE DRAINAGE SHALL BE MAINTAINED ON ALL SURFACE AREAS WITHIN THE SCOPE OF THIS PROJECT. CONTRACTOR SHOULD TAKE PRECAUTIONS NOT TO ALLOW ANY PONDING OF WATER.
3. CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ENGINEER OF ANY QUESTIONS THAT MAY ARISE CONCERNING THE INTENT, PLACEMENT, OR LIMITS OF DIMENSIONS OR GRADES NECESSARY FOR THE CONSTRUCTION OF THIS PROJECT.
4. CONTRACTOR SHALL BE RESPONSIBLE FOR ACQUIRING ALL PERMITS, TESTS, APPROVALS AND ACCEPTANCES REQUIRED TO COMPLETE CONSTRUCTION OF THIS PROJECT.
5. THE CONTRACTOR SHALL CONSTRUCT EARTHEN EMBANKMENTS WITH SLOPES NO STEEPER THAN 3:1 AND NOT FLATTER THAN 2% AND COMPACT SOILS IN ACCORDANCE TO THE GEOTECHNICAL REPORTS RECOMMENDATIONS.
6. AREAS OF SOIL DISTURBANCE SHALL BE LIMITED TO THE GRADING AND IMPROVEMENTS AS SHOWN ON PLANS. ALL OTHER AREAS WILL NOT BE DISTURBED.
7. CONTRACTOR WILL PROVIDE A MAXIMUM GRADING OF 3:1 FROM PROPOSED CURB TO NATURAL GROUND ELEVATION, IN SELECT AREAS SHOWN ON PLANS.

TRENCH SAFETY NOTES:

1. IN ACCORDANCE WITH THE LAWS OF THE STATE OF TEXAS AND THE U.S. OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION REGULATIONS, ALL TRENCHES OVER 5 FEET IN DEPTH SHALL ALSO BE EFFECTIVELY PROTECTED WHEN HAZARDOUS GROUND MOVEMENT MAY BE EXPECTED. TRENCH SAFETY SYSTEMS TO BE UTILIZED FOR THIS PROJECT ARE DESCRIBED IN ITEM 509S "TRENCH SAFETY SYSTEMS" OF THE CITY OF AUSTIN STANDARD SPECIFICATIONS.

2. IN ACCORDANCE WITH THE U.S. OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION REGULATIONS, WHEN EMPLOYEES ARE REQUIRED TO BE IN TRENCHES 4 FEET DEEP OR MORE, ADEQUATE MEANS OF EXIT, SUCH AS A LADDER OR STEPS MUST BE PROVIDED AND LOCATED SO AS TO REQUIRE MORE THAN 25' OF LATERAL TRAVEL.

STREET AND DRAINAGE NOTES:

1. BACKFILL BEHIND THE CURB SHALL BE COMPACTED TO OBTAIN A MINIMUM OF 95% MAXIMUM DENSITY WITHIN 6" OF TOP OF CURB. MATERIAL USED SHALL BE PRIMARILY GRANULAR WITH NO ROCKS LARGER THAN 6" IN THE GREATEST DIMENSION. THE REMAINING 4" SHALL BE CLEAN TOPSOIL FREE FROM ALL CLODS, ROCK LARGER THAN 1" AND SUITABLE FOR SUSTAINING PLANT LIFE.

2. ALL REINFORCED CONCRETE PIPE (RCP) BE MINIMUM CLASS III.

3. THE GEOTECHNICAL ENGINEER SHALL INSPECT THE SUBGRADE FOR COMPLIANCE WITH THE DESIGN ASSUMPTIONS MADE DURING PREPARATION OF THE SOILS REPORT. ANY ADJUSTMENTS THAT ARE REQUIRED SHALL BE MADE THROUGH REVISIONS OF THE CONSTRUCTION PLANS.

4. WHENEVER SOIL INVESTIGATION OR EXCAVATION SHOW MORE THAN 2 FEET OF EXPANSION SUBGRADE, WITH P.I. GREATER THAN 35, THE GEOTECHNICAL ENGINEER OF RECORD SHALL BE CONSULTED FOR ALTERNATIVE PAVEMENT DESIGN MEASURES.

5. INSTALLATION OF EXPANSION JOINS AT 40' INTERVAL IS OPTIONAL FOR MACHINE LAID CURB EXCEPT IN SUCH CONDITIONS BELOW:
   - HIGH PLASTICITY SUBGRADE
   - WHENEVER THE CURB END ABUTS CONCRETE STRUCUTRE
   - EXTRUSION IS SUSPENDED LONG ENOUGH TO PRODUCE COLD JOINT

6. WHEN USING LIME STABILIZATION OF THE SUBGRADE, IT SHALL BE PLACED IN SLURRY OR PELLET FORM. NO DRY LIME PLACEMENT IS PERMITTED.

CONSTRUCTION SEQUENCE:

1. CALL CITY OF DRIPPING SPRINGS AT LEAST 48 HOURS PRIOR TO BEGINNING ANY WORK. CALL THE ONE CALL CENTER AT 512-472-2822 FOR UTILITY LOCATIONS AND OBTAIN PERMIT FOR ANY WORK WITHIN TXDOT, HAYS COUNTY, OR CITY OF DRIPPING SPRINGS R.O.W.

2. THE CONTRACTOR SHALL INSTALL TEMPORARY EROSION/SEDIMENTATION CONTROL AND TREE PROTECTION MEASURES AS SHOWN WITHIN THESE PLANS INCLUDING PERMANENT AND TEMPORARY ROCK BERMS.

3. THE OWNER OR HIS AUTHORIZED REPRESENTATIVE SHALL CONVENE A PRE-CONSTRUCTION CONFERENCE.

4. ROUGH GRADE PONDS TO 100% CAPACITY, EITHER THE PERMANENT OUTLET STRUCTURE OR A TEMPORARY OUTLET MUST BE CONSTRUCTED PRIOR TO CLEARING, EXCAVATION AND EMBANKMENT ACTIVITIES. THE PONDS AND OUTLETS SHALL BE MAINTAINED AND FUNCTIONAL IS TEMPORARY DETENTION AND SEDIMENTATION BASINS THROUGHOUT CONSTRUCTION UNTIL INSTALLATION OF THE PERMANENT PONDS IS COMPLETE.

5. WITH THE APPROVAL OF ALL AFFECTED PARTIES, THE CONTRACTOR MAY THEN BEGIN CLEARING AND GRUBBING.

6. ROUGH GRADE STREETS/PARKING LOT/DRIVES. GEOTECHNICAL ENGINEER TO VERIFY SUBGRADE CONDITIONS, RECOMMENDATIONS AND REQUIRED BASE THICKNESS.

7. DELIVER WATER & WASTEWATER CUT SHEETS TO CITY OF DRIPPING SPRINGS AND HEADWATERS MUD.

8. INSTALL ALL UTILITIES TO BE LOCATED UNDER THE PROPOSED PAVEMENT SECTION.

9. DELIVER STORM SEWER CUT SHEETS AND WATER QUALITY BMPS AS PART OF THE WATER QUALITY DESIGN TO THE CITY OF DRIPPING SPRINGS.

10. BEGIN INSTALLATION OF STORM SEWER LINES AND INSTALL BMPS IN LOTS FOR WATER QUALITY. AS STRUCTURES ARE INSTALLED, INSTALL INLET PROTECTION AS PER PLANS. UPON COMPLETION, RESTORE AS MUCH DISTURBED AREA AS POSSIBLE, PARTICULARLY CHANNELS AND LARGE OPEN AREAS. INSTALL INLET PROTECTION AS PER PLANS.

11. DELIVER FINAL GRADE CUT SHEETS TO THE CITY OF DRIPPING SPRINGS.

12. RE-GRADE STREETS/PARKING LOT/DRIVES TO SUBGRADE.

13. ENSURE THAT ALL UNDERGROUND UTILITY CROSSINGS ARE COMPLETED. LAY FIRST COURSE BASE MATERIAL ON ALL STREETS/PARKING LOTS/DRIVES.

14. INSTALL CURB AND GUTTER.

15. LAY FINAL BASE COURSE ON ALL STREETS/PARKING LOTS/DRIVES.

16. LAY ASPHALT OR CONCRETE ROADWAY SECTION.

17. COMPLETE ALL REMAINING ROUGH GRADING AND UNDERGROUND INSTALLATIONS.

18. COMPLETE FINAL GRADING, RESTORE CONSTRUCTION SPOILS & STAGING AREA TO NATURAL GRADE.

19. COMPLETE PERMANENT EROSION CONTROL AND RESTORATION OF SITE VEGETATION.

20. REMOVE AND DISPOSE OF TEMPORARY EROSION CONTROL, INCLUDING CONSTRUCTION SPOILS AREA.

21. COMPLETE ANY NECESSARY FINAL DRESS UP OF AREAS DISTURBED.

22. IF DISTURBED AREA IS NOT TO BE WORKED ON FOR MORE THAN 14 DAYS, DISTURBED AREA NEEDS TO BE STABILIZED BE RE-VEGETATION, MULCH, TARP OR RE-VEGETATION MATTING.

FIRE NOTE:

1. FIRE APPARATUS ACCESS ROADS AND WATER SUPPLY FOR FIRE PROTECTION IS REQUIRED TO BE INSTALLED, TESTED, AND ACCEPTED PRIOR TO THE TIME OF WHICH CONSTRUCTION HAS PROGRESSED BEYOND COMPLETION OF THE FOUNDATION OF ANY STRUCTURE.

TRENCH EXCAVATION SAFETY PROTECTION

CONTRACTOR, SUB-CONTRACTOR AND/OR CONTRACTOR'S INDEPENDENTLY RETAINED EMPLOYEE, OR STRUCTURAL/GEOTECHNICAL/SAFETY EQUIPMENT CONSULTANT, SHALL REVIEW THESE PLANS AND GEOTECHNICAL REPORT, THE INSTALLATION SITES WITHIN THE PROJECT AREA IN ORDER TO IMPLEMENT CONTRACTORS TRENCH EXCAVATION SAFETY PROTECTION PLAN, SYSTEMS AND/OR PROCEDURES SHALL PROVIDE FOR ADEQUATE TRENCH SAFETY PROTECTION THAT COMPLY WITH AS A MINIMUM OSHA STANDARDS, SPECIFICALLY , CONTRACTOR AND/OR RETAINED EMPLOYEE OR SAFETY CONSULTANT SHALL IMPLEMENT A TRENCH SAFETY PLAN IN ACCORDANCE WITH OSHA REGULATIONS GOVERNING THE PRESENCE AND ACTIVITIES OF INDIVIDUALS WORKING IN AND/OR AROUND THE EXPOSED TRENCH EXCAVATION.

CAUTION!

CONTRACTOR SHALL EXERCISE CAUTION DURING DEMOLITION, EXCAVATION, CLEARING AND CONSTRUCTION ACTIVITIES NEAR OVERHEAD ELECTRIC LINES. CONTRACTOR SHALL COMPLY WITH ALL SAFETY REGULATIONS WHEN OPERATING NEAR POWER LINES.

DIG TESS:

CONTRACTOR SHALL CONTACT 1-800-DIG-TESS A MINIMUM OF 48 HOURS PRIOR TO THE START OF CONSTRUCTION ACTIVITY (ON OR OFFSITE) FOR THE PROJECT.

Hill Country Civil
Engineers ◆ Consultants
Texas Firm # 20173
301 Landa Street, Ste. 100A, New Braunfels, TX 78130
Phone 817-659-5078 or 210-378-6363
www.hillcountrycivil.com



No.	Date	Revisions	App.

HEADWATERS FIRE STATION
DRIPPING SPRINGS, TEXAS
HCC JOB No. 013-10
DRAWN BY: RTC

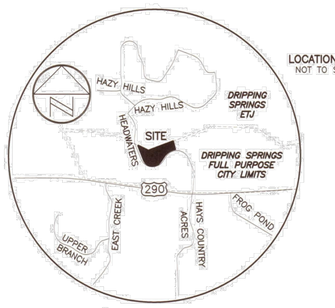
GENERAL CONSTRUCTION NOTES

SHEET No.
2
OF 24

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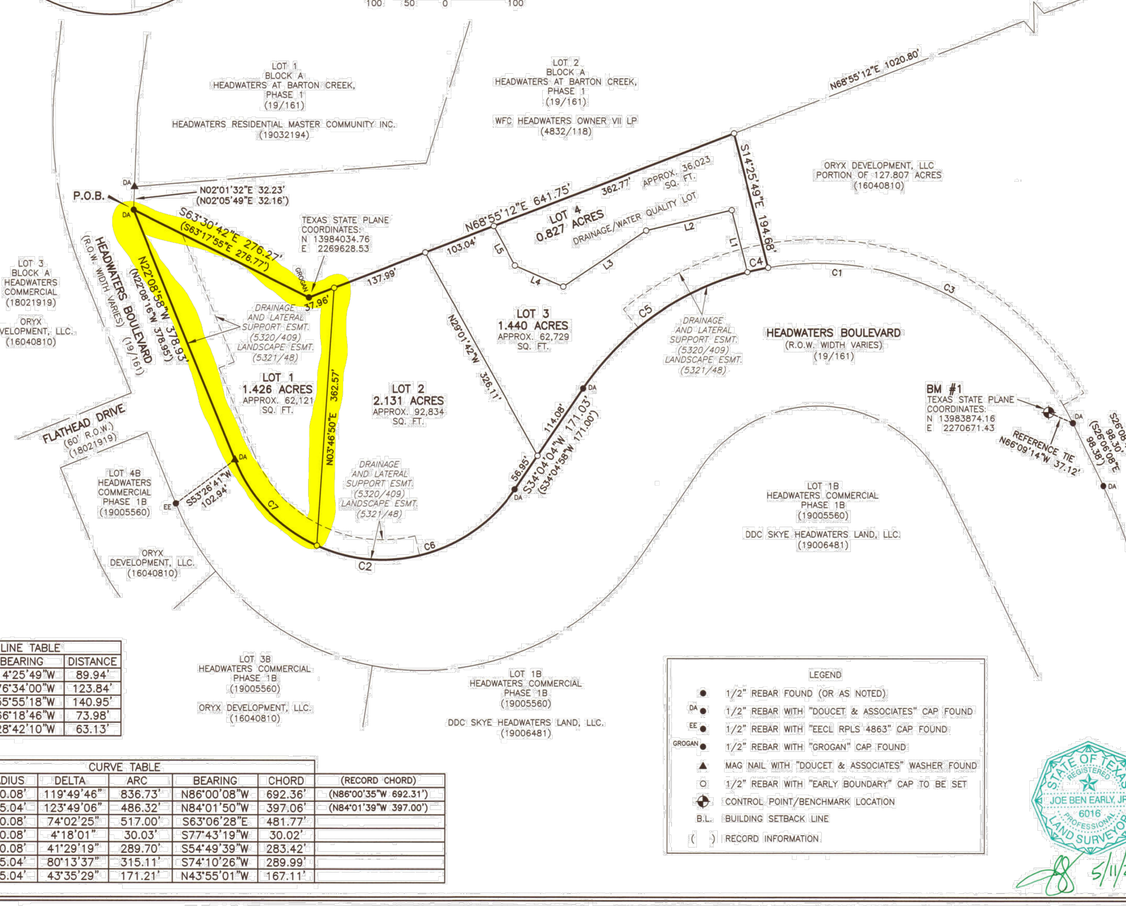
HEADWATERS COMMERCIAL EAST
PHASE 1



LOCATION MAP
NOT TO SCALE

N

SCALE: 1" = 100'
GRAPHIC SCALE
100 50 0 100



LINE TABLE		
LINE	BEARING	DISTANCE
L1	N14°25'49"W	89.94'
L2	S76°34'00"W	123.84'
L3	S55°55'18"W	140.95'
L4	N66°18'46"W	73.98'
L5	N28°42'10"W	63.13'

CURVE TABLE						
CURVE	RADIUS	DELTA	ARC	BEARING	CHORD	(RECORD CHORD)
C1	400.08'	119°49'46"	836.73'	N86°00'08"W	692.36'	(N86°00'35"W 692.31')
C2	225.04'	123°49'06"	486.32'	N84°01'50"W	397.06'	(N84°01'39"W 397.00')
C3	400.08'	74°02'25"	517.00'	S63°06'28"E	481.77'	
C4	400.08'	4°18'01"	30.03'	S77°43'19"W	30.02'	
C5	400.08'	41°29'19"	289.70'	S54°49'39"W	283.42'	
C6	225.04'	80°13'37"	315.11'	S74°10'26"W	289.99'	
C7	225.04'	43°35'29"	171.21'	N43°55'01"W	167.11'	

LEGEND

- ● 1/2" REBAR FOUND (OR AS NOTED)
- DA ● 1/2" REBAR WITH "DOUCET & ASSOCIATES" CAP FOUND
- EE ● 1/2" REBAR WITH "EECL RPLS 4863" CAP FOUND
- GROGAN ● 1/2" REBAR WITH "GROGAN" CAP FOUND
- ▲ MAG NAIL WITH "DOUCET & ASSOCIATES" WASHER FOUND
- ○ 1/2" REBAR WITH "EARLY BOUNDARY" CAP TO BE SET
- CONTROL POINT/BENCHMARK LOCATION
- B.L. BUILDING SETBACK LINE
- ( ) RECORD INFORMATION

THIS IS A SURFACE DRAWING.

BEARING BASIS: THE TEXAS COORDINATE SYSTEM OF 1983 (NAD83), SOUTH CENTRAL ZONE, BASED ON GPS OBSERVATIONS ON EARLY LAND SURVEYING CONTROL POINT "BM #1"

MAG NAIL WITH WASHER SET IN CONCRETE ALONG THE NORTH SIDE OF HEADWATERS BOULEVARD APPROX. 950' NORTH OF THE INTERSECTION OF HEADWATERS BOULEVARD AND U.S. HWY 290 WEST, AND APPROX. 189' SOUTH OF A STORM SEWER INLET LOCATED IN THE GRASS MEDIAN OF HEADWATERS BOULEVARD..

SURFACE COORDINATES:
N 13985692.06
E 2270966.62

TEXAS STATE PLANE COORDINATES:
N 13983874.16
E 2270671.43

ELEVATION = 1258.88'
VERTICAL DATUM: NAVD 88 (GEOID 12B)

COMBINED SCALE FACTOR = 0.999870017
(FOR SURFACE TO GRID CONVERSION)

INVERSE SCALE FACTOR = 1.000130
(FOR GRID TO SURFACE CONVERSION)

SCALED ABOUT 0,0
THETA ANGLE: 0°28'06"

OWNER:

ORYX LAND HOLDING, LLC.
P.O. BOX 302663
AUSTIN, TEXAS 78703

SURVEYOR:

JOE BEN EARLY, JR. R.P.L.S. 6016
EARLY LAND SURVEYING, LLC
P.O. BOX 92588
AUSTIN, TX 78709
512-202-8631

ENGINEER:

JESSE B. MALONE, P.E.
MALONE WHEELER, INC.
5113 SOUTHWEST PARKWAY, STE. 260
AUSTIN, TX 78735
512-899-0601

SUBDIVISION DETAILS:

TOTAL SUBDIVISION ACREAGE: 5.824
TOTAL SUBDIVISION SQUARE FOOTAGE: 253,708
TOTAL NO. OF LOTS: 4
TOTAL NO. OF BLOCKS: 1
TOTAL NO. OF PARKLAND DEDICATIONS: NONE
TOTAL NO. OF PUBLIC RIGHT-OF-WAY DEDICATIONS: NONE

SUBDIVISION LOT DETAILS:

LOT 1, BLOCK A: 1.426 AC, 62,121 SQ. FT.
LOT 2, BLOCK A: 2.131 AC, 92,834 SQ. FT.
LOT 3, BLOCK A: 1.440 AC, 62,729 SQ. FT.
LOT 4, BLOCK A: 0.827 AC, 36,023 SQ. FT.

STATE OF TEXAS
REGISTERED
JOE BEN EARLY, JR.
6016
PROFESSIONAL
LAND SURVEYOR
5/11/22

EARLY
LAND SURVEYING
A LIMITED LIABILITY COMPANY
P.O. BOX 92588
AUSTIN, TX 78709
512-202-8631
TBPELS FIRM NO. 10194487

PROJECT NO.: 1.133-001
DRAWING NO.: 1.133-001-BASE
PLOT DATE: 5/11/22
PLOT SCALE: 1" = 100'
DRAWN BY: MAW & JBE

SHEET 01 OF 02

Hill Country Civil
Engineers ★ Consultants
TBPE Firm # 20101
301 Landa Street, Ste. 104, New Braunfels, TX 78130
Phone 830-609-5078 or 210-378-6353
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PROFESSIONAL ENGINEER
08/18/2025

No.	Date	Revisions	App.

HEADWATERS FIRE STATION
DRIPPING SPRINGS, TEXAS
HCC JOB No.: 013-10
DRAWN BY: RTC

PLAT (1 OF 2)

SHEET No.
3
OF 24

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HEADWATERS COMMERCIAL EAST PHASE 1

STATE OF TEXAS
COUNTY OF HAYS

KNOW ALL MEN BY THESE PRESENTS:

THAT I, BLAKE RUE, MANAGING MEMBER OF ORYX HOLDING, LLC., BEING THE OWNER OF 5.824 ACRES (APPROXIMATELY 253,708 SQ. FT.) IN THE WILLIAM WALKER SURVEY NO. 130, ABSTRACT NO. 475 IN HAYS COUNTY, TEXAS, BEING A PORTION OF A 127.087 ACRE TRACT CONVEYED IN TO ME IN A SPECIAL WARRANTY DEED WITH VENDOR'S LIEN EXECUTED NOVEMBER 29, 2016 AND RECORDED IN INSTRUMENT NO. 16040810 OF THE OFFICIAL PUBLIC RECORDS OF HAYS COUNTY, TEXAS, DO HEREBY SUBDIVIDE SAID LAND IN ACCORDANCE WITH THE PLAT SHOWN HEREON, SUBJECT TO ANY EASEMENTS OR RESTRICTIONS HERETOFORE GRANTED, TO BE KNOWN AS:

HEADWATERS COMMERCIAL EAST PHASE 1

AND DO HEREBY DEDICATE TO THE PUBLIC THE USE OF THE STREETS AND EASEMENTS AS SHOWN HEREON.

WITNESS MY HAND THIS THE _____ DAY OF _____, 20____.

_____
BLAKE RUE, MANAGING MEMBER
ORYX LAND HOLDING, LLC.
P.O. BOX 302663
AUSTIN, TEXAS 78703

STATE OF TEXAS
COUNTY OF HAYS

BEFORE ME, THE UNDERSIGNED AUTHORITY, ON THIS DAY PERSONALLY APPEARED BLAKE RUE, KNOWN TO ME TO BE THE PERSON WHOSE NAME IS SUBSCRIBED TO THE FOREGOING INSTRUMENT AND ACKNOWLEDGED TO ME THAT HE EXECUTED THE SAME FOR THE PURPOSES AND CONSIDERATIONS THEREIN EXPRESSED.

GIVEN UNDER MY HAND AND SEAL OF OFFICE THIS THE ____ DAY OF _____, 20____.

_____
NOTARY PUBLIC IN AND FOR
THE STATE OF TEXAS (SEAL)

_____
PRINTED NAME OF NOTARY / EXPIRES

STATE OF TEXAS
COUNTY OF HAYS

KNOW ALL MEN BY THESE PRESENTS:

THAT I/WE, TEXAS REGIONAL BANK, A LIEN HOLDER OF THAT CERTAIN TRACT OF LAND SHOWN HEREON, DO HEREBY JOIN, APPROVE, AND CONSENT TO ALL DEDICATIONS AND PLAT NOTE REQUIREMENTS SHOWN HEREON. I DO HEREBY APPROVE THE RECORDATION OF THIS SUBDIVISION PLAT AND DEDICATE TO THE PUBLIC USE FOREVER ANY EASEMENTS AND ROADS THAT ARE SHOWN HEREON. THIS SUBDIVISION IS TO BE KNOWN AS:

HEADWATERS COMMERCIAL EAST PHASE 1

WITNESS MY HAND THIS THE ____ DAY OF _____, 20____.

_____
ERIN NEEDHAM, SENIOR VICE PRESIDENT
TEXAS REGIONAL BANK
333 US HIGHWAY 290 EAST STE 305
DRIPPING SPRINGS, TX 78620

STATE OF TEXAS
COUNTY OF HAYS

BEFORE ME, THE UNDERSIGNED AUTHORITY, ON THIS DAY PERSONALLY APPEARED ERIN NEEDHAM, KNOWN TO ME TO BE THE PERSON WHOSE NAME IS SUBSCRIBED TO THE FOREGOING INSTRUMENT AND ACKNOWLEDGED TO ME THAT HE EXECUTED THE SAME FOR THE PURPOSES AND CONSIDERATIONS THEREIN EXPRESSED.

GIVEN UNDER MY HAND AND SEAL OF OFFICE THIS THE ____ DAY OF _____, 20____.

_____
NOTARY PUBLIC IN AND FOR
THE STATE OF TEXAS (SEAL)

_____
PRINTED NAME OF NOTARY / EXPIRES

PLAT NOTES:

1. THIS SUBDIVISION LIES WITHIN THE BOUNDARIES OF THE CITY OF DRIPPING SPRINGS AND HAYS COUNTY.
2. THIS SUBDIVISION LIES WITHIN THE BOUNDARIES OF THE DRIPPING SPRINGS INDEPENDENT SCHOOL DISTRICT.
3. THIS SUBDIVISION LIES WITHIN THE HAYS COUNTY ESD NO. 1 FOR EMS SERVICE.
4. THIS SUBDIVISION LIES WITHIN THE HAYS COUNTY ESD NO. 6 FOR FIRE SERVICE.
5. THIS SUBDIVISION LIES WITHIN THE HAYS-TRINITY GROUNDWATER CONSERVATION DISTRICT.
6. ALL SUBDIVISION PERMITS SHALL CONFORM TO THE CITY OF DRIPPING SPRINGS, HAYS COUNTY, TEXAS CODE OF ORDINANCES, CONSTRUCTION STANDARDS AND GENERALLY ACCEPTED ENGINEERING PRACTICES.
7. THIS SUBDIVISION LIES WITHIN THE BOUNDARIES OF THE EDWARDS AQUIFER CONTRIBUTING ZONE.
8. GAS UTILITY SERVICE WILL BE PROVIDED BY TEXAS GAS SERVICE.
9. WATER UTILITY SERVICE WILL BE PROVIDED BY THE HEADWATERS MUNICIPAL UTILITY DISTRICT.
10. WASTEWATER UTILITY SERVICE WILL BE PROVIDED BY THE HEADWATERS MUNICIPAL UTILITY DISTRICT OR AN ON-SITE WASTEWATER SYSTEM WHICH HAS BEEN APPROVED AND PERMITTED BY THE CITY OF DRIPPING SPRINGS.
11. ELECTRIC UTILITY SERVICE WILL BE PROVIDED BY PEDERNALES ELECTRIC COOPERATIVE.
12. BUILDING SETBACKS NOT SHOWN SHALL BE IN ACCORDANCE WITH CITY OF DRIPPING SPRINGS SUBDIVISION AND ZONING ORDINANCES. THE SUBDIVISION IS CURRENTLY ZONED (PDD-6.
13. CONSTRUCTION PLANS AND SPECIFICATIONS FOR ALL SUBDIVISION IMPROVEMENTS SHALL BE REVIEWED AND ACCEPTED BY THE CITY OF DRIPPING SPRINGS PRIOR TO ANY CONSTRUCTION WITHIN THE SUBDIVISION.
14. EROSION AND SEDIMENTATION CONTROLS ARE REQUIRED FOR CONSTRUCTION ON EACH LOT, INCLUDING SINGLE-FAMILY AND DUPLEX CONSTRUCTION.
15. NO LOT IN THIS SUBDIVISION SHALL BE OCCUPIED UNTIL CONNECTED TO AN APPROVED WATER DISTRIBUTION AND WASTEWATER COLLECTION SYSTEM.
16. ALL DRIVEWAYS IN THIS SUBDIVISION MUST BE CONSTRUCTED TO FACILITATE DRAINAGE INTO THE DRAINAGE SYSTEM CONSTRUCTED BY THE SUBDIVISION DEVELOPER AND/OR THE OWNER.
17. NO STRUCTURES OR LAND USE INCLUDING, BUT NOT LIMITED TO; BUILDINGS, FENCES, LANDSCAPING THAT NEGATIVELY IMPACTS STORM WATER FLOWS SHALL BE ALLOWED IN AREAS DESIGNATED AS PONDS, DRAINAGE EASEMENTS, OR DETENTION/RETENTION AREAS.
18. IT IS THE RESPONSIBILITY OF EACH BUILDER TO DESIGN AND CONSTRUCT A SUITABLE GRADING AND DRAINAGE SCHEME WHICH WILL CONVEY SURFACE WATER, WITHOUT PONDING IN THE LOT UNDER THE STRUCTURE, FROM HIS STRUCTURE TO THE DRAINAGE SYSTEM CONSTRUCTED BY THE SUBDIVISION DEVELOPER.
19. PUBLIC UTILITY AND DRAINAGE EASEMENTS WHERE SHOWN AND/OR DESCRIBED HEREON ARE INTENDED TO INDICATE AN EASEMENT FOR CONSTRUCTION, OPERATION AND MAINTENANCE OF PUBLIC UTILITIES AND DRAINAGE WAYS; INCLUDING, BUT NOT LIMITED TO, SANITARY SEWERS, FORCE MAINS, WATER LINES, TELEPHONE SIGNAL CONDUITS, ELECTRIC CONDUCTORS, DRAINAGE PIPES AND NATURAL GAS LINES.
20. BY APPROVING THIS PLAT, THE CITY OF DRIPPING SPRINGS ASSUMES NO OBLIGATION TO CONSTRUCT ANY INFRASTRUCTURE IN CONNECTION WITH THIS SUBDIVISION. ANY SUBDIVISION INFRASTRUCTURE REQUIRED FOR THE DEVELOPMENT OF THE LOTS IN THIS SUBDIVISION IS THE SOLE RESPONSIBILITY OF THE DEVELOPER AND/OR THE OWNERS OF THE LOT. FAILURE TO CONSTRUCT ANY REQUIRED INFRASTRUCTURE TO CITY STANDARDS MAY BE JUST CAUSE FOR THE CITY TO DENY APPLICATIONS FOR CERTAIN DEVELOPMENT PERMITS INCLUDING BUILDING PERMITS, SITE PLAN APPROVALS AND/OR CERTIFICATE OF OCCUPANCY.
21. NO STRUCTURE IN THIS SUBDIVISION SHALL BE OCCUPIED UNTIL CONNECTED TO AN INDIVIDUAL WATER SUPPLY OR A STATE-APPROVED COMMUNITY WATER SYSTEM. DUE TO DECLINING WATER SUPPLIES AND DIMINISHING WATER QUALITY, PROSPECTIVE PROPERTY OWNERS ARE CAUTIONED BY THE CITY OF DRIPPING SPRINGS TO QUESTION THE SELLER CONCERNING GROUND WATER AVAILABILITY. RAIN WATER COLLECTION IS ENCOURAGED AND IN SOME AREAS MAY OFFER THE BEST RENEWABLE WATER RESOURCE.
22. NO STRUCTURE IN THIS SUBDIVISION SHALL BE OCCUPIED UNTIL CONNECTED TO A PUBLIC SEWER SYSTEM OR TO AN ON-SITE WASTEWATER SYSTEM WHICH HAS BEEN APPROVED AND PERMITTED BY THE CITY OF DRIPPING SPRINGS.
23. SITE DEVELOPMENT CONSTRUCTION PLANS SHALL BE REVIEWED AND ACCEPTED BY THE CITY OF DRIPPING SPRINGS PRIOR TO ANY MULTI-FAMILY OR NON-RESIDENTIAL CONSTRUCTION.
24. ALL UTILITIES ARE TO BE UNDERGROUND, TO THE FULLEST EXTENT PRACTICAL.
25. THE ELECTRIC UTILITY HAS THE RIGHT TO PRUNE AND/ OR REMOVE TREES, SHRUBBERY VEGETATION AND OTHER OBSTRUCTIONS TO THE EXTENT NECESSARY TO KEEP THE EASEMENTS CLEAR.
26. SIDEWALKS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE SUBDIVISION ORDINANCE OF THE CITY OF DRIPPING SPRINGS. SIDEWALK LOCATED ON PRIVATE PROPERTY SHALL BE MAINTAINED BY THE OWNERS. SIDEWALK THAT FALLS WITHIN THE PUBLIC RIGHT OF WAY SHALL BE MAINTAINED BY THE CITY OF DRIPPING SPRINGS.
27. THIS TRACT SHOWN HEREON LIES WITHIN THE ZONE "X" (AREAS DETERMINED TO BE OUTSIDE THE 0.2% ANNUAL CHANCE FLOODPLAIN) ACCORDING TO THE FEDERAL EMERGENCY MANAGEMENT AGENCY (FEMA) FIRM FOR HAYS COUNTY, TEXAS AND INCORPORATED AREAS, FIRM PANEL No. 48209C0108F, DATED SEPTEMBER 2, 2005.
28. ALL SIGNS SHALL COMPLY WITH CITY OF DRIPPING SPRINGS SIGN ORDINANCE AND/OR HEADWATERS MASTER SIGN PLAN, AS APPLICABLE.
29. HEADWATERS MUD SHALL BE GRANTEE ON ALL WATER, WASTEWATER AND DRAINAGE EASEMENTS.
30. WATER QUALITY PROTECTION MEASURES OR ALTERNATIVES, SUCH AS BUFFER ZONES AND IMPERVIOUS COVER, AS SHOWN ON THE APPROVED CONSTRUCTION PLANS MAY NOT BE ALTERED WITHOUT REVIEW AND APPROVAL FROM THE HEADWATERS MUNICIPAL UTILITY DISTRICT OF THE CITY OF DRIPPING SPRINGS, TEXAS.
31. OWNERS OR THE HEADWATERS MUD SHALL BE RESPONSIBLE FOR OPERATING AND MAINTAINING STORMWATER FACILITIES, NOT THE CITY OF DRIPPING SPRINGS.

ENGINEER CERTIFICATION
STATE OF TEXAS

I, JESSE B. MALONE, A PROFESSIONAL ENGINEER, DO HEREBY CERTIFY THAT THE LOT(S) IN THIS SUBDIVISION ARE NOT LOCATED WITHIN ANY DESIGNATED 100-YEAR FLOOD PLAIN AS DELINEATED ON THE FLOOD INSURANCE RATE MAP (FIRM) NO. 48209C0108F, DATED SEPTEMBER 2, 2005, AS PREPARED BY THE FEDERAL EMERGENCY MANAGEMENT AGENCY.

_____ DATE: _____
JESSE B. MALONE, P.E.
PROFESSIONAL ENGINEER No. _____

SURVEYOR'S CERTIFICATION
STATE OF TEXAS

I, JOE BEN EARLY, JR., DO HEREBY CERTIFY THAT I PREPARED THIS PLAT FROM AN ACTUAL AND ACCURATE ON-THE-GROUND SURVEY OF THE LAND.

_____ DATE: 5/11/22
JOE BEN EARLY, JR.
REGISTERED PROFESSIONAL LAND SURVEYOR
STATE OF TEXAS No. 6016

STATE OF TEXAS · REGISTERED · JOE BEN EARLY JR. · 6016 · PROFESSIONAL · LAND SURVEYOR

METES AND BOUNDS LEGAL DESCRIPTION:

A DESCRIPTION OF 5.824 ACRES (APPROXIMATELY 253,708 SQ. FT.) IN THE WILLIAM WALKER SURVEY NO. 130, ABSTRACT NO. 475 IN HAYS COUNTY, TEXAS, BEING A PORTION OF A 127.087 ACRE TRACT CONVEYED TO ORYX DEVELOPMENT, LLC, IN A SPECIAL WARRANTY DEED WITH VENDOR'S LIEN EXECUTED NOVEMBER 29, 2016 AND RECORDED IN INSTRUMENT NO. 16040810 OF THE OFFICIAL PUBLIC RECORDS OF HAYS COUNTY, TEXAS; SAID 5.824 ACRES BEING MORE PARTICULARLY DESCRIBED BY METES AND BOUNDS AS FOLLOWS:

BEGINNING at a 1/2" rebar with "Doucet & Associates" cap found in the east right-of-way line of Headwaters Boulevard (right-of-way width varies) as shown on the plat of Headwaters at Barton Creek, Phase 1, a subdivision of record in Volume 19, Page 161 of the Plat Records of Hays County, Texas, being the northwest corner of the said 127.087 acre tract, being also a southwest corner of Lot 2, Block A, of said Headwaters at Barton Creek, Phase 1, from which a mag nail with "Doucet & Associates" washer found in the east right-of-way line of Headwaters Boulevard, being a northwest corner of said Lot 2, being also the southwest corner of Lot 1, Block A, of said Headwaters at Barton Creek, Phase 1, bears North 02°01'32" East, a distance of 32.23 feet;

THENCE with the common line of the said 127.087 acre tract and said Lot 2, the following two (2) courses and distances:

1. South 63°30'42" East, a distance of 276.27 feet to a 1/2" rebar with "Grogan" cap found;
2. North 68°55'12" East, a distance of 641.75 feet to a calculated point, from which a 1/2" rebar with "Grogan" cap found for an angle point in the north line of the said 127.087 acre tract and the south line of said Lot 2, bears North 68°55'12" East, a distance of 1020.80 feet;

THENCE South 14°25'49" East, crossing the said 127.087 acre tract, a distance of 194.68 feet to a calculated point in the north right-of-way line of Headwaters Boulevard and the south line of the said 127.087 acre tract, from which a 1/2" rebar with "Doucet & Associates" cap found in the northeast right-of-way line of Headwaters Boulevard and the southwest line of the said 127.087 acre tract, bears with a curve to the right, having a radius of 400.08 feet, a delta angle of 74°02'25", an arc length of 517.00 feet, and a chord which bears South 63°06'28" East, a distance of 481.77 feet;

THENCE with the common right-of-way line of Headwaters Boulevard and the said 127.087 acre tract, the following four (4) courses and distances:

1. With a curve to the left, having a radius of 400.08 feet, a delta angle of 45°47'21", an arc length of 319.73 feet, and a chord which bears South 56°58'39" West, a distance of 311.29 feet to a 1/2" rebar with "Doucet & Associates" cap found;
2. South 34°04'04" West, a distance of 171.03 feet to a 1/2" rebar with "Doucet & Associates" cap found;
3. With a curve to the right, having a radius of 225.04 feet, a delta angle of 123°49'06", an arc length of 486.32 feet, and a chord which bears North 84°01'50" West, a distance of 397.06 feet to a mag nail with "Doucet & Associates" washer found, from which a 1/2" rebar with "ECCL RPLS 4863" found in the west right-of-way line of Headwaters Boulevard, bears South 53°26'41" West, a distance of 102.94 feet;
4. North 22°08'58" West, a distance of 378.93 feet to the POINT OF BEGINNING, containing 5.824 acres of land, more or less.

STATE OF TEXAS
COUNTY OF HAYS

SEWAGE DISPOSAL/INDIVIDUAL WATER SUPPLY CERTIFICATION, TO-WIT:

1). NO STRUCTURE IN THE SUBDIVISION SHALL BE OCCUPIED UNTIL CONNECTED TO AN INDIVIDUAL WATER SUPPLY OR A STATE APPROVED COMMUNITY WATER SYSTEM. DUE TO DECLINING WATER SUPPLIES AND DIMINISHING WATER QUALITY, PROSPECTIVE PROPERTY OWNERS ARE CAUTIONED BY THE CITY OF DRIPPING SPRINGS TO QUESTION THE SELLER CONCERNING GROUND WATER AVAILABILITY. RAIN WATER COLLECTION IS ENCOURAGED AND IN SOME AREAS MAY OFFER THE BEST RENEWABLE WATER RESOURCE.
2). NO STRUCTURE IN THIS SUBDIVISION SHALL BE OCCUPIED UNTIL CONNECTED TO A PUBLIC SEWER SYSTEM OR TO AN ON-SITE WASTEWATER SYSTEM WHICH HAS BEEN APPROVED AND PERMITTED BY THE CITY OF DRIPPING SPRINGS.
3). NO CONSTRUCTION OR OTHER DEVELOPMENT WITHIN THIS SUBDIVISION MAY BEGIN UNTIL ALL CITY OF DRIPPING SPRINGS DEVELOPMENT PERMIT REQUIREMENTS HAVE BEEN MET.

_____ DATE: _____
CHAD GILPIN, P.E.
DRIPPING SPRINGS CITY ENGINEER

STATE OF TEXAS
COUNTY OF HAYS
CITY OF DRIPPING SPRINGS

THIS PLAT, HEADWATERS COMMERCIAL EAST PHASE 1, HAS BEEN SUBMITTED TO AND CONSIDERED BY THE CITY OF DRIPPING SPRINGS, AND IS HEREBY APPROVED.

APPROVED ON THIS ____ DAY OF _____, 20____.

BY: _____
PLANNING & ZONING COMMISSION CHAIR OR VICE CHAIR

ATTEST: _____
ANDREA CUNNINGHAM, CITY SECRETARY

STATE OF TEXAS
COUNTY OF HAYS

I, ELAINE H. CARDENAS, COUNTY CLERK OF HAYS COUNTY, TEXAS, DO HEREBY CERTIFY THAT THE FOREGOING INSTRUMENT OF WRITING AND ITS CERTIFICATE OF AUTHENTICATION WAS FILED FOR

RECORD IN MY OFFICE ON THE ____ DAY OF _____, 20____,

AT _____ O'CLOCK _____M., IN THE PLAT RECORDS OF HAYS COUNTY, TEXAS, UNDER

CABINET FILE No. _____.

FILED FOR RECORD ON THE ____ DAY OF _____, 20____.

_____ BY: _____
ELAINE H. CARDENAS DEPUTY
COUNTY CLERK
HAYS COUNTY, TEXAS

EARLY LAND SURVEYING
A LIMITED LIABILITY COMPANY
P.O. BOX 92588
AUSTIN, TX 78709
512-202-8631
TBPELS FIRM NO. 10194487

PROJECT NO.: 1133-001
DRAWING NO.: 1133-001-BASE
PLOT DATE: 5/11/22
PLOT SCALE: 1" = 100'
DRAWN BY: MAW & JBE
SHEET 02 OF 02

Hill Country Civil
Engineers ◆ Consultants
Texas Firm No. 20171
301 Landa Street, Ste. 104, New Braunfels, TX 78130
Phone 817-659-5078 or 210-378-6353
www.hillcountrycivil.com

ROSS T. CORDER · STATE OF TEXAS · 125401 · LICENSED · PROFESSIONAL ENGINEER
08/18/2025

No.	Date	Revisions	App.

HEADWATERS FIRE STATION
DRIPPING SPRINGS, TEXAS
HCC JOB No.: 013-10
DRAWN BY: RTC

PLAT (2 OF 2)

SHEET No.
4
OF 24

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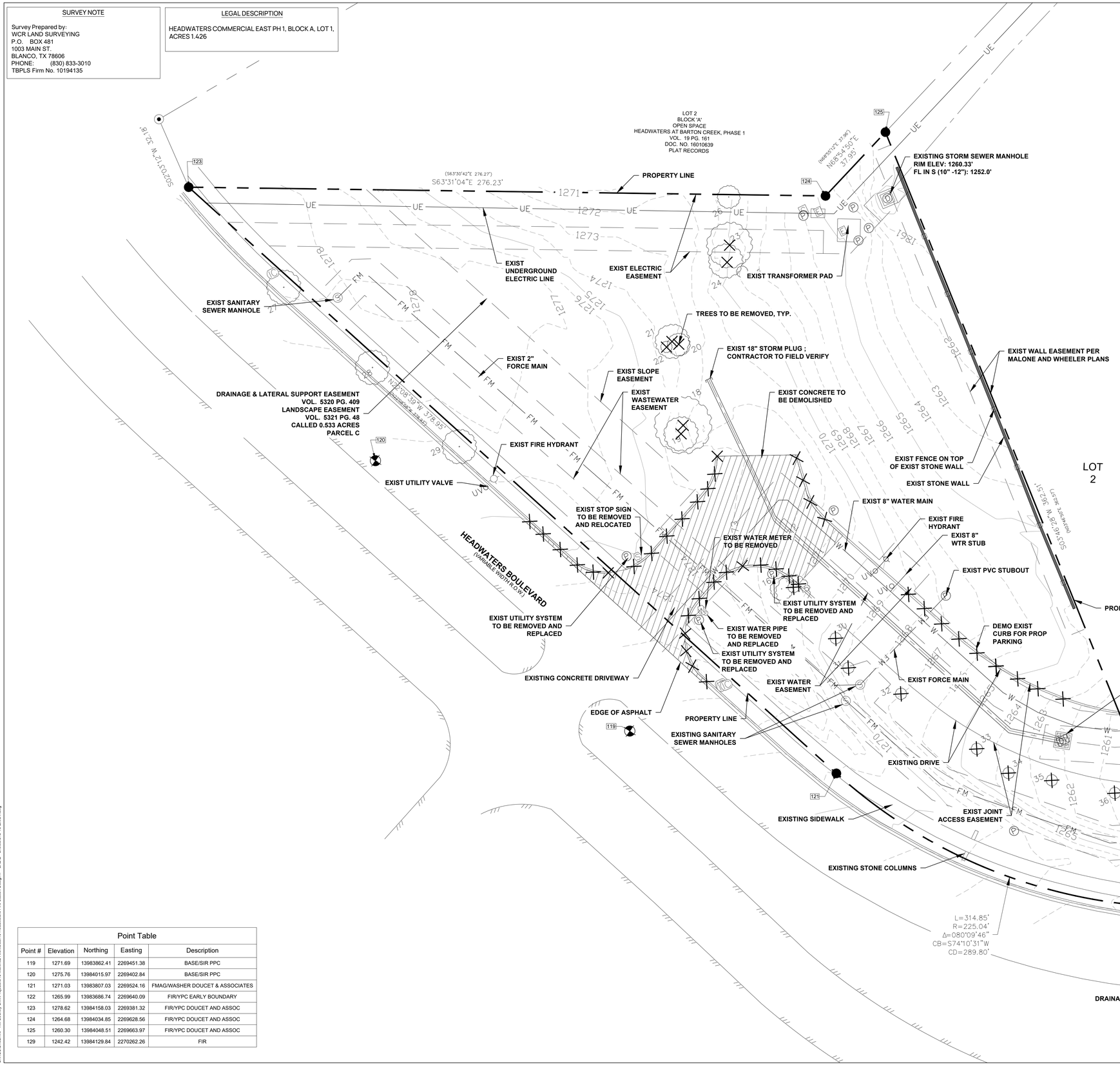
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SURVEY NOTE

Survey Prepared by:
WCR LAND SURVEYING
P.O. BOX 481
1003 MAIN ST.
BLANCO, TX 78606
PHONE: (830) 833-3010
TBPLS Firm No. 10194135

LEGAL DESCRIPTION

HEADWATERS COMMERCIAL EAST PH 1, BLOCK A, LOT 1, ACRES 1.426



Point Table				
Point #	Elevation	Northing	Easting	Description
119	1271.69	13983862.41	2269451.38	BASE/SIR PPC
120	1275.76	13984015.97	2269402.84	BASE/SIR PPC
121	1271.03	13983807.03	2269524.16	FMAG/WASHER DOUCET & ASSOCIATES
122	1265.99	13983686.74	2269640.09	FIR/YPC EARLY BOUNDARY
123	1278.62	13984158.03	2269381.32	FIR/YPC DOUCET AND ASSOC
124	1264.68	13984034.85	2269628.56	FIR/YPC DOUCET AND ASSOC
125	1260.30	13984048.51	2269663.97	FIR/YPC DOUCET AND ASSOC
129	1242.42	13984129.84	2270262.26	FIR

SCALE: 1"=20'

LEGEND

- PROPERTY BOUNDARY
- LOT LINE
- EASEMENT LINE
- SITE BENCHMARK
- PROPERTY CORNER
- GAS LINE
- OVERHEAD ELECTRIC LINE
- FENCE LINE
- EXISTING TREE
- SIGN
- POWER POLE
- SITE DEMOLITION
- EXISTING MINOR CONTOUR
- EXISTING MAJOR CONTOUR
- EXISTING WATER LINE
- EXISTING FORCE MAIN

DEMOLITION PLAN NOTES:

1. PRIOR TO START OF CONSTRUCTION ACTIVITIES, CONTRACTOR SHALL CONSTRUCT ALL REQUIRED EROSION CONTROL AND TREE PROTECTION MEASURES AS INDICATED ON STORM WATER POLLUTION PREVENTION PLAN AND/OR LANDSCAPE ARCHITECT DRAWINGS.
2. PRIOR TO START OF CONSTRUCTION, CONTRACTOR SHALL COORDINATE WITH LOCAL TV, ELECTRIC, GAS, WATER, SEWER AND PHONE PROVIDERS AS REQUIRED TO PROVIDE SERVICE TO THE PROJECT SITE.
3. CONTRACTOR SHALL CONTACT 1-800-DIG-TESS A MINIMUM OF 48 HOURS PRIOR TO THE START OF CONSTRUCTION ACTIVITY (ON OR OFFSITE) FOR THE PROJECT.
4. ANY GARBAGE OR DEBRIS SHALL BE REMOVED FROM THE PROJECT SITE.
5. REMOVAL , RELOCATION OR DISCONNECTION FROM A UTILITY SERVICE (ELECTRIC, GAS, WATER, SEWER, CABLE, TV, FIBER, ETC.) SHALL BE COORDINATED WITH APPROPRIATE UTILITY SERVICE PROVIDER PRIOR TO START OF DEMOLITION ACTIVITIES.
6. CONTRACTOR SHALL PROPERLY DISPOSE OF ANY HAZARDOUS MATERIALS IN ACCORDANCE WITH LOCAL, STATE AND FEDERAL REGULATIONS. FURTHERMORE, HAZARDOUS MATERIALS SHALL BE HANDLED BY PROPERLY LICENSED AND TRAINED HAZARDOUS MATERIAL SUB-CONTRACTORS/INDIVIDUALS.
7. CONTRACTOR SHALL COORDINATE ALL REMOVED ITEMS WITH OWNER. CONTRACTOR IS RESPONSIBLE FOR ALL DISPOSAL AND HAULING COSTS AND SHALL COMPLY WITH ALL LOCAL, STATE AND FEDERAL REGULATIONS FOR DISPOSING OF DEMOLISHED MATERIALS.

DIG TESS:

CONTRACTOR SHALL CONTACT 1-800-DIG-TESS A MINIMUM OF 48 HOURS PRIOR TO THE START OF CONSTRUCTION ACTIVITY (ON OR OFFSITE) FOR THE PROJECT.

CAUTION!

CONTRACTOR SHALL EXERCISE CAUTION DURING DEMOLITION, EXCAVATION, CLEARING AND CONSTRUCTION ACTIVITIES NEAR OVERHEAD ELECTRIC LINES. CONTRACTOR SHALL COMPLY WITH ALL SAFETY REGULATIONS WHEN OPERATING NEAR POWER LINES.

TRENCH EXCAVATION SAFETY PROTECTION

CONTRACTOR, SUB-CONTRACTOR AND/OR CONTRACTOR'S INDEPENDENTLY RETAINED EMPLOYEE, OR STRUCTURAL/GEOTECHNICAL/SAFETY EQUIPMENT CONSULTANT, SHALL REVIEW THESE PLANS AND GEOTECHNICAL REPORT, THE INSTALLATION SITES WITHIN THE PROJECT AREA IN ORDER TO IMPLEMENT CONTRACTORS TRENCH EXCAVATION SAFETY PROTECTION PLAN, SYSTEMS AND/OR PROCEDURES SHALL PROVIDE FOR ADEQUATE TRENCH SAFETY PROTECTION THAT COMPLY WITH AS A MINIMUM OSHA STANDARDS, SPECIFICALLY , CONTRACTOR AND/OR RETAINED EMPLOYEE OR SAFETY CONSULTANT SHALL IMPLEMENT A TRENCH SAFETY PLAN IN ACCORDANCE WITH OSHA REGULATIONS GOVERNING THE PRESENCE AND ACTIVITIES OF INDIVIDUALS WORKING IN AND/OR AROUND THE EXPOSED TRENCH EXCAVATION.

Hill Country Civil
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Phone 877-669-5078 or 210-378-4363
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ROSS T. CORDER
STATE OF TEXAS
125401
LICENSED PROFESSIONAL ENGINEER
08/18/2025

No.	Date	Revisions

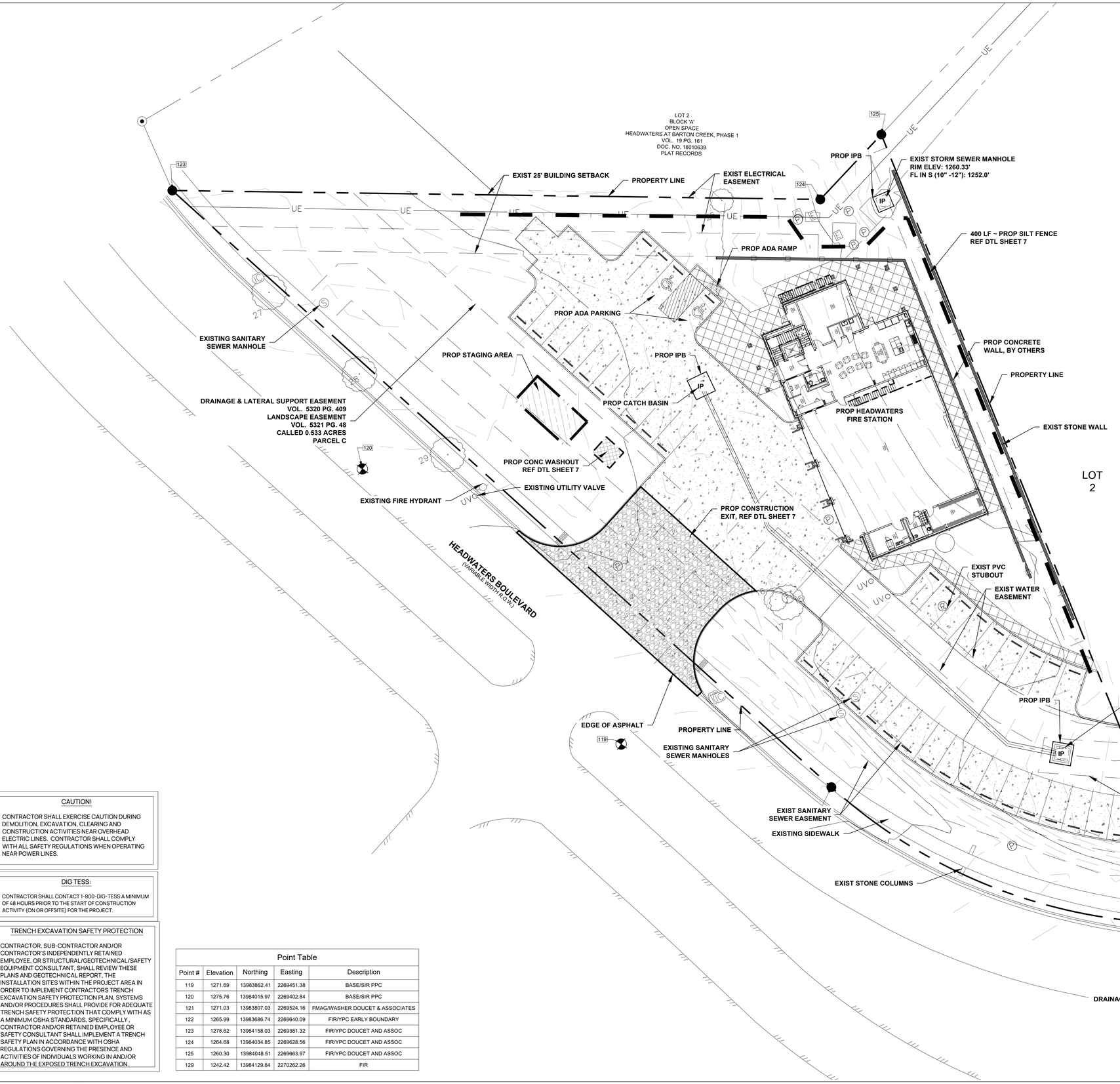
HEADWATERS FIRE STATION
DRIPPING SPRINGS, TEXAS
DRAWN BY: RTC
HCC JOB No. 013-10

EXISTING CONDITIONS AND DEMOLITION PLAN

SHEET No.
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OF 24

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CAUTION!

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Point Table

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129	1242.42	13984129.84	2270262.26	FIR

EROSION CONTROL PLAN NOTES:

1. CONTRACTOR SHALL FILE STORM WATER POLLUTION PREVENTION PLAN WITH THE TEXAS COMMISSION ON ENVIRONMENTAL QUALITY AND POST A SITE NOTICE AT LEAST 48 HOURS PRIOR TO START OF CONSTRUCTION.
2. CONTRACTOR SHALL FILE THE NOTICE OF INTENT AND NOTICE OF TERMINATION WITH THE TEXAS COMMISSION ON ENVIRONMENTAL QUALITY PRIOR TO START OF CONSTRUCTION AND AT THE END OF THE PROJECT.
3. ALL STRUCTURAL BMP'S SHALL BE INSTALLED PRIOR TO START OF ANY DISTURBANCE OR CONSTRUCTION ACTIVITY ONSITE, INCLUDING BUT NOT LIMITED TO EXCAVATION, CLEARING, GRUBBING, OR GRADING.
4. CONTRACTOR SHALL INSTALL BMP'S AS REQUIRED BY PHASE FOR THE PROJECT OR AS SPECIFICALLY INDICATED PER PLAN. ALL PHASING OR ADJUSTMENTS TO THE EROSION CONTROL PLAN SHALL TAKE IN TO ACCOUNT UP-GRADIENT STORM WATER FLOWS FOR PLACEMENT OF BMP'S.
5. CONTRACTOR SHOULD IN BEST EFFORT, ONLY DISTURB AREAS WHERE CONSTRUCTION ACTIVITY IS REQUIRED IN AN EFFORT TO REDUCE POTENTIAL OF STORM WATER POLLUTION RUNOFF FROM THE SITE.
6. CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING AND INSPECTING STRUCTURAL BMP'S DAILY AND ESPECIALLY AFTER STORM EVENTS TO ENSURE BMP'S ARE FUNCTIONING PROPERLY. THE CONTRACTOR MAY MODIFY CONTROLS AS REQUIRED TO PREVENT SEDIMENT RUNOFF DOWNSTREAM IMPACTS.
7. CONTRACTOR SHALL USE DUST CONTROL MEASURES DURING CONSTRUCTION SUCH AS IRRIGATION TRUCKS AND MULCHING AS REQUIRED.
8. CONTRACTOR SHALL CLEAN UP ANY SEDIMENTATION RUNOFF OR SPOILS THAT MIGRATE ONTO ADJACENT ROADWAYS AFTER A STORM EVENT OR AS REQUIRED BY THE LOCAL INSPECTOR.
9. CONTRACTOR SHALL SEED OR SOD DISTURBED AREAS WITH BERMUDA GRASS OR SOME OTHER FORM OF HARD GRASS AS SOON AS POSSIBLE TO AVOID SOIL RUNOFF AFTER CONSTRUCTION IN THAT AREA IS COMPLETED.
10. TREES PROPOSED TO BE PRESERVED SHALL BE PROTECTED DURING CONSTRUCTION AND MUST MEET THE FOLLOWING CRITERIA.
    - 10.1. MINIMUM OF 50% OF THE CRITICAL ROOT ZONE MUST BE PRESERVED AT NATURAL GRADE, WITH NATURAL GROUND COVER.
    - 10.2. CUT OR FILL IS LIMITED TO 4-INCHES FROM THE ¼ CRITICAL ROOT ZONE TO THE ½ CRITICAL ROOT ZONE.
    - 10.3. NO CUT OR FILL IS PERMITTED WITHIN THE ½ CRITICAL ROOT ZONE.
11. BMP'S MAY ONLY BE REMOVED ONCE THE SITE ACHIEVES 80% RE-VEGETATION IN DISTURBED AREAS.

SEQUENCE OF MAJOR CONSTRUCTION ACTIVITIES:

1. INSTALLATION OF TEMPORARY BMPS.
2. SITE CLEARING AND GRUBBING.
3. SITE DEMOLITION ACTIVITIES.
4. ROUGH SITE GRADING AND SUBGRADE PREPARATION.
5. STORMWATER FACILITIES CONSTRUCTED.
6. UTILITY CONSTRUCTION.
7. FINAL SITE GRADING AND SUBGRADE PREPARATION.
8. PAVEMENT INSTALLATION, INCLUDING BASE MATERIALS AND CONCRETE/ASPHALT PAVEMENT AND CURBS.
9. BUILDING PAD CONSTRUCTION.
10. BUILDING CONSTRUCTION.
11. LANDSCAPING AND IRRIGATION CONSTRUCTION.
12. SITE STABILIZATION, REVEGETATION OF DISTURBED AREAS.
13. SITE CLEANUP AND REMOVAL OF TEMPORARY BMPS.

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Ross T. Corder
STATE OF TEXAS
ROSS T. CORDER
125401
LICENSED
PROFESSIONAL ENGINEER
08/18/2025

App.

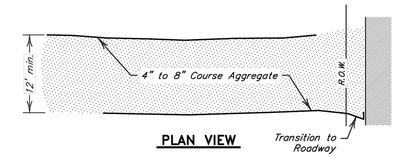
No.	Date	Revisions

HEADWATERS FIRE STATION
DRIPPING SPRINGS, TEXAS
HCC JOB No. 013-10
DRAWN BY: RTC

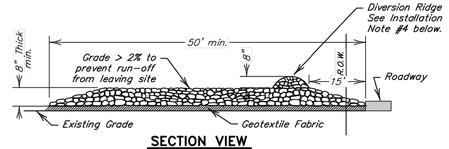
EROSION CONTROL PLAN

SHEET No.
6
OF 24

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PLAN VIEW



SECTION VIEW

MATERIALS:

1. The aggregate should consist of four (4) inch to eight (8) inch washed stone over a stable foundation as specified in the plan.
2. The aggregate should be placed with a minimum thickness of eight (8) inches.
3. The geotextile fabric should be designed specifically for use as a soil filtration media with an approximate weight of 6 oz./sq.yd., a Mullen burst rating of 140 #/sq.in., and an equivalent opening size greater that a U.S. Sieve No. 50.
4. If a washing facility is required, a level area with a minimum of four (4) inch diameter washed stone or commercial rock should be included in the plans. Wastewater should be diverted to a sediment trap or basin.

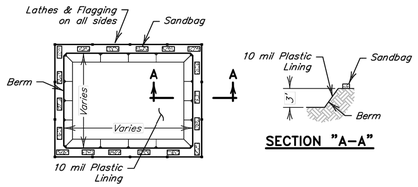
INSTALLATION:

1. Avoid curves on public roads and steep slopes. Remove vegetation and other objectionable material from the foundation area. Grade a crown in the center of the foundation for positive drainage.
2. The minimum width of the facility should be either twelve (12) feet or the full width of Exit roadway, whichever is greater.
3. The Construction Entrance should be at least fifty (50) feet long.
4. If the slope toward the road exceeds two (2) percent, construct a ridge six (6) inches to eight (8) inches high with three to one (3H:1V) side slopes across the foundation approximately fifteen (15) feet from the Entrance to divert runoff away from the public road.
5. Place geotextile fabric and grade foundation to improve stability, especially where wet conditions are anticipated.
6. Place stone to dimensions and grade shown on plans. Leave the surface smooth and sloped for drainage.
7. Divert all surface runoff and drainage from the stone pad to a sediment trap or basin.
8. Install a pipe under pad as needed to maintain proper public road drainage.

INSPECTION AND MAINTENANCE GUIDELINES:

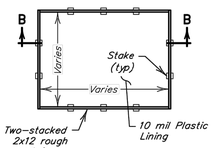
1. The Entrance should be maintained in a condition which will prevent the tracking and flowing of sediment into public right-of-way. This may require a periodic top dressing of additional stone as conditions demand and repairing and/or cleaning out any measures used to trap sediment.
2. All sediment spilled, dropped, washed or tracked onto the public right-of-way should be removed immediately by the Contractor.
3. When necessary vehicular wheels should be cleaned to remove sediment prior to entrance onto public right-of-way.
4. When washing is required it should be done on an area stabilized with crushed stone that drains into an approved sediment trap or sediment basin.
5. All sediment should be prevented from entering any storm drain, ditch, or water course by using approved methods.

TEMPORARY CONSTRUCTION ENTRANCE/EXIT
(NTS)

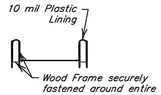


PLAN VIEW
TYPE: "BELOW GRADE"

SECTION "A–A"



PLAN VIEW
TYPE: "ABOVE GRADE"

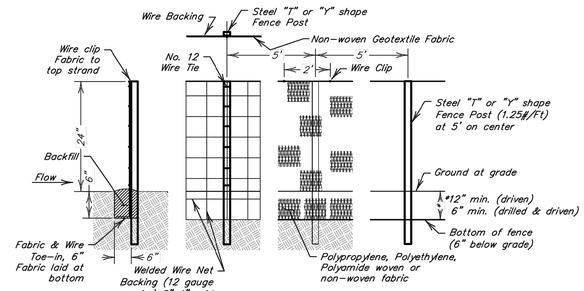


SECTION "B–B"

NOTES:

1. Locate washout area at least 50 feet from sensitive features, storm drains, open ditches, or water bodies. Do not allow runoff from this area by constructing a temporary pit or bermed area large enough for liquid and solid waste.
2. Wash out wastes into the temporary pit where the concrete can set, be broken up, and then disposed properly.
3. Below grade concrete washout facilities are typical. These consist of a lined excavation sufficiently large to hold expected volume of washout material. Above grade facilities are used if excavation is not practical. Temporary concrete washout facility (type above grade) should be constructed as shown on the details at the end of this section, with sufficient quantity and volume to contain all liquid and concrete waste generated by washout operations. Plastic lining material should be a minimum of 10 mil in polyethylene sheeting and should be free of holes, tears, or other defects that compromise the impermeability of the material.
4. When temporary concrete washout facilities are no longer required for the work, the hardened concrete should be removed and disposed of. Materials used to construct temporary concrete washout facilities should be removed from the site of the work and disposed of. Holes, depressions or other ground disturbance caused by the removal of the temporary concrete washout facilities should be backfilled and repaired.

CONCRETE WASHOUT AREA
(NTS)



MATERIALS:

1. Silt fence material should be polypropylene, polyethylene or polyamide woven or non–woven fabric. The fabric width should be thirty–six (36) inches with a minimum unit weight of 4.5 oz./sq.yd., a mullen burst strength exceeding 190 #/sq.in., ultraviolet stability exceeding 70% and minimum apparent opening size of U.S. Sieve No. 30.
2. Fence posts should be made of hot rolled steel, at least four (4) feet long with Tee or Y–bar cross section, surface painted or galvanized, minimum nominal weight 1.25 #/ft, and Brindell hardness exceeding 140.
3. Woven wire backing to support the fabric should be galvanized twelve (12) gauge minimum two by four (2x4) inch welded wire.

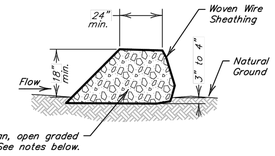
INSTALLATION:

1. Steel posts which support the silt fence should be installed on a slight angle toward the anticipated runoff source. Posts must be embedded a minimum of one (1) foot deep and spaced not more than eight (8) feet on center. Where water concentrates the maximum spacing should be six (6) feet.
2. Lay out fencing down–slope of disturbed area following the contour as closely as possible. The fence should be sited so that the maximum drainage area is one–quarter (1/4) acre per one–hundred (100) feet of fence.
3. The toe of the silt fence should be trenched in with a spade or mechanical trencher so that the down–slope face of the trench is flat and perpendicular to the line of flow. Where fence cannot be trenched in (e.g. pavement or rock outcrop) weight fabric flap with three (3) inches of pea gravel on uphill side to prevent flow from seeping under the fence.
4. The trench must be a minimum of six (6) inches deep and six (6) inches wide to allow for the silt fence fabric to be laid in the ground and backfilled with compacted material.
5. Silt fence should be securely fastened to each steel support post or to woven wire which is in turn attached to the steel fence post. There should be a securely fastened three (3) foot overlap where ends of the fabric meet.
6. Silt fence should be removed when the site is completely stabilized so as not to block or impede storm flow or drainage.

INSPECTION AND MAINTENANCE GUIDELINES:

1. Inspect all fencing weekly and after any rainfall event.
2. Remove sediment when buildup reaches 6 inches.
3. Replace any torn fabric or install a second line of fencing parallel to the torn section.
4. During the course of construction activities, Contractor shall replace or repair any crushed, collapsed sections. If a section of fence is obstructing vehicular access, consider relocating it to a spot where it will provide equal protection but will not obstruct vehicles. A triangular filter dike may be preferable to a silt fence at common vehicle access points.
5. When construction is complete, the sediment should be disposed of in a manner that will not cause additional siltation and the prior location of the silt fence should be re–vegetated. The fence itself should be disposed of in an approved landfill.

SILT FENCE
(NTS)



MATERIALS:

1. The berm structure should be secured with a woven wire sheathing having a maximum opening of one (1) inch and a minimum wire diameter of 20 gauge galvanized and should be secured with shoat rings.
2. Clean, open graded three (3) inch to five (5) inch diameter rock should be used, except in areas where high velocities or large volumes of flow are expected five (5) inch to eight (8) inch diameter rocks may be used.

INSTALLATION:

1. Lay out the woven wire sheathing perpendicular to the flow line. The sheathing should be twenty (20) gauge woven wire mesh with one (1) inch openings.
2. Berm should have a top width of two (2) feet minimum with side slopes being two to one (2H:1V) ratio slope or flatter.
3. Place the rock along the sheathing as shown above to a height not less than eighteen (18) inches.
4. Wrap the wire sheathing around the rock and secure with tie wire so that the ends of the sheathing overlap at least two (2) inches. The berm should retain its shape when walked upon.
5. Berm should be built along the contour at zero percent grade or as near as possible.
6. The ends of the berm should be tied into existing up–slope grade and the berm should be buried in a trench approximately three (3) to four (4) inches deep to prevent failure of the control.

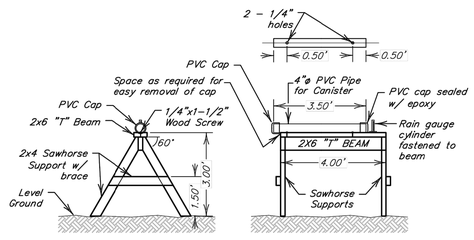
INSPECTION AND MAINTENANCE GUIDELINES:

1. Inspection should be made weekly and after each rainfall by the responsible party. For installations in stream beds additional daily inspections should be made.
2. Remove sediment and other debris when buildup reaches six (6) inches and dispose of the accumulated silt in a approved manner that will not cause any additional siltation.
3. Repair any loose wire sheathing.
4. The berm should be reshaped as needed during inspection.
5. The berm should be replaced when the structure ceases to function as intended due to silt accumulation among the rocks, washout, construction traffic damage, etc.
6. The rock berm should be left in place until all upstream areas are stabilized and accumulated silt is removed.

ROCK BERM
(NTS)

GENERAL S.W.P.P.P. NOTES:

1. The location of Erosion and Sedimentation Control facilities are approximate. Contractor may modify, relocate, or add facilities with prior authorization from the Engineer.
2. Where a note or detail differs from the official Texas Commission On Environmental Quality (TCEQ) latest edition regulations, the TCEQ note or detail shall apply.



SECTION VIEW PROFILE VIEW

NOTES:

1. This canister shall be used to store the complete Storm Water Pollution Prevention Plan (SWPPP) and all other related documents so that they are available on–site for the Inspector.
2. The canister shall be located on solid level ground adjacent to the construction entrance and on the opposite side of the Concrete Washout Area.

S.W.P.P.P. DOCUMENT CONTAINER
(NTS)

GUIDELINES FOR INSTALLATION:

1. Preserve natural vegetation or planting in clumps, blocks or strips in generally the easiest and most successful method.
2. All unstable steep slopes should be left in natural vegetation.
3. Fence or flag clearing limits and keep all equipment and construction debris out of the natural areas.
4. Keep all excavations outside the dripline of trees and shrubs.
5. Debris or extra soil should be pushed into the buffer zone area because it will cause from burying and smothering.
6. The minimum width of a vegetative buffer used for sediment control should be fifty (50) feet.

INSPECTION AND MAINTENANCE GUIDELINES:

Inspection and careful maintenance are important to ensure healthy vegetation. The need for routine maintenance such as mowing, fertilizing, irrigating, and weed and pest control will depend on the species of plants and trees, soil types, location, and climatic conditions. County agricultural extension agencies are a good source of this type of information.

VEGETATIVE BUFFER
(NTS)

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY
CONTRIBUTING ZONE PLAN
GENERAL CONSTRUCTION NOTES

EDWARDS AQUIFER PROTECTION PROGRAM CONSTRUCTION NOTES - LEGAL DISCLAIMER

THE FOLLOWING/LISTED "CONSTRUCTION NOTES" ARE INTENDED TO BE ADVISORY IN NATURE ONLY AND DO NOT CONSTITUTE AN APPROVAL OR CONDITIONAL APPROVAL BY THE EXECUTIVE DIRECTOR (ED), NOR DO THEY CONSTITUTE A COMPREHENSIVE LISTING OF RULES OR CONDITIONS TO BE FOLLOWED DURING CONSTRUCTION. FURTHER ACTIONS MAY BE REQUIRED TO ACHIEVE COMPLIANCE WITH TCEQ REGULATIONS FOUND IN TITLE 30, TEXAS ADMINISTRATIVE CODE (TAC), CHAPTERS 213 AND 217, AS WELL AS LOCAL ORDINANCES AND REGULATIONS PROVIDING FOR THE PROTECTION OF WATER QUALITY. ADDITIONALLY, NOTHING CONTAINED IN THE FOLLOWING/LISTED "CONSTRUCTION NOTES" RESTRICTS THE POWERS OF THE ED, THE COMMISSION OR ANY OTHER GOVERNMENTAL ENTITY TO PREVENT, CORRECT, OR CURTAIL ACTIVITIES THAT RESULT OR MAY RESULT IN POLLUTION OF THE EDWARDS AQUIFER OR HYDROLOGICALLY CONNECTED SURFACE WATERS. THE HOLDER OF ANY EDWARDS AQUIFER PROTECTION PLAN CONTAINING "CONSTRUCTION NOTES" IS STILL RESPONSIBLE FOR COMPLIANCE WITH TITLE 30, TAC, CHAPTERS 213 OR ANY OTHER APPLICABLE TCEQ REGULATION, AS WELL AS ALL CONDITIONS OF AN EDWARDS AQUIFER PROTECTION PLAN THROUGH ALL PHASES OF PLAN IMPLEMENTATION. FAILURE TO COMPLY WITH ANY CONDITION OF THE ED'S APPROVAL, WHETHER OR NOT IN CONTRADICTION OF ANY "CONSTRUCTION NOTES," IS A VIOLATION OF TCEQ REGULATIONS AND ANY VIOLATION IS SUBJECT TO ADMINISTRATIVE RULES, ORDERS, AND PENALTIES AS PROVIDED UNDER TITLE 30, TAC § 213.10 (RELATING TO ENFORCEMENT). SUCH VIOLATIONS MAY ALSO BE SUBJECT TO CIVIL PENALTIES AND INJUNCTION. THE FOLLOWING/LISTED "CONSTRUCTION NOTES" IN NO WAY REPRESENT AN APPROVED EXCEPTION BY THE ED TO ANY PART OF TITLE 30 TAC, CHAPTERS 213 AND 217, OR ANY OTHER TCEQ APPLICABLE REGULATION

1. A WRITTEN NOTICE OF CONSTRUCTION MUST BE SUBMITTED TO THE TCEQ REGIONAL OFFICE AT LEAST 48 HOURS PRIOR TO THE START OF ANY GROUND DISTURBANCE OR CONSTRUCTION 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 SHOULD BE PROVIDED WITH COMPLETE COPIES OF THE APPROVED CONTRIBUTING ZONE PLAN (CZP) AND THE TCEQ LETTER INDICATING THE SPECIFIC CONDITIONS OF ITS APPROVAL. DURING THE COURSE OF THESE REGULATED ACTIVITIES, THE CONTRACTOR(S) SHOULD KEEP COPIES OF THE APPROVED PLAN AND APPROVAL LETTER ON-SITE.
3. NO HAZARDOUS SUBSTANCE STORAGE TANK SHALL BE INSTALLED WITHIN 150 FEET OF A WATER SUPPLY SOURCE, DISTRIBUTION SYSTEM, WELL, OR SENSITIVE FEATURE.

4. PRIOR TO BEGINNING ANY CONSTRUCTION ACTIVITY, ALL TEMPORARY EROSION AND SEDIMENTATION (E&S) CONTROL MEASURES MUST BE PROPERLY INSTALLED AND MAINTAINED IN ACCORDANCE WITH THE 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.

5. 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.
6. SEDIMENT MUST BE REMOVED FROM THE SEDIMENT TRAPS OR SEDIMENTATION BASINS WHEN IT OCCUPIES 50% OF THE BASIN'S DESIGN CAPACITY.
7. LITTER, CONSTRUCTION DEBRIS, AND CONSTRUCTION CHEMICALS EXPOSED TO STORMWATER SHALL BE PREVENTED FROM BEING DISCHARGED OFFSITE.
8. ALL EXCAVATED MATERIAL THAT WILL BE STORED ON-SITE MUST HAVE PROPER E&S CONTROLS.
9. IF PORTIONS OF THE SITE WILL HAVE A CEASE IN CONSTRUCTION ACTIVITY LASTING LONGER THAN 14 DAYS, SOIL TCEQ-0592A (REV. JULY 15, 2015) PAGE 2 OF 2

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.

10. THE FOLLOWING RECORDS SHOULD 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.
11. THE HOLDER OF ANY APPROVED CZP 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 BEST MANAGEMENT PRACTICES (BMPS) OR STRUCTURE(S), INCLUDING BUT NOT LIMITED TO TEMPORARY OR PERMANENT PONDS, DAMS, BERMS, SILT FENCES, AND DIVERSIONARY STRUCTURES;

B. ANY CHANGE IN THE NATURE OR CHARACTER OF THE REGULATED ACTIVITY FROM THAT WHICH WAS ORIGINALLY APPROVED;
C. ANY CHANGE THAT WOULD SIGNIFICANTLY IMPACT THE ABILITY TO PREVENT POLLUTION OF THE EDWARDS AQUIFER; OR
D. ANY DEVELOPMENT OF LAND PREVIOUSLY IDENTIFIED AS UNDEVELOPED IN THE APPROVED CONTRIBUTING ZONE PLAN.

Austin Regional Office
12100 Park 35 Circle, Building A
Austin, Texas 78753-1808
Phone (512) 339-2929
Fax (512) 339-3795

San Antonio Regional Office
14250 Judson Road
San Antonio, Texas 78233-4480
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RUSS T. CORDER
STATE OF TEXAS
RUSS T. CORDER
125401
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PROFESSIONAL ENGINEER
08/18/2025

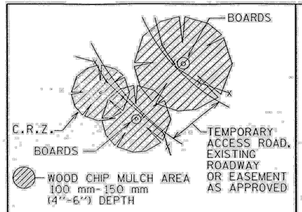
No.	Date	Revisions	App.

HEADWATERS FIRE STATION
DRIPPING SPRINGS, TEXAS
DRAWN BY: RTC
HCC JOB No. 013-10

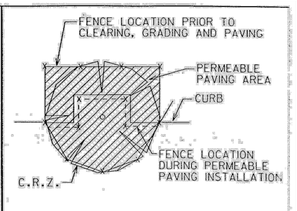
EROSION CONTROL DETAILS (1 OF 2)

SHEET No.
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OF 24

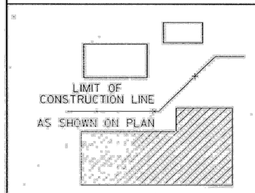
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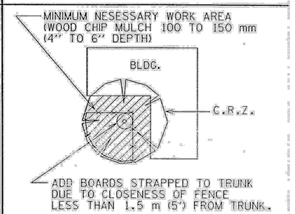
LINEAR CONSTRUCTION THROUGH TREES



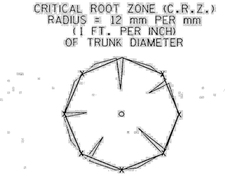
TREES IN PAVING AREA



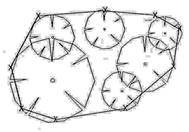
NATURAL AREAS



TREES NEAR CONSTRUCTION ACTIVITY

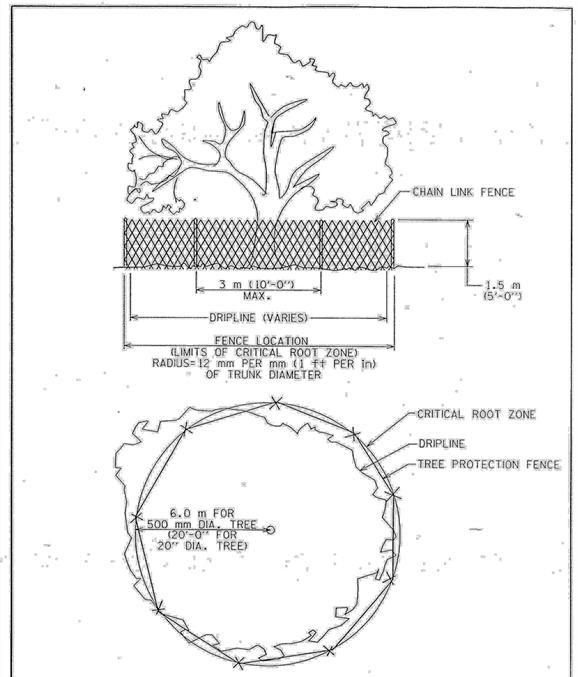


INDIVIDUAL TREE

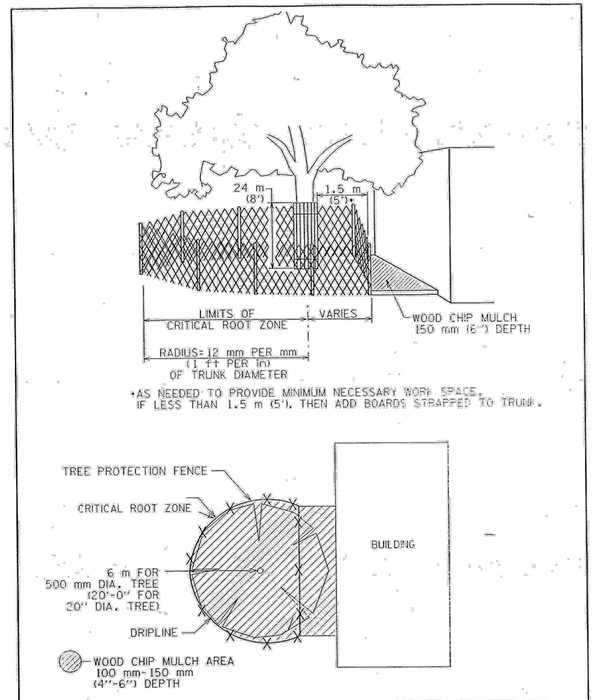


GROUP OF TREES

CITY OF AUSTIN WATERSHED PROTECTION DEPARTMENT	TREE PROTECTION FENCE LOCATIONS	
11/15/00 ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 610S-1



CITY OF AUSTIN WATERSHED PROTECTION DEPARTMENT	TREE PROPTECTION FENCE TYPE A - CHAIN LINK	
11/15/00 ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 610S-2



CITY OF AUSTIN WATERSHED PROTECTION DEPARTMENT	TREE PROTECTION FENCE MODIFIED TYPE A - CHAIN LINK	
11/15/00 ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 610S-4

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08/18/2025

No.	Date	Revisions	App.

HEADWATERS FIRE STATION
DRIPPING SPRINGS, TEXAS
HCC JOB No. 013-10
DRAWN BY: RTC

EROSION CONTROL DETAILS (2 OF 2)

SHEET No.
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OF 24

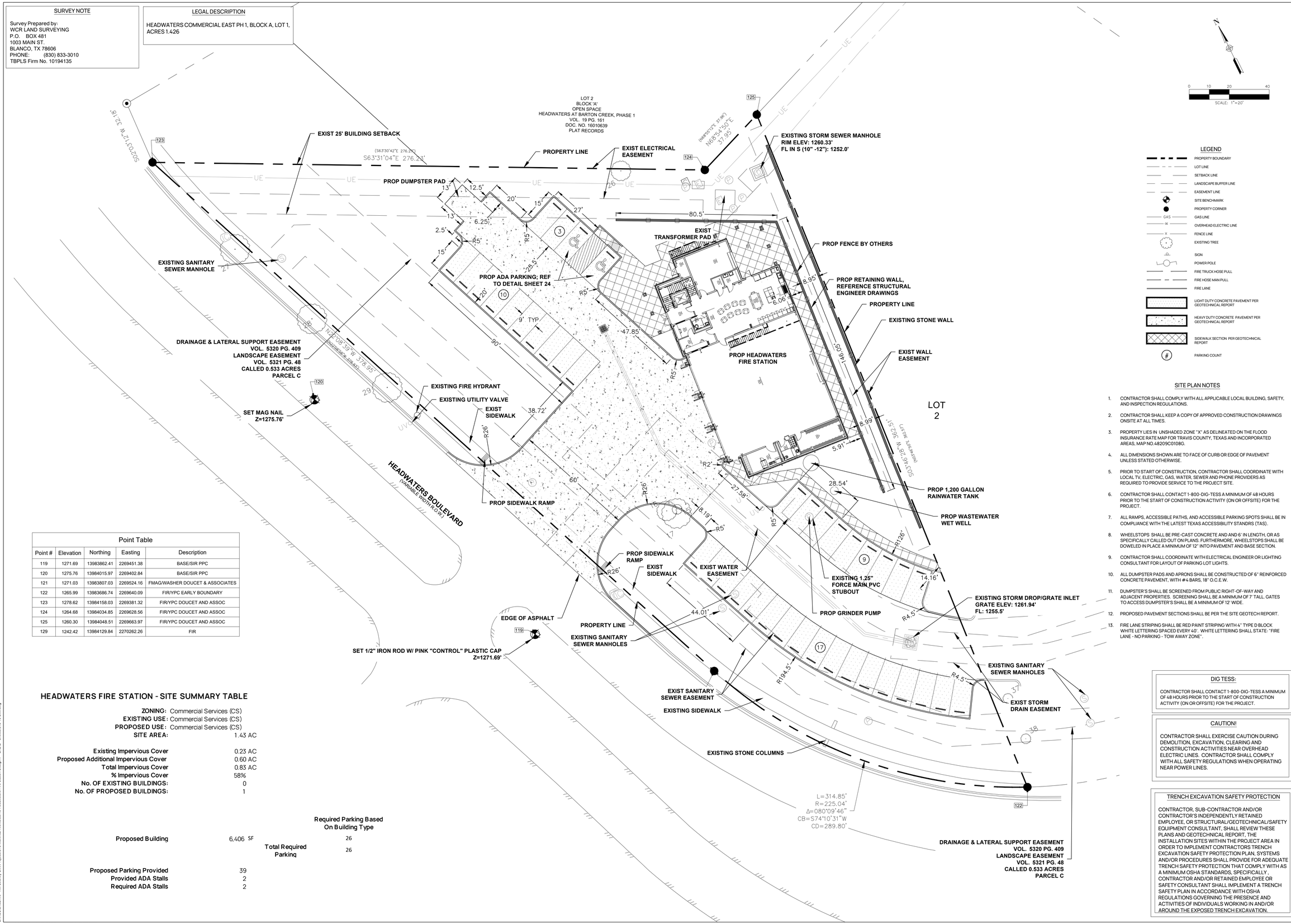
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SURVEY NOTE

Survey Prepared by:
WCR LAND SURVEYING
P.O. BOX 481
1003 MAIN ST.
BLANCO, TX 78606
PHONE: (830) 833-3010
TBPLS Firm No. 10194135

LEGAL DESCRIPTION

HEADWATERS COMMERCIAL EAST PH 1, BLOCK A, LOT 1, ACRES 1.426



Point Table				
Point #	Elevation	Northing	Easting	Description
119	1271.69	13983862.41	2269451.38	BASE/SIR PPC
120	1275.76	13984015.97	2269402.84	BASE/SIR PPC
121	1271.03	13983807.03	2269524.16	FMAG/WASHER DOUCET & ASSOCIATES
122	1265.99	13983686.74	2269640.09	FIR/YPC EARLY BOUNDARY
123	1278.62	13984158.03	2269381.32	FIR/YPC DOUCET AND ASSOC
124	1264.68	13984034.85	2269628.56	FIR/YPC DOUCET AND ASSOC
125	1260.30	13984048.51	2269663.97	FIR/YPC DOUCET AND ASSOC
129	1242.42	13984129.84	2270262.26	FIR

HEADWATERS FIRE STATION - SITE SUMMARY TABLE

ZONING:	Commercial Services (CS)
EXISTING USE:	Commercial Services (CS)
PROPOSED USE:	Commercial Services (CS)
SITE AREA:	1.43 AC
Existing Impervious Cover	0.23 AC
Proposed Additional Impervious Cover	0.60 AC
Total Impervious Cover	0.83 AC
% Impervious Cover	58%
No. OF EXISTING BUILDINGS:	0
No. OF PROPOSED BUILDINGS:	1

		Required Parking Based On Building Type
Proposed Building	6,406 SF	26
Total Required Parking		26
Proposed Parking Provided	39	
Provided ADA Stalls	2	
Required ADA Stalls	2	

LEGEND

- PROPERTY BOUNDARY
- LOT LINE
- SETBACK LINE
- LANDSCAPE BUFFER LINE
- EASEMENT LINE
- SITE BENCHMARK
- PROPERTY CORNER
- GAS — GAS LINE
- OE — OVERHEAD ELECTRIC LINE
- X — FENCE LINE
- EXISTING TREE
- SIGN
- POWER POLE
- FIRE TRUCK HOSE PULL
- FIRE HOSE MAN PULL
- FIRE LANE
- LIGHT DUTY CONCRETE PAVEMENT PER GEOTECHNICAL REPORT
- HEAVY DUTY CONCRETE PAVEMENT PER GEOTECHNICAL REPORT
- SIDEWALK SECTION PER GEOTECHNICAL REPORT
- (#) PARKING COUNT

SITE PLAN NOTES

1. CONTRACTOR SHALL COMPLY WITH ALL APPLICABLE LOCAL BUILDING, SAFETY, AND INSPECTION REGULATIONS.
2. CONTRACTOR SHALL KEEP A COPY OF APPROVED CONSTRUCTION DRAWINGS ONSITE AT ALL TIMES.
3. PROPERTY LIES IN UNSHADED ZONE "X" AS DELINEATED ON THE FLOOD INSURANCE RATE MAP FOR TRAVIS COUNTY, TEXAS AND INCORPORATED AREAS, MAP NO.48209C0108G.
4. ALL DIMENSIONS SHOWN ARE TO FACE OF CURB OR EDGE OF PAVEMENT UNLESS STATED OTHERWISE.
5. PRIOR TO START OF CONSTRUCTION, CONTRACTOR SHALL COORDINATE WITH LOCAL TV, ELECTRIC, GAS, WATER, SEWER AND PHONE PROVIDERS AS REQUIRED TO PROVIDE SERVICE TO THE PROJECT SITE.
6. CONTRACTOR SHALL CONTACT 1-800-DIG-TESS A MINIMUM OF 48 HOURS PRIOR TO THE START OF CONSTRUCTION ACTIVITY (ON OR OFFSITE) FOR THE PROJECT.
7. ALL RAMPS, ACCESSIBLE PATHS, AND ACCESSIBLE PARKING SPOTS SHALL BE IN COMPLIANCE WITH THE LATEST TEXAS ACCESSIBILITY STANDRS (TAS).
8. WHEELSTOPS SHALL BE PRE-CAST CONCRETE AND AND 6' IN LENGTH, OR AS SPECIFICALLY CALLED OUT ON PLANS. FURTHERMORE, WHEELSTOPS SHALL BE DOWELED IN PLACE A MINIMUM OF 12" INTO PAVEMENT AND BASE SECTION.
9. CONTRACTOR SHALL COORDINATE WITH ELECTRICAL ENGINEER OR LIGHTING CONSULTANT FOR LAYOUT OF PARKING LOT LIGHTS.
10. ALL DUMPSTER PADS AND APRONS SHALL BE CONSTRUCTED OF 6" REINFORCED CONCRETE PAVEMENT, WITH #4 BARS, 18" O.C.E.W.
11. DUMPSTER'S SHALL BE SCREENED FROM PUBLIC RIGHT-OF-WAY AND ADJACENT PROPERTIES. SCREENING SHALL BE A MINIMUM OF 7' TALL. GATES TO ACCESS DUMPSTER'S SHALL BE A MINIMUM OF 12' WIDE.
12. PROPOSED PAVEMENT SECTIONS SHALL BE PER THE SITE GEOTECH REPORT.
13. FIRE LANE STRIPING SHALL BE RED PAINT STRIPING WITH 4" TYPE D BLOCK WHITE LETTERING SPACED EVERY 40'. WHITE LETTERING SHALL STATE: "FIRE LANE - NO PARKING - TOW AWAY ZONE".

DIG TESS:

CONTRACTOR SHALL CONTACT 1-800-DIG-TESS A MINIMUM OF 48 HOURS PRIOR TO THE START OF CONSTRUCTION ACTIVITY (ON OR OFFSITE) FOR THE PROJECT.

CAUTION!

CONTRACTOR SHALL EXERCISE CAUTION DURING DEMOLITION, EXCAVATION, CLEARING AND CONSTRUCTION ACTIVITIES NEAR OVERHEAD ELECTRIC LINES. CONTRACTOR SHALL COMPLY WITH ALL SAFETY REGULATIONS WHEN OPERATING NEAR POWER LINES.

TRENCH EXCAVATION SAFETY PROTECTION

CONTRACTOR, SUB-CONTRACTOR AND/OR CONTRACTOR'S INDEPENDENTLY RETAINED EMPLOYEE, OR STRUCTURAL/GEOTECHNICAL/SAFETY EQUIPMENT CONSULTANT, SHALL REVIEW THESE PLANS AND GEOTECHNICAL REPORT, THE INSTALLATION SITES WITHIN THE PROJECT AREA IN ORDER TO IMPLEMENT CONTRACTORS TRENCH EXCAVATION SAFETY PROTECTION PLAN. SYSTEMS AND/OR PROCEDURES SHALL PROVIDE FOR ADEQUATE TRENCH SAFETY PROTECTION THAT COMPLY WITH AS A MINIMUM OSHA STANDARDS, SPECIFICALLY , CONTRACTOR AND/OR RETAINED EMPLOYEE OR SAFETY CONSULTANT SHALL IMPLEMENT A TRENCH SAFETY PLAN IN ACCORDANCE WITH OSHA REGULATIONS GOVERNING THE PRESENCE AND ACTIVITIES OF INDIVIDUALS WORKING IN AND/OR AROUND THE EXPOSED TRENCH EXCAVATION.

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ROSS T. CORDER
125401
LICENSED PROFESSIONAL ENGINEER
08/18/2025

No.	Date	Revisions

App.

HEADWATERS FIRE STATION
DRIPPING SPRINGS, TEXAS
HCC JOB No. 013-10
DRAWN BY: RTC

SITE PLAN

SHEET No.
9
OF 24

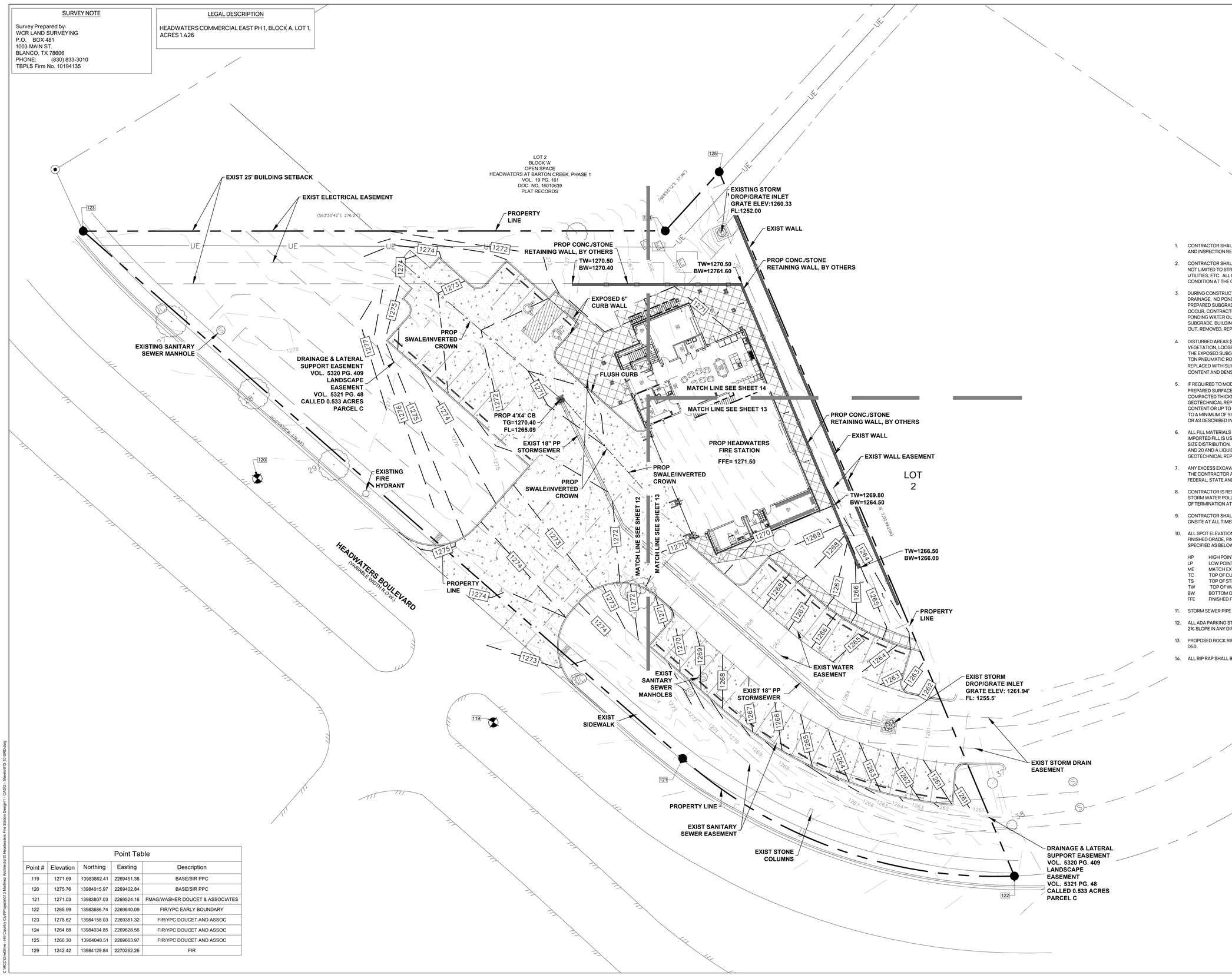
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SURVEY NOTE

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TBPLS Firm No. 10194135

LEGAL DESCRIPTION

HEADWATERS COMMERCIAL EAST PH 1, BLOCK A, LOT 1, ACRES 1.426



Point Table				
Point #	Elevation	Northing	Easting	Description
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129	1242.42	13984129.84	2270262.26	FIR

SCALE: 1"=20'

LEGEND

- EXISTING FLOW ARROW
- EXISTING MINOR CONTOUR
- EXISTING MAJOR CONTOUR
- PROPOSED MINOR CONTOUR
- PROPOSED MAJOR CONTOUR
- PROPOSED FLOW ARROW
- PROPOSED DRAINAGE SWALE
- 600.00 PROPOSED SPOT ELEVATION
- HP=XX.XX HIGH POINT

GRADING NOTES

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4. DISTURBED AREAS (CONSTRUCTION AREAS) SHALL BE STRIPPED OF VEGETATION, LOOSE TOPSOIL, ORGANICS, BRUSH AND DEBRIS. AFTERWARDS, THE EXPOSED SUBGRADE SHALL SHALL BE PROOF ROLLED WITH A MINIMUM 20 TON PNEUMATIC ROLLER. ANY WEAK AREAS DETECTED SHALL BE REMOVED AND REPLACED WITH SUITABLE SOILS OF SIMILAR TYPE (CLASSIFICATION, MOISTURE CONTENT AND DENSITY).
5. IF REQUIRED TO MODIFY EXISTING GRADE, FILL MATERIALS SHOULD BE PLACED ON PREPARED SURFACES IN LIFTS NOT EXCEED 8 INCHES (LOOSE MEASURE), WITH COMPACTED THICKNESS NOT TO EXCEED 6 INCHES OR AS INDICATED IN SITE GEOTECHNICAL REPORT. FILL SHALL BE COMPACTED TO OPTIMUM MOISTURE CONTENT OR UP TO +3 PERCENTAGE POINTS OF OPTIMUM MOISTURE CONTENT TO A MINIMUM OF 95% MAXIMUM DENSITY AS DETERMINED BY TXDOT, TEX-114-E OR AS DESCRIBED IN THE SITE GEOTECHNICAL REPORT.
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LP	LOW POINT
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TS	TOP OF STRUCTURE
TW	TOP OF WALL
BW	BOTTOM OF WALL
FFE	FINISHED FLOOR ELEVATION

11. STORM SEWER PIPE SHALL BE ADS HP STORM, OR AS CALLED OUT ON PLANS.
12. ALL ADA PARKING STALLS, WALKING AISLES AND PATHWAYS SHALL NOT EXCEED 2% SLOPE IN ANY DIRECTION. RAMPS SHALL NOT EXCEED 8.033% SLOPE.
13. PROPOSED ROCK RIP RAP SHALL BE EMBEDDED TO A DEPTH OF 1.5 TIMES THE D50.
14. ALL RIP RAP SHALL BE LINED WITH AN 8 OZ NON-WOVEN GEOTEXTILE FABRIC.

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ROSS T. CORDER 125401 LICENSED PROFESSIONAL ENGINEER STATE OF TEXAS
08/18/2025

No.	Date	Revisions

HEADWATERS FIRE STATION
DRIPPING SPRINGS, TEXAS
DRAWN BY: RTC
HCC JOB No. 013-10

OVERALL GRADING PLAN

SHEET No. 11 OF 24

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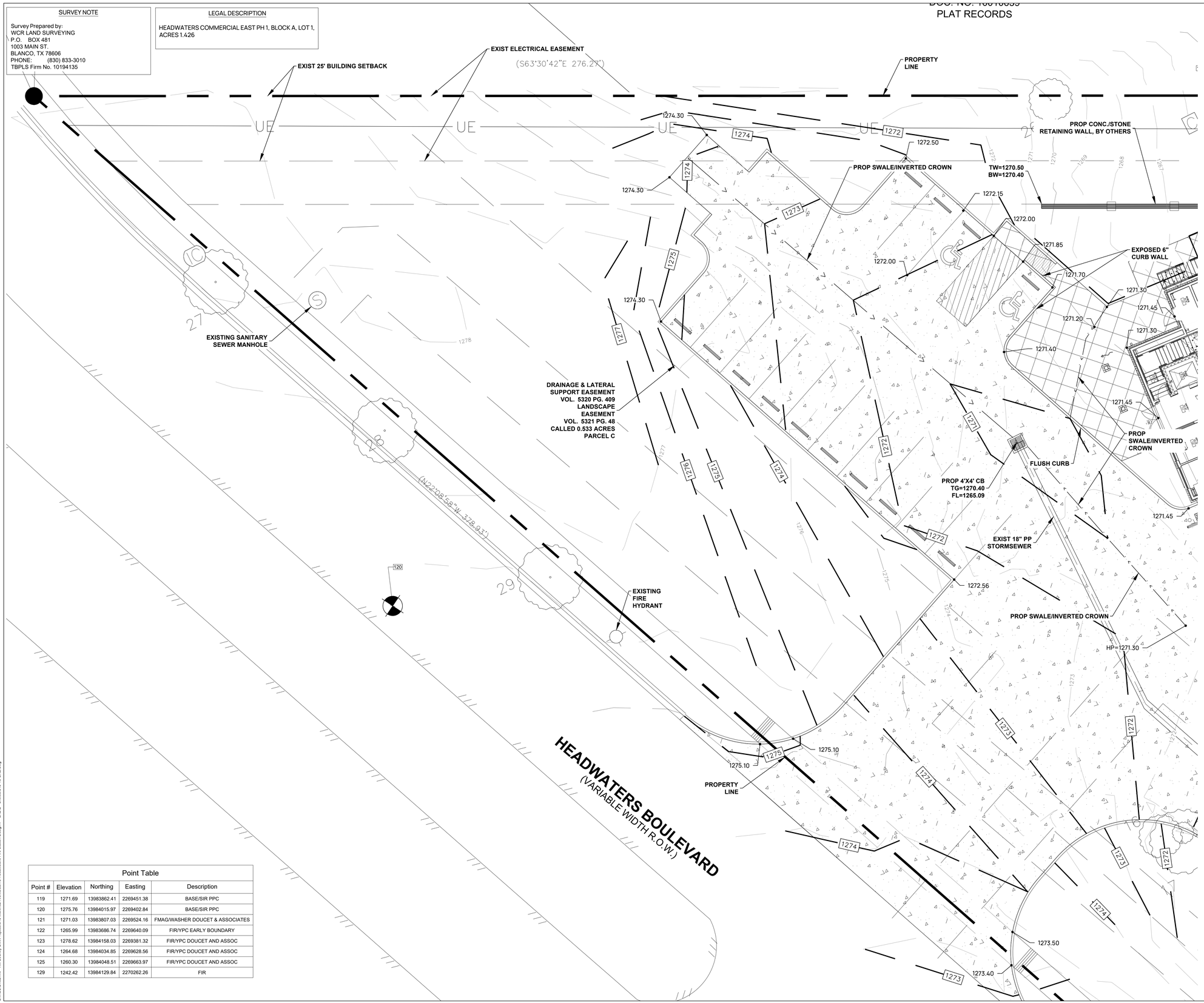
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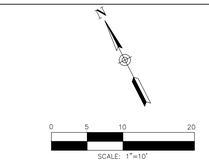
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PHONE: (830) 833-3010
TBPLS Firm No. 10194135

LEGAL DESCRIPTION

HEADWATERS COMMERCIAL EAST PH 1, BLOCK A, LOT 1, ACRES 1.426



Point Table				
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LEGEND

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- HP=XX.XX HIGH POINT

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125401
LICENSED PROFESSIONAL ENGINEER
08/18/2025

No.	Date	Revisions	App.

HEADWATERS FIRE STATION
DRIPPING SPRINGS, TEXAS
HCC JOB No. 013-10
DRAWN BY: RTC

GRADING PLAN SHEET 1

SHEET No.
12
OF 24

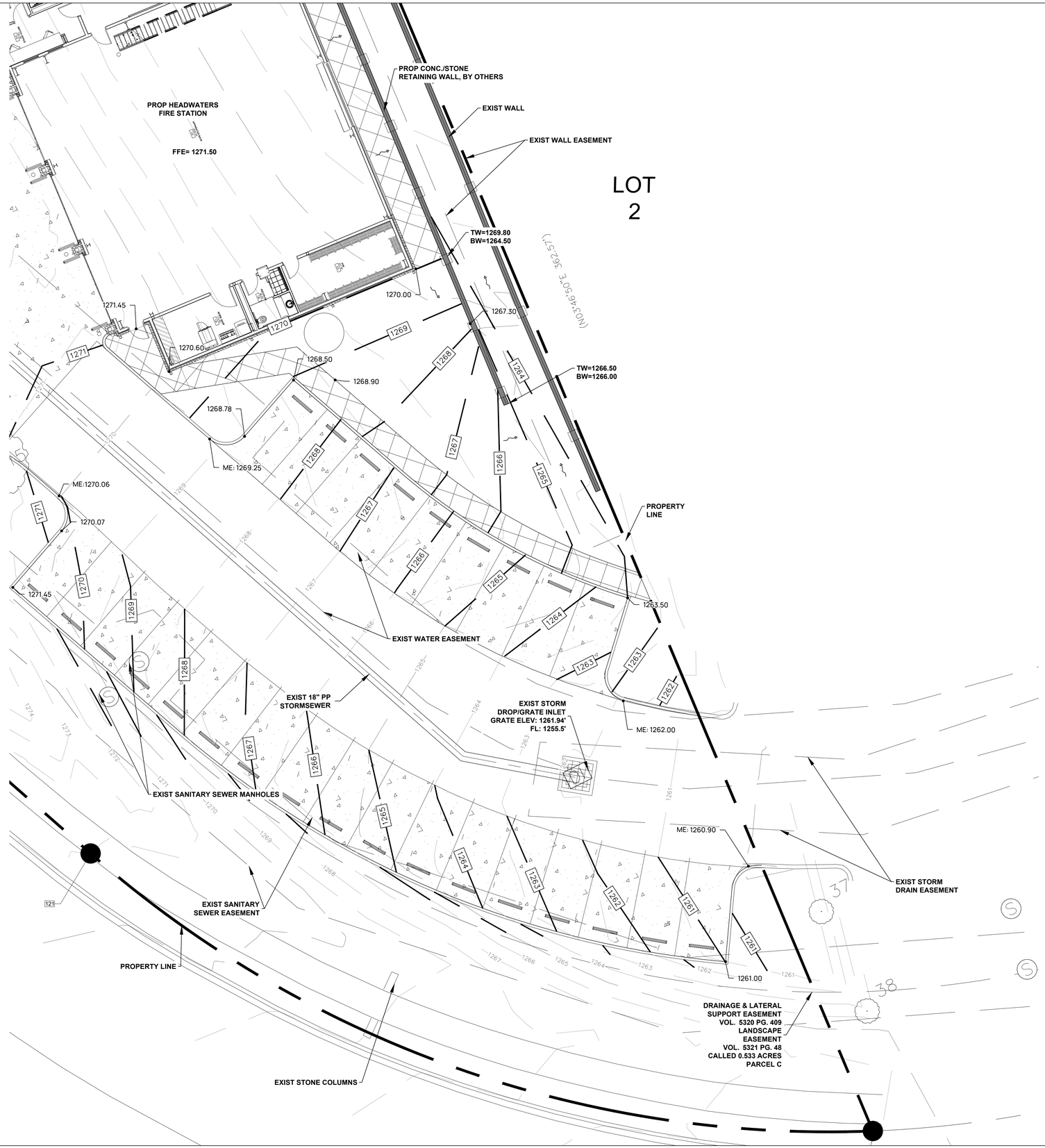
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SURVEY NOTE

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PHONE: (830) 833-3010
TBPLS Firm No. 10194135

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N

0 5 10 20
SCALE: 1"=10'

LEGEND

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No.	Date	Revisions	App.

HEADWATERS FIRE STATION
DRIPPING SPRINGS, TEXAS
DRAWN BY: RTC
HCC JOB No.: 013-10

GRADING PLAN SHEET 2

SHEET No.
13
OF 24

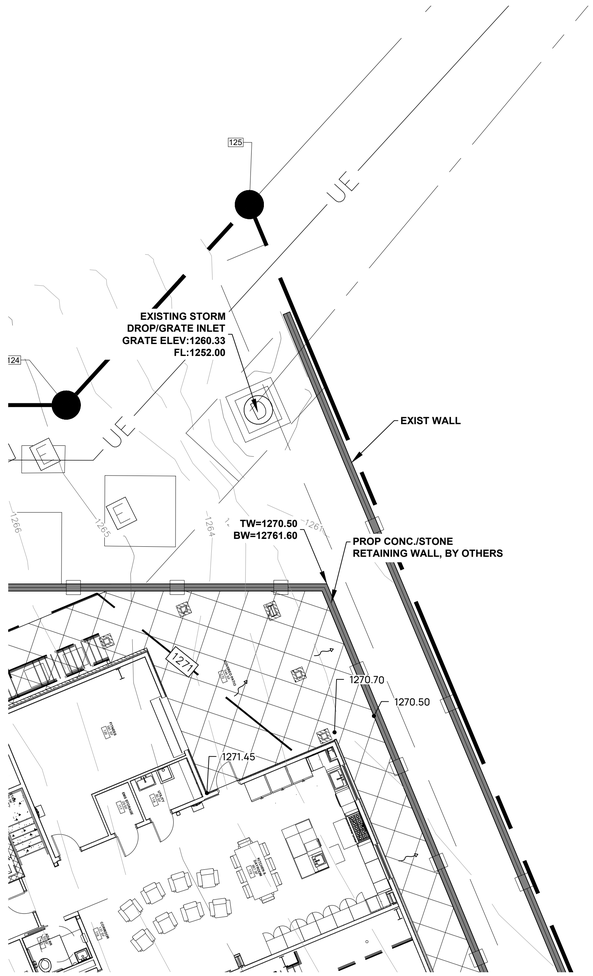
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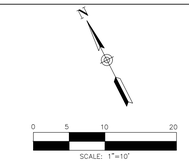
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120	1275.76	13984015.97	2269402.84	BASE/SIR PPC
121	1271.03	13983807.03	2269524.16	FMAG/WASHER DOUCET & ASSOCIATES
122	1265.99	13983686.74	2269640.09	FIR/YPC EARLY BOUNDARY
123	1278.62	13984158.03	2269381.32	FIR/YPC DOUCET AND ASSOC
124	1264.68	13984034.85	2269628.56	FIR/YPC DOUCET AND ASSOC
125	1260.30	13984048.51	2269663.97	FIR/YPC DOUCET AND ASSOC
129	1242.42	13984129.84	2270262.26	FIR



LEGEND

- EXISTING FLOW ARROW
- 101 EXISTING MINOR CONTOUR
- 100 EXISTING MAJOR CONTOUR
- 101 PROPOSED MINOR CONTOUR
- 100 PROPOSED MAJOR CONTOUR
- PROPOSED FLOW ARROW
- PROPOSED DRAINAGE SWALE
- 600.00 PROPOSED SPOT ELEVATION
- HP=XX.XX HIGH POINT

GRADING NOTES

1. CONTRACTOR SHALL COMPLY WITH ALL APPLICABLE LOCAL BUILDING, SAFETY, AND INSPECTION REGULATIONS.
2. CONTRACTOR SHALL PROTECT EXISTING FACILITIES TO REMAIN INCLUDING BUT NOT LIMITED TO STRUCTURES, PAVEMENT, TREES, FENCES LANDSCAPING, UTILITIES, ETC. ALL EXISTING FACILITIES SHALL BE IN ORIGINAL OR BETTER CONDITION AT THE COMPLETION OF THE PROJECT.
3. DURING CONSTRUCTION, CONTRACTOR SHALL MAINTAIN UNRESTRICTED DRAINAGE. NO PONDING OF STORM DRAINAGE SHALL BE PERMITTED IN AREAS OF PREPARED SUBGRADE OR EXCAVATION, EMBANKMENT. IF PONDING SHOULD OCCUR, CONTRACTOR SHALL IMMEDIATELY PUMP OUT OR GRAVITY DRAIN PONDING WATER OUT OF IMPACTED AREAS. IF ANY DAMAGE OCCURRED TO SUBGRADE, BUILDING PAD OR EXCAVATION AREAS, THE SOILS MUST BE DRIED OUT, REMOVED, REPLACED AND RE-COMPACTED.
4. DISTURBED AREAS (CONSTRUCTION AREAS) SHALL BE STRIPPED OF VEGETATION, LOOSE TOPSOIL, ORGANICS, BRUSH AND DEBRIS. AFTERWARDS, THE EXPOSED SUBGRADE SHALL SHALL BE PROOF ROLLED WITH A MINIMUM 20 TON PNEUMATIC ROLLER. ANY WEAK AREAS DETECTED SHALL BE REMOVED AND REPLACED WITH SUITABLE SOILS OF SIMILAR TYPE (CLASSIFICATION, MOISTURE CONTENT AND DENSITY).
5. IF REQUIRED TO MODIFY EXISTING GRADE, FILL MATERIALS SHOULD BE PLACED ON PREPARED SURFACES IN LIFTS NOT EXCEED 8 INCHES (LOOSE MEASURE), WITH COMPACTED THICKNESS NOT TO EXCEED 6 INCHES OR AS INDICATED IN SITE GEOTECHNICAL REPORT. FILL SHALL BE COMPACTED TO OPTIMUM MOISTURE CONTENT OR UP TO +3 PERCENTAGE POINTS OF OPTIMUM MOISTURE CONTENT TO A MINIMUM OF 95% MAXIMUM DENSITY AS DETERMINED BY TXDOT, TEX-114-E OR AS DESCRIBED IN THE SITE GEOTECHNICAL REPORT.
6. ALL FILL MATERIALS SHALL BE CLEAR OF DEBRIS, ORGANICS AND VEGETATION. IF IMPORTED FILL IS USED, IT SHALL BE A RELATIVELY HOMOGENEOUS PARTICLE SIZE DISTRIBUTION, WITH MAX SIZE OF 3 INCHES , PLASTICITY INDEX BETWEEN 7 AND 20 AND A LIQUID LIMIT LESS THAN 40; OR AS INDICATED ON THE GEOTECHNICAL REPORT.
7. ANY EXCESS EXCAVATION MATERIALS NOT USED, SHALL BECOME PROPERTY OF THE CONTRACTOR AND SHALL BE DISPOSED OF OFFSITE IN ACCORDANCE WITH FEDERAL, STATE AND LOCAL LAWS.
8. CONTRACTOR IS RESPONSIBLE FOR FILING WITH THE TCEQ FOR THE TEMPORARY STORM WATER POLLUTION PREVENTION PLAN NOTICE TO PROCEED AND NOTICE OF TERMINATION AT THE START AND END OF CONSTRUCTION.
9. CONTRACTOR SHALL KEEP A COPY OF APPROVED CONSTRUCTION DRAWINGS ONSITE AT ALL TIMES.
10. ALL SPOT ELEVATIONS ARE TO EDGE OF PAVEMENT/GUTTER LINE OF CURB, FINISHED GRADE, FINISHED GRADE ADJACENT TO WALLS UNLESS OTHERWISE SPECIFIED AS BELOW

HP	HIGH POINT
LP	LOW POINT
ME	MATCH EXISTING
TC	TOP OF CURB AT BACK
TS	TOP OF STRUCTURE
TW	TOP OF WALL
BW	BOTTOM OF WALL
FFE	FINISHED FLOOR ELEVATION

11. STORM SEWER PIPE SHALL BE ADS HP STORM, OR AS CALLED OUT ON PLANS.
12. ALL ADA PARKING STALLS, WALKING AISLES AND PATHWAYS SHALL NOT EXCEED 2% SLOPE IN ANY DIRECTION. RAMPS SHALL NOT EXCEED 8.033% SLOPE.
13. PROPOSED ROCK RIP RAP SHALL BE EMBEDDED TO A DEPTH OF 1.5 TIMES THE D50.
14. ALL RIP RAP SHALL BE LINED WITH AN 8 OZ NON-WOVEN GEOTEXTILE FABRIC.

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08/18/2025

No.	Date	Revisions	App.

HEADWATERS FIRE STATION
DRIPPING SPRINGS, TEXAS
DRAWN BY: RTC
HCC JOB No.: 013-10

GRADING PLAN SHEET 3

SHEET No.
14
OF 24

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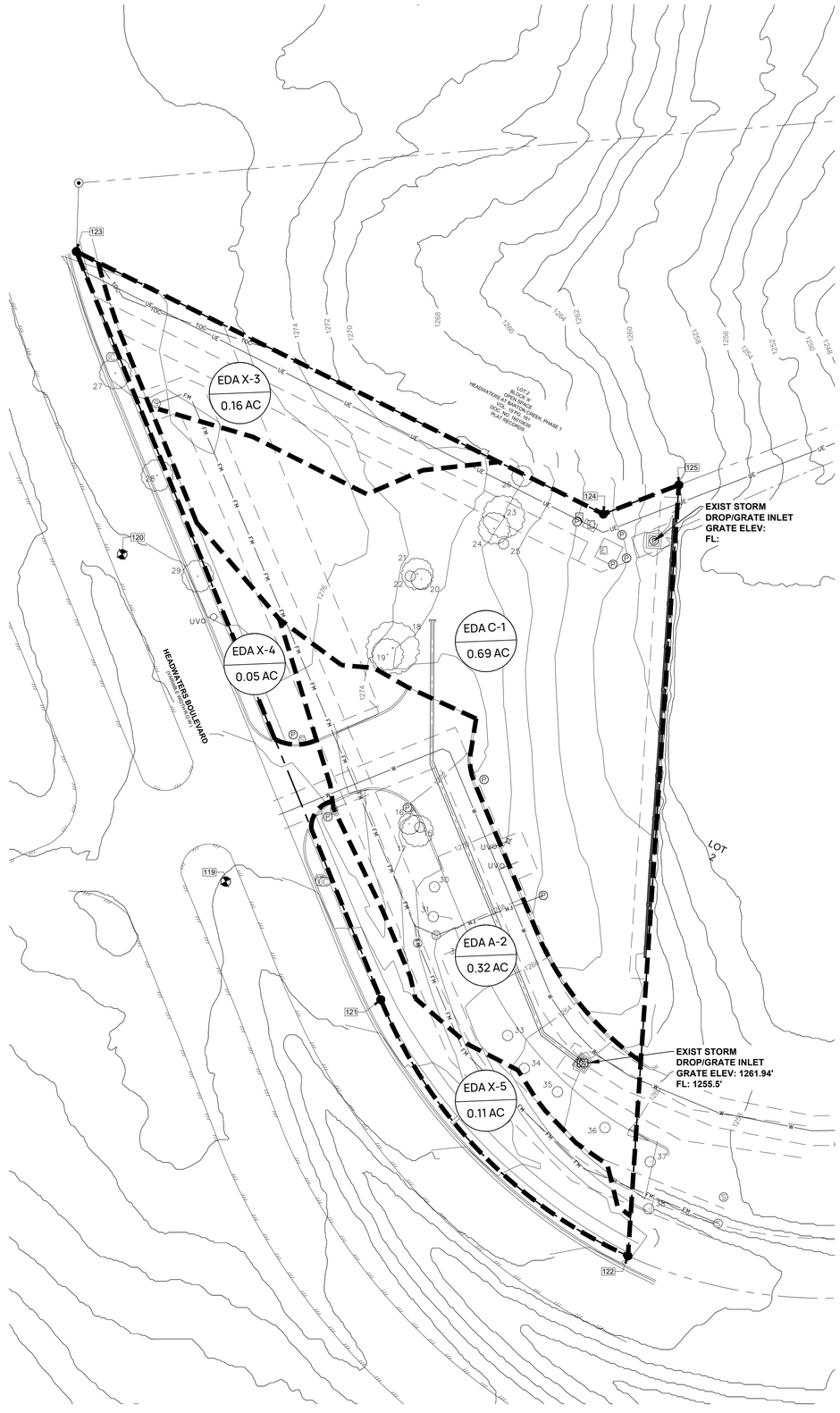
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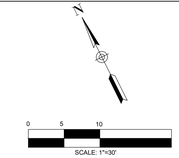
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TBPLS Firm No. 10194135

LEGAL DESCRIPTION

HEADWATERS COMMERCIAL EAST PH 1, BLOCK A, LOT 1, ACRES 1.426

REFERENCE SHEET 17 FOR EXISTING DRAINAGE CALCULATIONS





LEGEND

- PROPERTY BOUNDARY
- LOT LINE
- SETBACK LINE
- LANDSCAPE BUFFER LINE
- EASEMENT LINE
- SITE BENCHMARK
- PROPERTY CORNER
- GAS LINE
- OVERHEAD ELECTRIC LINE
- FENCE LINE
- EXISTING TREE
- SIGN
- POWER POLE
- FIRE LANE
- 101 EXISTING MINOR CONTOUR
- 100 EXISTING MAJOR CONTOUR
- TOC TIME OF CONCENTRATION
- DRAINAGE AREA BOUNDARY
- DA # / ACRES DRAINAGE AREA LABEL

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HEADWATERS FIRE STATION
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HCC JOB No. 013-10
DRAWN BY: RTC

EXISTING DRAINAGE AREA MAP

SHEET No.
15
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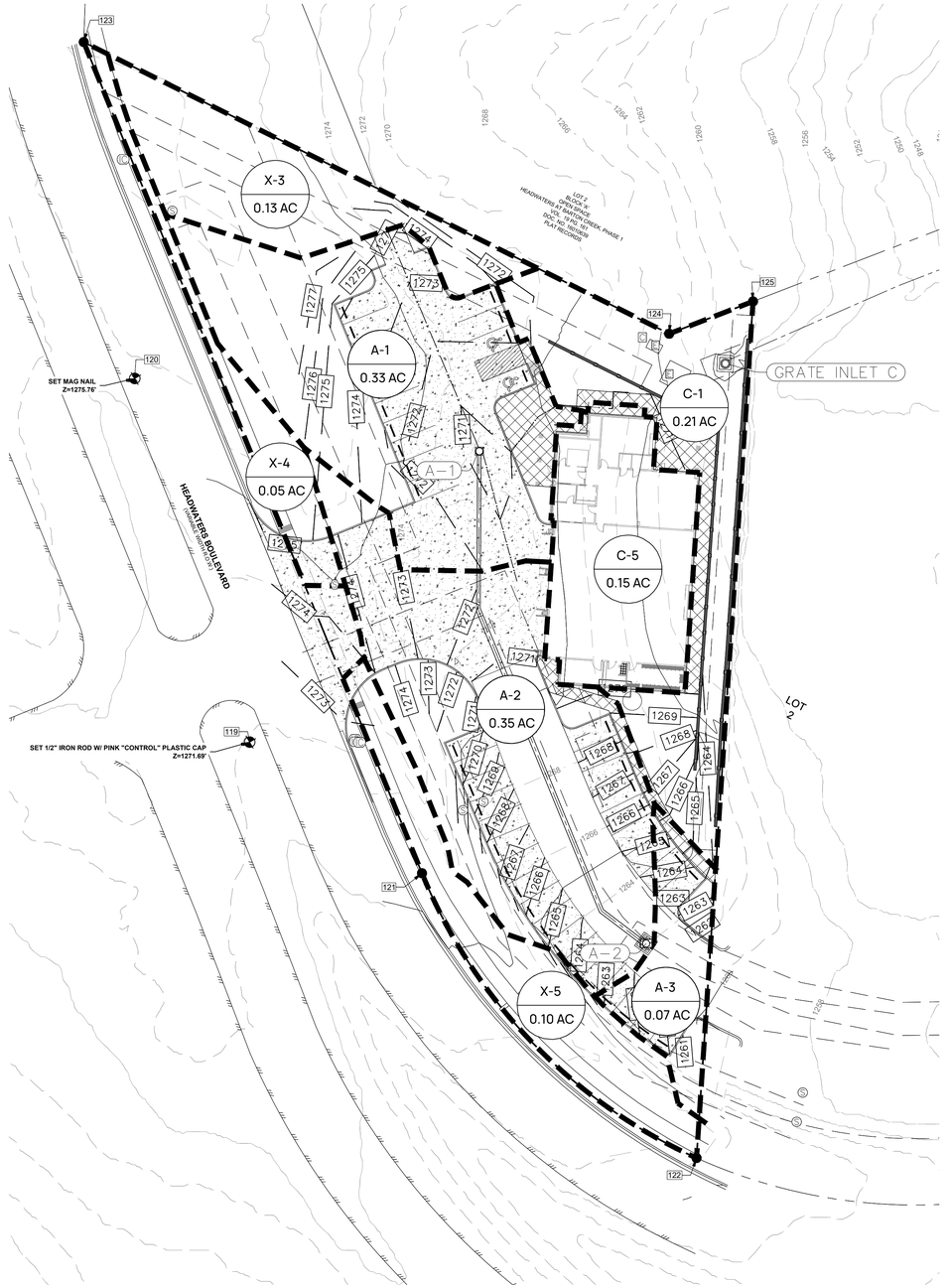
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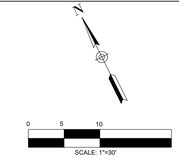
HEADWATERS COMMERCIAL EAST PH 1, BLOCK A, LOT 1, ACRES 1.426

Headwaters Fire Station - Inlet Flow Comparison Table 100 YR			
	Inlet A-1	Inlet A-2	Inlet C
Previous Analysis Flow Rate	3.31	9.53	8.06
Proposed Analysis Flow Rate	3.31	5.42	5.53
Proposed IP Less Than or Equal To Ultimate Designed?	**YES**	**YES**	**YES**
Headwaters Fire Station - Inlet Flow Comparison Table 25 YR			
	Inlet A-1	Inlet A-2	Inlet C
Previous Analysis Flow Rate	2.23	6.45	5.02
Proposed Analysis Flow Rate	2.22	3.66	3.72
Proposed IP Less Than or Equal To Ultimate Designed?	**YES**	**YES**	**YES**

Headwaters Fire Station - Impervious Cover Comparison Table			
	Site Acerage	Site IP AC	I.C. %
Ultimate Design IP (AC)	1.426	0.850	60%
Proposed Improvements (AC)	1.426	0.840	59%
Proposed IP Less Than Ultimate Designed IP?			YES

Headwaters Fire Station Analysis Inlet Contributing Flow Rate		
Drainage Area	25 yr	100 yr
Q to Analyze Inelt A-1	2.22	3.31
Q to Analyze Inelt A-2	3.66	5.42
Q to Analyze Inlet C	3.72	5.53





LEGEND

- PROPERTY BOUNDARY
- LOT LINE
- SETBACK LINE
- LANDSCAPE BUFFER LINE
- EASEMENT LINE
- SITE BENCHMARK
- PROPERTY CORNER
- GAS LINE
- OVERHEAD ELECTRIC LINE
- FENCE LINE
- EXISTING TREE
- SIGN
- POWER POLE
- FIRE LANE
- EXISTING MINOR CONTOUR
- EXISTING MAJOR CONTOUR
- TOC — TIME OF CONCENTRATION
- DRAINAGE AREA BOUNDARY
- DA # / ACRES — DRAINAGE AREA LABEL

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HEADWATERS FIRE STATION
DRIPPING SPRINGS, TEXAS
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PROPOSED DRAINAGE AREA MAP

SHEET No.
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LEGAL DESCRIPTION

HEADWATERS COMMERCIAL EAST PH 1, BLOCK A, LOT 1, ACRES 1.426



PROPOSED OVERALL DETAILED DRAINAGE AREAS

DRAIN. AREA NO.	AREA (acres)	IMPERVIOUS AREA (acres)	Q25 (cfs)	Q100 (cfs)	DRAIN. AREA NO.
A-1	0.31	0.17	2.23	3.31	A-1
A-2	0.38	0.24	2.79	4.14	A-2
A-3	0.29	0.19	2.11	3.12	A-3
A-4	0.53	0.35	3.88	5.74	A-4
B-1	0.45	0.00	2.42	4.02	B-1
C-1	0.17	0.02	1.13	1.74	C-1
C-2	0.75	0.13	4.72	7.27	C-2
C-3	0.50	0.38	3.70	5.45	C-3
C-4	0.32	0.32	2.40	3.51	C-4
C-5	0.19	0.19	1.43	2.08	C-5
TOTAL	3.89		26.81	40.38	TOTAL

AREA INLET for DRNG AREA B-1

4-SIDED AREA INLET (B-1)

HEAD (FT)	LENGTH OF OPENING (FT)	CAPACITY (CFS)
0.23	16	**4.1**

AREA INLET for DRNG AREA C-1

4-SIDED AREA INLET (C-1)

HEAD (FT)	LENGTH OF OPENING (FT)	CAPACITY (CFS)
0.3	16	**6.0**

AREA INLET for DRNG AREA C-2

4-SIDED AREA INLET (C-2)

HEAD (FT)	LENGTH OF OPENING (FT)	CAPACITY (CFS)
0.34	16	**7.3**

GRATE INLET ON GRADE (100 YR) HEC-22

Inlet	Inlet Size (SF)	Q_{100} (CFS)	Q_{addt} (CFS)	Q_{total} (CFS)	Channel Slope (%)	Cross Slope (%)	W (LF)	T (LF)	Eo	Qw (CFS)	Q_{bypass} (CFS)
A-2	4'X4'	4.14	0	4.14	7.4	1.5	4	15.43	0.55	2.28	1.86
A-3	4'X4'	3.12	1.86	4.98	4.1	1.5	4	18.42	0.48	1.50	1.62
A-4	4'X4'	5.74	1.62	7.36	N/A	N/A	N/A	N/A	N/A	N/A	N/A

*Flows for inlets 2 & 3 represent the total flow in the ultimate buildout condition
*See sag inlet calculation for inlet A-4

GRATE INLET ON GRADE (25 YR) HEC-22

Inlet	Inlet Size (SF)	Q_{25} (CFS)	Q_{addt} (CFS)	Q_{total} (CFS)	Channel Slope (%)	Cross Slope (%)	W (LF)	T (LF)	Eo	Qw (CFS)	Q_{bypass} (CFS)
A-2	4'X4'	2.79	0	2.79	7.4	1.5	4	13.27	0.62	1.72	1.07
A-3	4'X4'	2.11	1.07	3.18	4.1	1.5	4	15.62	0.55	1.15	0.96
A-4	4'X4'	3.88	0.96	4.84	N/A	N/A	N/A	N/A	N/A	N/A	N/A

*Flows for inlets 2 & 3 represent the total flow in the ultimate buildout condition
*See sag inlet calculation for inlet A-4

GRATE INLET IN SUMP CALCULATIONS FOR 100 YR STORM (WITH 50% CLOGGING FACTOR)

Drainage Area #	Q_{100} (CFS)	Flow Area (Sq. In.)	Inlet Size (SF)	Weir Calculation: P x 50% Clogging Factor PERIMETER, P (LF)	Weir Calculation: WEIR DEPTH, d (FT)	Orifice Calculation: A (SF)	Orifice Calculation: A x 50% Clogging Factor (SF)	Orifice Calculation: H (FT)	WEIR OR ORRICE	OPERATING DEPTH, (d or H) (FT)	D_{allow} H_{allow} (FT)
A-4	7.36	1728	4'x4'	16.00	8.00	0.45	12.00	6.00	0.05	WEIR	0.45	0.50

NOTE: FLOW TO INLET A-4 INCLUDES BYPASS FLOWS FROM INLETS A-2 & A-3. REFERENCE GRATE INLET ON GRADE CALCULATIONS.

GRATE INLET IN SUMP CALCULATIONS FOR 25 YR STORM (WITH 50% CLOGGING FACTOR)

Drainage Area #	Q_{25} (CFS)	Flow Area (Sq. In.)	Inlet Size (SF)	Weir Calculation: P x 50% Clogging Factor PERIMETER, P (LF)	Weir Calculation: WEIR DEPTH, d (FT)	Orifice Calculation: A (SF)	Orifice Calculation: A x 50% Clogging Factor (SF)	Orifice Calculation: H (FT)	WEIR OR ORRICE	OPERATING DEPTH, (d or H) (FT)	D_{allow} H_{allow} (FT)
A-4	4.84	1728	4'x4'	16.00	8.00	0.34	12.00	6.00	0.02	WEIR	0.34	0.50

NOTE: FLOW TO INLET A-4 INCLUDES BYPASS FLOWS FROM INLETS A-2 & A-3. REFERENCE GRATE INLET ON GRADE CALCULATIONS.

F:\HEADWATERS\PROJECTS\20-010-A\05 HEADWATERS COMMERCIAL EAST Ph 1\DRAWINGS\PLANSET\08 EXISTING DRAINAGE AREA MAP.DWG, 5/17/2023, LANDON.MCCLELLAN

No.	Date	Revisions
1	5/17/2023	UPDATE TO POND GRADING AND DRAINAGE TABLES

HEADWATERS COMMERCIAL EAST PHASE 1
DRIPPING SPRINGS, TEXAS

PROPOSED OVERALL DETAILED DRAINAGE AREA MAP

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Firm Registration No.: F-786

STATE OF TEXAS
LANDON M. MCCLELLAN
142710
LICENSED
PROFESSIONAL ENGINEER
05/17/23

DESIGN BY : TD, JRM
CHECKED BY : LM
APPROVED BY : LM
DATE : 5/17/2023

SHEET 08
OF 39

App.

HEADWATERS FIRE STATION
DRIPPING SPRINGS, TEXAS

HCC JOB No. 013-10 DRAWN BY: RTC

PHASE 1 EXISTING
WATER QUALITY AND
DETENTION

SHEET No.
17
OF 24

MALONE WHEELER EXISTING COMMERCIAL EAST PHASE 1
WATER QUALITY AND DETENTION POND DESIGN SHEET

NOTE: SHEET IS PROVIDED FOR REFERENCE ONLY TO AID DURING PERMIT REVIEW AND NOT INTENDED FOR CONSTRUCTION

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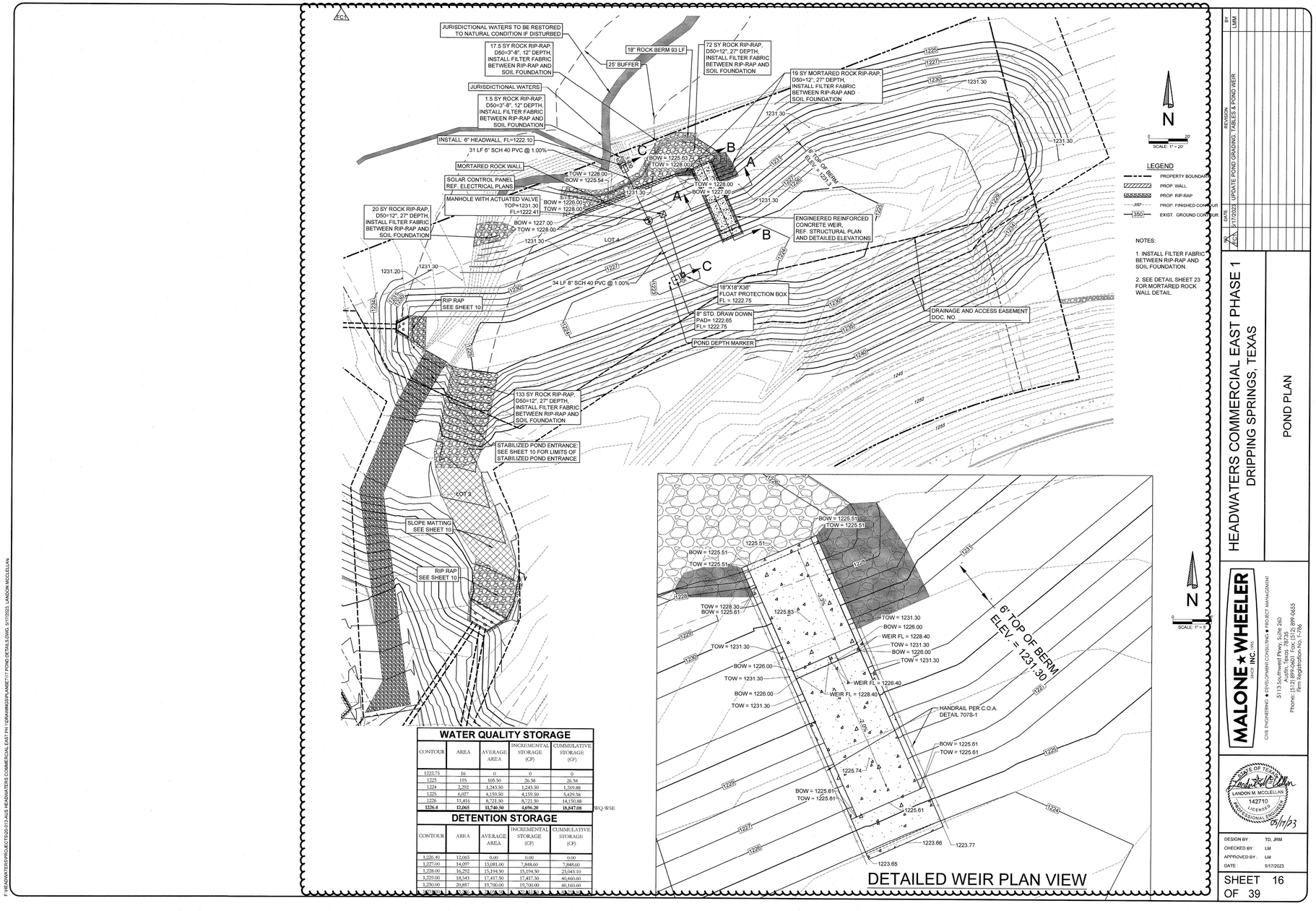
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LEGAL DESCRIPTION

HEADWATERS COMMERCIAL EAST PH 1, BLOCK A, LOT 1, ACRES 1.426



WATER QUALITY STORAGE				
CONTOUR	AREA	AVERAGE AREA	INCREMENTAL STORAGE (CF)	CUMMULATIVE STORAGE (CF)
1223.75	16	0	0	0
1225	195	105.50	26.38	26.38
1224	2,292	1,243.50	1,243.50	1,269.88
1225	6,027	4,159.50	4,159.50	5,429.38
1226	11,416	8,721.50	8,721.50	14,150.88
1226.4	**12,065**	**11,740.50**	**4,696.20**	**18,847.08**

WSE WQ

DETENTION STORAGE				
CONTOUR	AREA	AVERAGE AREA	INCREMENTAL STORAGE (CF)	CUMMULATIVE STORAGE (CF)
1,226.40	12,065	0.00	0.00	0.00
1,227.00	14,097	13,081.00	7,848.60	7,848.60
1,228.00	16,292	15,194.50	15,194.50	23,043.10
1,229.00	18,543	17,417.50	17,417.50	40,460.60
1,230.00	20,857	19,700.00	19,700.00	60,160.60

NO.	DATE	BY	REVISION
1	8/17/2025	LMM	UPDATE POND GRADING, TABLES & POND WEIR

DESIGN BY : TD, JRM
CHECKED BY : LM
APPROVED BY : LM
DATE : 5/17/2023

SHEET 16 OF 39

HEADWATERS COMMERCIAL EAST PHASE 1
DRIPPING SPRINGS, TEXAS

POND PLAN

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Firm Registration No. F-786

LANDON M. MCCLELLAN 142710 LICENSED PROFESSIONAL ENGINEER 05/11/23

MALONE WHEELER EXISTING COMMERCIAL EAST PHASE 1
WATER QUALITY AND DETENTION POND DESIGN SHEET

NOTE: SHEET IS PROVIDED FOR REFERENCE ONLY TO AID DURING PERMIT REVIEW AND NOT INTENDED FOR CONSTRUCTION

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HEADWATERS FIRE STATION
DRIPPING SPRINGS, TEXAS
HCC JOB No.: 013-10 DRAWN BY: RTC

PHASE 1 EXISTING WATER QUALITY AND DETENTION

SHEET No. 18 OF 24

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TBPLS Firm No. 10194135

LEGAL DESCRIPTION

HEADWATERS COMMERCIAL EAST PH 1, BLOCK A, LOT 1, ACRES 1.426

TCEQ CALCULATIONS: FULLY DEVELOPED

Texas Commission on Environmental Quality

TSS Removal Calculations 04-20-2009
Modified for OEM per RG-348a

Project Name: Headwaters at Barton Creek, COMMERCIAL EAST PH 1
Date Prepared: 5/16/2023 FULLY DEVELOPED CONDITION

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

1. The Required Load Reduction for the total project: Calculations from RG-348a Page 21

Page 21 Equation 4.3: $L_M = 27.7(A \times P)$

where:
$L_{M\ TOTAL\ PROJECT}$ = Required TSS removal (pounds)
A = Impervious Area (acres)
P = Average annual precipitation, inches

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

County =	Hays	
Total project area included in plan * =	5.82	acres
Predevelopment impervious area outside the limits of the plan (per watershed)* =	0.00	acres
Predevelopment impervious area within the limits of the plan * =	0.00	acres
Total post-development impervious area within the limits of the plan* =	2.78	acres
Total post-development impervious cover fraction * =	0.48	
P =	33	inches
$L_{M\ TOTAL\ PROJECT}$ =	2541	lbs.

* The values entered in these fields should be for the total project area. L_M Calculation from RG-348a page 21

Number of drainage basins / outfalls areas leaving the plan area = 1 - FULLY DEVELOPED CONDITION

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

Drainage Basin/Outfall Area No. = 1

Total drainage basin/outfall area =	5.65	acres
Predevelopment impervious area within drainage basin/outfall area =	0.00	acres
Post-development impervious area within drainage basin/outfall area =	2.78	acres
Post-development impervious fraction within drainage basin/outfall area =	0.49	
$L_{M\ THIS\ BASIN}$ =	2541	lbs.

Based on onsite Net Impervious Cover regardless of Predeveloped Impervious Cover
L_M Calculation from RG-348a pages 21

3. Indicate the proposed BMP Code for this basin.

Proposed BMP = Batch Detention Basin
Removal efficiency = 91 percent

Aqualogic Cartridge Filter
Batch Detention Basin
Bioretention
Contech StormFilter
Constructed Wetland
Extended Detention
Grassy Swale
Retention / Irrigation
Sand Filter
Stormceptor
Vegetated Filter Strips
Vortechs
Wet Basin
Wet Vault

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

RG-348 Page 3-33 Equation 3.7: L_R = (BMP efficiency) x P x (A_I x 34.6 + A_P x 0.54)

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

A_C =	5.65	acres
A_I =	2.78	acres
A_P =	2.87	acres
L_R =	2935	lbs

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

Desired $L_{M\ THIS\ BASIN}$ = 2568 lbs.

F = 0.87

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

Calculations from RG-348 Pages 3-34 to 3-36 and RG-348a pages 22-23

Rainfall Depth =	1.55	inches
Post Development Runoff Coefficient =	0.47	
On-site Water Quality Volume =	14885	cubic feet

Calculations from RG-348 Pages 3-35 to 3-37

Off-site area draining to BMP =	7.29	acres
Off-site Impervious cover draining to BMP =	0.00	acres
Impervious fraction of off-site area =	0.00	
Off-site Runoff Coefficient =	0.02	
Off-site Water Quality Volume =	820	cubic feet
Storage for Sediment =	3141	
Total Capture Volume (required water quality volume(s) x 1.20) =	18846	cubic feet

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

8. Extended Detention Basin System Designed as Required in RG-348 Pages 3-46 to 3-51

Required Water Quality Volume for extended detention basin =	NA	cubic feet
Required Water Quality Volume for batch detention basin =	18846	**cubic feet**

TCEQ CALCULATIONS: INTERIM PHASE 1 CONDITION

Texas Commission on Environmental Quality

TSS Removal Calculations 04-20-2009
Modified for OEM per RG-348a

Project Name: Headwaters at Barton Creek, COMMERCIAL EAST PH 1
Date Prepared: 5/16/2023 INTERIM PHASE 1 CONDITION

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

1. The Required Load Reduction for the total project: Calculations from RG-348a Page 21

Page 21 Equation 4.3: $L_M = 27.7(A \times P)$

where:
$L_{M\ TOTAL\ PROJECT}$ = Required TSS removal (pounds)
A = Impervious Area (acres)
P = Average annual precipitation, inches

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

County =	Hays	
Total project area included in plan * =	5.82	acres
Predevelopment impervious area outside the limits of the plan (per watershed)* =	0.00	acres
Predevelopment impervious area within the limits of the plan * =	0.00	acres
Total post-development impervious area within the limits of the plan* =	1.30	acres
Total post-development impervious cover fraction * =	0.22	
P =	33	inches
$L_{M\ TOTAL\ PROJECT}$ =	1188	lbs.

1.30 ac of I.C. proposed with INTERIM PHASE 1 CONDITION

* The values entered in these fields should be for the total project area. L_M Calculation from RG-348a page 21

Number of drainage basins / outfalls areas leaving the plan area = 1 - INTERIM PHASE 1 CONDITION

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

Drainage Basin/Outfall Area No. = 1

Total drainage basin/outfall area =	5.65	acres
Predevelopment impervious area within drainage basin/outfall area =	0.00	acres
Post-development impervious area within drainage basin/outfall area =	1.30	acres
Post-development impervious fraction within drainage basin/outfall area =	0.23	
$L_{M\ THIS\ BASIN}$ =	1188	lbs.

Based on onsite Net Impervious Cover regardless of Predeveloped Impervious Cover
L_M Calculation from RG-348a pages 21

3. Indicate the proposed BMP Code for this basin.

Proposed BMP = Batch Detention Basin
Removal efficiency = 91 percent

Aqualogic Cartridge Filter
Batch Detention Basin
Bioretention
Contech StormFilter
Constructed Wetland
Extended Detention
Grassy Swale
Retention / Irrigation
Sand Filter
Stormceptor
Vegetated Filter Strips
Vortechs
Wet Basin
Wet Vault

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

RG-348 Page 3-33 Equation 3.7: L_R = (BMP efficiency) x P x (A_I x 34.6 + A_P x 0.54)

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

A_C =	5.65	acres
A_I =	1.30	acres
A_P =	4.35	acres
L_R =	1421	lbs

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

Desired $L_{M\ THIS\ BASIN}$ = 1188 lbs.

F = 0.84

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

Calculations from RG-348 Pages 3-34 to 3-36 and RG-348a pages 22-23

Rainfall Depth =	1.28	inches
Post Development Runoff Coefficient =	0.25	
On-site Water Quality Volume =	6447	cubic feet

Calculations from RG-348 Pages 3-35 to 3-37

Off-site area draining to BMP =	7.29	acres
Off-site Impervious cover draining to BMP =	0.00	acres
Impervious fraction of off-site area =	0.00	
Off-site Runoff Coefficient =	0.02	
Off-site Water Quality Volume =	677	cubic feet
Storage for Sediment =	1425	
Total Capture Volume (required water quality volume(s) x 1.20) =	8549	cubic feet

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

8. Extended Detention Basin System Designed as Required in RG-348 Pages 3-46 to 3-51

Required Water Quality Volume for extended detention basin =	NA	cubic feet
Required Water Quality Volume for batch detention basin =	8549	**cubic feet**

NO.	DATE	REVISION	BY
1	8/7/2025	UPDATE TO WATER QUALITY CALCULATIONS	LMM

HEADWATERS COMMERCIAL EAST PHASE 1
DRIPPING SPRINGS, TEXAS

WATER QUALITY CALCULATIONS

MALONE★WHEELER INC.
CIVIL ENGINEERING ★ ENVIRONMENTAL CONSULTING ★ PROJECT MANAGEMENT
5113 Southwest Pkwy, Suite 250
Austin, Texas 78735
Phone: (512) 899-0660 Fax: (512) 899-0655
Firm Registration No. F-786

STATE OF TEXAS
LANDON M. MCCLELLAN
142710
LICENSED
PROFESSIONAL ENGINEER
05/17/23

DESIGN BY :	TD, JRM
CHECKED BY :	LM
APPROVED BY :	LM
DATE :	5/17/2023

SHEET 16A
OF 39

MALONE WHEELER EXISTING COMMERCIAL EAST PHASE 1
WATER QUALITY AND DETENTION POND DESIGN SHEET

NOTE: SHEET IS PROVIDED FOR REFERENCE ONLY TO AID DURING PERMIT REVIEW AND NOT INTENDED FOR CONSTRUCTION

Hill Country Civil
Engineers ★ Consultants
Texas Firm No. 20211
301 Landa Street, Ste. 104, New Braunfels, TX 78130
Phone 817-659-3078 or 210-378-4353
www.hillcountrycivil.com

Ryan T. Corder
STATE OF TEXAS
ROSS T. CORDER
125401
LICENSED
PROFESSIONAL ENGINEER
08/18/2025

App.

No.	Date	Revisions

HEADWATERS FIRE STATION
DRIPPING SPRINGS, TEXAS

HCC JOB No. 013-10 DRAWN BY: RTC

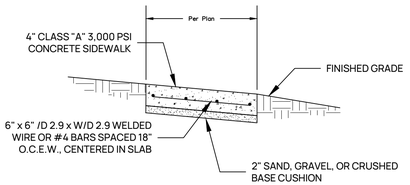
PHASE 1 EXISTING
WATER QUALITY AND
DETENTION

SHEET No.
19
OF 24

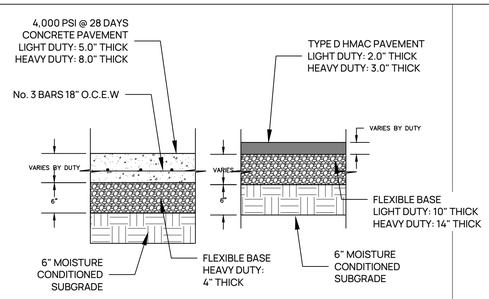
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C:\HCC\DwgDrive - Hill Country Civil\Projects\013 Martinez Architects\10 Headwaters Fire Station Design\1 - CAD\2 - Sheets\013-10 PDA.dwg

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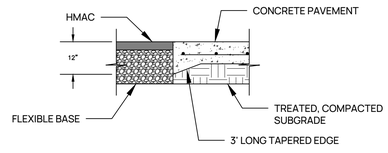


TYPICAL SIDEWALK
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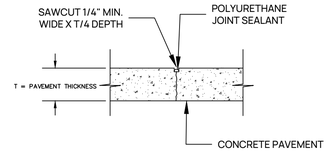


ALL PAVEMENT SECTIONS ARE BASED ON RECOMMENDATIONS MADE IN THE GEOTECHNICAL REPORT PREPARED BY RABA KISTNER xxx REFERENCE REPORT FOR MORE DETAILS

PAVEMENT SECTIONS
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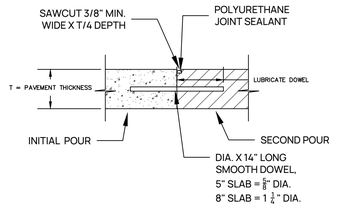


CONCRETE/ASHPALT JUNCTURE
N.T.S



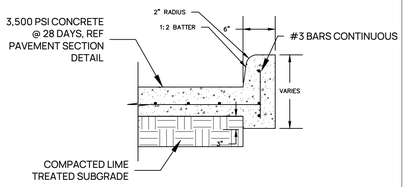
ALL PAVEMENT SECTIONS ARE BASED ON RECOMMENDATIONS MADE IN THE GEOTECHNICAL REPORT PREPARED BY RABA KISTNER xxx REFERENCE REPORT FOR MORE DETAILS

CONTROL JOINT DETAIL
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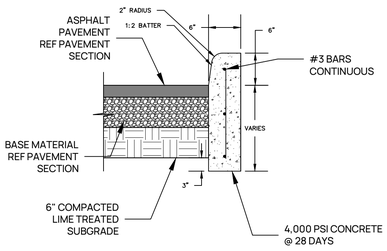


ALL PAVEMENT SECTIONS ARE BASED ON RECOMMENDATIONS MADE IN THE GEOTECHNICAL REPORT PREPARED BY RABA KISTNER XXX REFERENCE REPORT FOR MORE DETAILS

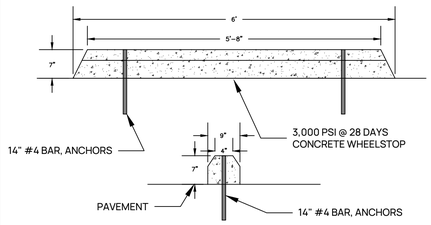
CONSTRUCTION JOINT DETAIL
N.T.S



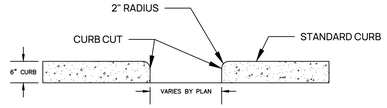
STANDARD 6" CURB - CONCRETE PAVEMENT
N.T.S



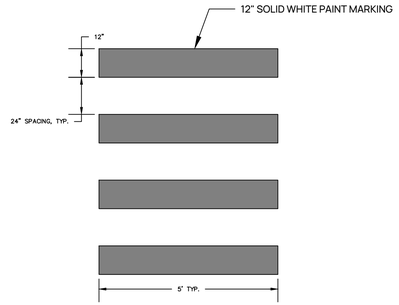
STANDARD 6" CURB - ASPHALT PAVEMENT
N.T.S



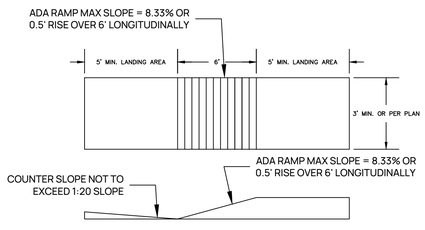
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N.T.S



TYPICAL CURB OPENING
N.T.S

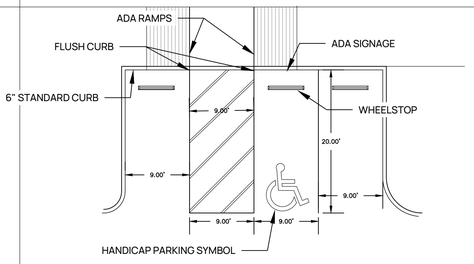


TYPICAL CROSSWALK STRIPING
N.T.S



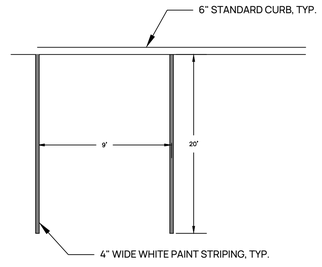
1. RAMPS SHALL BE IN ACCORDANCE WITH TAS STANDARDS, NOT TO EXCEED 1:12 SLOPE. WHEN RAMP RUNS EXCEED 0.5' OVER 6', HANDRAILS WILL BE REQUIRED. CROSS SLOPE ON RAMPS NOT TO EXCEED 2% SLOPE.
2. MAXIMUM SLOPE IN ANY DIRECTION AT LANDING AREAS NOT TO EXCEED 2% SLOPE.
3. ALL LANDINGS, RAMPS, PARKING, LOADING AREAS AND SIGNAGE SHALL BE COMPLIANT WITH TEXAS ACCESSIBILITY STANDARDS PER TAS STANDARDS SECTION 4.6.4.
4. REFERENCE DIMENSION CONTROL PLAN AND SITE GRADING PLAN FOR SPECIFIC RAMP DESIGN. THE DEPICTION ABOVE IS AN EXAMPLE OF A TYPICAL EXAMPLE.

TYPICAL ADA RAMP
N.T.S

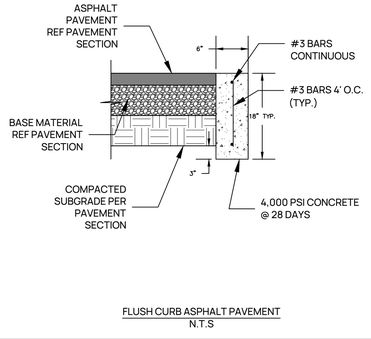


1. NO SLOPES IN ANY DIRECTION IN ADA PARKING AND LOADING AREA SHALL EXCEED 2% SLOPE.
2. ALL STRIPING SHALL BE 4" WIDE WHITE PAINT.
3. ALL LANDINGS, RAMPS, PARKING, LOADING AREAS AND SIGNAGE SHALL BE COMPLIANT WITH TEXAS ACCESSIBILITY STANDARDS PER TAS STANDARDS SECTION 4.6.4.
4. REFERENCE DIMENSION CONTROL PLAN FOR SPECIFIC ADA PARKING AREA DIMENSIONS. THE DEPICTION ABOVE IS AN EXAMPLE OF A TYPICAL EXAMPLE.

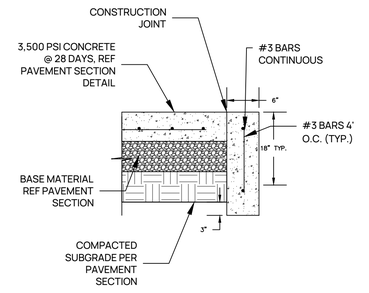
TYPICAL ADA PARKING
N.T.S



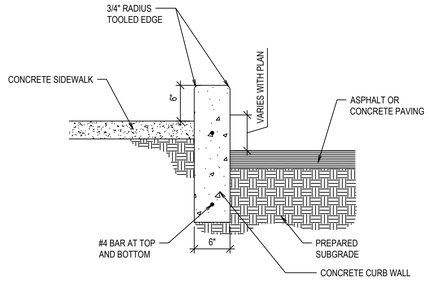
TYPICAL PARKING SPACE STRIPING
N.T.S



FLUSH CURB ASPHALT PAVEMENT
N.T.S



FLUSH CURB CONCRETE PAVEMENT
N.T.S



DEEP CURB
N.T.S

Hill Country Civil
Engineers ◆ Consultants
Texas Firm Registration # 20231
301 Landa Street, Ste. 104, New Braunfels, TX 78130
Phone 817-659-5078 or 210-378-4363
www.hillcountrycivil.com

ROSS T. CORDER
125401
LICENSED PROFESSIONAL ENGINEER
08/18/2025

App.
Revisions
Date
No.

HEADWATERS FIRE STATION
DRIPPING SPRINGS, TEXAS
DRAWN BY: RTC
HCC JOB No.: 013-10

SITE DETAILS

SHEET No.
24
OF 24

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Attachment N: Inspection, Maintenance, Repair, Retrofit Plan

CONTRIBUTING ZONE PLAN APPLICATION
ATTACHMENT "N"

INSPECTION, MAINTENANCE, REPAIR AND RETROFIT PLAN

HEADWATERS COMMERCIAL EAST PHASE 1

Batch Detention Basin

Inspections. Inspections should take place a minimum of twice a year. One inspection should take place during wet weather to determine if the basin is meeting the target detention time of 12 hours and a drawdown time of no more than 48 hours. The remaining inspections should occur between storm events so that manual operation of the valve and controller can be verified. The level sensor in the basin should be inspected and any debris or sediment in the area should be removed. The outlet structure and the trash screen should be inspected for signs of clogging. Debris and sediment should be removed from the orifice and outlet(s) as described in previous sections. Debris obstructing the valve should be removed. During each inspection, erosion areas inside and downstream of this BMP should be identified and repaired/revegetated immediately.

Mowing. The basin, basin side-slopes, and embankment of the basin must be mowed to prevent woody growth and control weeds. A mulching mower should be used, or the grass clippings should be caught and removed. Mowing should take place at least twice a year, or more frequently if vegetation exceeds 18 inches in height. More frequent mowing to maintain aesthetic appeal may be necessary in landscaped areas.

Litter and Debris Removal. Litter and debris removal should take place at least twice a year, as part of the periodic mowing operations and inspections. Debris and litter should be removed from the surface of the basin. Particular attention should be paid to floatable debris around the outlet structure. The outlet should be checked for possible clogging or obstructions and any debris removed.

Erosion control. The basin side slopes and embankment all may periodically suffer from slumping and erosion. To correct these problems, corrective action, such as regrading and revegetation, may be necessary. Correction of erosion control should take place whenever required based on the periodic inspections.

Nuisance Control. Standing water or soggy conditions may occur in the basin. Some standing water may occur after a storm event since the valve may close with 2 to 3 inches of water in the basin. Some flow into the basin may also occur between storms due to spring flow and residential water use that enters the storm sewer system. Twice a year, the facility should be evaluated in terms of nuisance control (insects, weeds, odors, algae, etc.).

Structural Repairs and Replacement. With each inspection, any damage to structural elements of the basin (pipes, concrete drainage structures, retaining walls, etc.) should be identified and repaired immediately. An example of this type of repair can include patching

of cracked concrete, sealing of voids, removal of vegetation from cracks and joints. The various inlet/outlet structures in a basin will eventually deteriorate and must be replaced.

Sediment Removal. A properly designed batch detention basin will accumulate quantities of sediment over time. The accumulated sediment can detract from the appearance of the facility and reduce the pollutant removal performance of the facility. The sediment also tends to accumulate near the outlet structure and can interfere with the level sensor operation. Sediment shall be removed from the basin at least every 5 years, when sediment depth exceeds 6 inches, when the sediment interferes with the level sensor or when the basin does not drain within 48 hours. Care should be taken not to compromise the basin lining during maintenance.

Logic Controller. The Logic Controller should be inspected as part of the twice yearly investigations. Verify that the external indicators (active, cycle in progress) are operating properly by turning the controller off and on, and by initiating a cycle by triggering the level sensor in the basin. The valve should be manually opened and closed using the open/close switch to verify valve operation and to assist in inspecting the valve for debris. The solar panel should be inspected and any dust or debris on the panel should be carefully removed. The controller and all other circuitry and wiring should be inspected for signs of corrosion, damage from insects, water leaks, or other damage. At the end of the inspection, the controller should be reset.

"Proper" disposal of vegetation trimmings and accumulated silt shall be accomplished following Texas Commission on Environmental Quality, City of Dripping Springs and Hays County rules and regulations.

Recordkeeping. Maintain a field logbook to record any relevant information noted during inspections. At a minimum, the field notebook should include the date and time, field staff names, weather conditions, uniformity of grass cover, presence of debris and/or litter, and areas of sediment accumulation as well as any corrective actions taken and date they were completed. Records shall be maintained for a minimum of 3 years and shall be made available to TCEQ upon request. A sample inspection report is included with this attachment.

An amended copy of this document will be provided to the Texas Commission on Environmental Quality within thirty (30) days of any changes in the following information.

Responsible Party: Oryx HW Mixed, Inc.

Mailing Address: P.O. Box 302663

City, State: Austin, TX **Zip:** 78703

Telephone: 512-294-4017 **Email:** blake@rueinvestments.com

Signature of Responsible Party

1-17-23
Date

TO BE MADE AVAILABLE UPON REQUEST

PROJECT NAME: HEADWATERS COMMERCIAL EAST PHASE 1

OWNER/OPERATOR:

INSPECTOR:

SIGNATURE:

LAND AREA	LOCATION	CONTROL MEASURE	CURRENT CONDITION	CORRECTIVE ACTION TO BE TAKEN	CORRECTION CODE

DATE OF LAST RAINFALL:
AMOUNT OF LAST RAINFALL:
DATE OF INSPECTION:

ADDITIONAL NOTES

CHANGES REQUIRED

REASONS FOR CHANGES

CONDITION CODES;
01 - TO BE FIXED OR REPLACED WITHIN 24 HRS
02 - TO BE FIXED OR REPLACED WITHIN 48 HRS
03 - TO BE FIXED OR REPLACED PRIOR TO NEXT INSPECTION
04 - SEE ADDITIONAL NOTES

I certify under the penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly gathering information, the Informatin submitted is, to the best of my knowledge and beleifs true, accurate and complete. I am aware that there ae significant penalties for submitting false information, including the possibility of fines and imprisonment for knowing or willful violations.

Signature:

Date:

Hill Country Civil
Engineers • Consultants

Attachment P: Measures for Minimizing Surface Stream Contamination
(NOT APPLICABLE)

OPTIONAL ENHANCED MEASURES

HEADWATERS COMMERCIAL EAST PHASE 1

OPTIONAL ENHANCED MEASURES

HEADWATERS COMMERCIAL EAST PHASE 1

Site Planning

The overall development of the subdivision is subject to the Headwaters at Barton Creek Restated Development Agreement area, recorded in document number 20021129 of the Official Public Records of Hays County and the City of Dripping Springs Planned Development District No. 6 ordinance.

Permanent water quality will be provided, and post development drainage will largely maintain the predeveloped drainage patterns.

Sensitive Features

A Critical Environmental Features Assessment was prepared by M. Trojan & Associates, Inc. for the Headwaters Commercial Tract. No sensitive features were identified on the Oakwood Market property during the assessment. See the Sensitive Environmental Features Report included in this section.

Sensitive Features Identified During Construction

Sensitive features identified during construction, such as solution cavities and caves, will be protected according to TCEQ requirements in order to ensure that water quality is protected.

Caves

No caves were identified during the geologic assessment. The geologic assessment is included at the end of this section.

Stream Buffers

There are no existing waterways on this site, and therefore Water Quality Buffer Zones (WQBZ) are not required for this project.

Construction

Temporary erosion controls that will be in place during construction are:

1. Silt Fence
2. Concrete Washout
3. Stabilized Construction Entrance
4. Tree Protection

Permanent BMP Implementation

The reduction of 80 percent of the annual Total Suspended Solids load in storm water runoff from the project will be achieved by the use of a batch detention pond to achieve a minimum TSS removal efficiency of 80 percent.

The permanent water quality controls have been designed to meet the TCEQ requirements and water quality calculations are based on the calculations found in the Optional Enhanced Measures Appendix A to RG-348.

Measures to Protect Stream Morphology

This project is exempt from flow control requirements to protect stream morphology. Per TCEQ RG348-A Exemption 1, “Any project able disperse, without discharge to surface waters, the total 2-year, 24-hour runoff volume for the proposed development condition on site.” TCEQ has made a determination that roadside ditches and dry creek beds do not constitute as surface waters. The water quality pond discharges through a stabilized outlet control into a dry creek bed and therefore meets the requirements in Exemption 1.

Maintenance

The Headwaters Municipal Utility District will be responsible for maintaining the water quality controls in the Headwaters Commercial Tract. The Headwaters Municipal Utility District will maintain records of all maintenance activities for the most recent 3 years and those records will be made available to TCEQ upon request.

See “Attachment N” for the maintenance and recordkeeping requirements.

HEADWATERS COMMERCIAL EAST PHASE 1

SENSITIVE FEATURES REPORT

1. Letter of Clarification Regarding Report of City of Dripping Springs Critical Environmental Features Assessment and Texas Commission on Environmental Quality Geologic Assessment Scopes
2. Sensitive Features Report

M. TROJAN & ASSOCIATES
Environmental Consultants

October 3, 2018
Sent Via E-mail

Blake Rue
Rue Investments
P.O. Box 302663
Austin, Texas 78703

Subject: Clarification Regarding Report of City of Dripping Springs
Critical Environmental Features Assessment and Texas Commission on
Environmental Quality Geologic Assessment Scopes
168-Acre Tract
E. Hwy 290
Dripping Springs, Hays County, Texas 78620
MTA Project No. ACEI-16-016

Mr. Rue:

Per your request and the request of Mr. Jesse Malone, PE of Malone/Wheeler, Inc., I am taking this opportunity herein to confirm the "environmental" site assessment tasks that have been completed by M. Trojan & Associates for the above referenced tract, as the resulting reports are required as parts of your future site development submittals to the City of Dripping Springs and the Texas Commission on Environmental Quality (TCEQ).

During 2016 and 2017, M. Trojan & Associates conducted a City of Dripping Springs Critical Environmental Features Assessment (CEFA) and TCEQ Geologic Assessment (GA). These site assessments were documented in the following reports:

Report Title:	Report of City of Dripping Springs Critical Environmental Features Assessment 168-Acre Undeveloped Tract E. Hwy 290 Dripping Springs, Hays County, Texas 78620
Date:	October 31, 2016
Prepared For:	Rue Investments
Prepared By:	M. Trojan & Associates
Scope:	Site reconnaissance to determine the presence of potential onsite and offsite karst or manmade features in bedrock, as well as occurrence of surface water hydrological features such as streams, springs and wetlands.

Report Title: Geologic Assessment
168-Acre Undeveloped Tract
E. Hwy 290
Dripping Springs, Hays County, Texas 78620
Date: September 4, 2017
Prepared For: Rue Investments
Prepared By: M. Trojan & Associates

Scope: Site reconnaissance to determine the presence of potential onsite and offsite karst or manmade features in bedrock.

Note: While the tract is located over the Edwards Aquifer Contributing Zone, the GA effort was conducted for the TCEQ Optional Enhancement Measures (OEM).

Both efforts were conducted by Mr. Michael Trojan, a Licensed Professional Geologist. The criteria used to identify potential features were consistent with those defined/acknowledged by the City of Dripping Springs and TCEQ, as well as the TCEQ OEM component. Moreover, identification and documentation of features was consistent with the "Headwaters at Barton Creek Development Agreement," including the Second Amendment to the Agreement.

Regarding submittal of the CEFA and GA reports as part of the future site development plan packages to the City and TCEQ, it is noted herein that both the GA and CEFA reports should be submitted to TCEQ for the TCEQ OEM as the scope of the CEFA effort included surface water hydrological features (Note: a seasonal spring feature was identified on the tract). The submittal package destined to the City of Dripping Springs need only to include the CEFA report.

Thank you for your time in receiving and reviewing this correspondence. Should you have any questions or require additional information, please feel free to contact me at (512) 917-3695, or forward an email to mtrojan0316@gmail.com.

Respectfully,



Michael Trojan, PG
M. TROJAN & ASSOCIATES

c: Jesse Malone, PE, Malone/Wheeler, Inc.
MTA Project ACEI-16-016

CITY OF DRIPPING SPRINGS
CRITICAL ENVIRONMENTAL FEATURES ASSESMENT

168-ACRE UNDEVELOPED TRACT
E. HWY 290
DRIPPING SPRINGS, HAYS COUNTY, TEXAS 78620

Prepared For

Rue Investments
P.O. Box 302663
Austin, Texas 78703

Prepared By

M. Trojan & Associates
Environmental Consultants
8244 Lime Creek Road
Leander, Texas 78641

MTA Project No. ACEI-16-016

October 31, 2016

M. TROJAN & ASSOCIATES
Environmental Consultants

M. TROJAN & ASSOCIATES
Environmental Consultants

October 31, 2016

Blake Rue
Rue Investments
P.O. Box 302663
Austin, Texas 78703

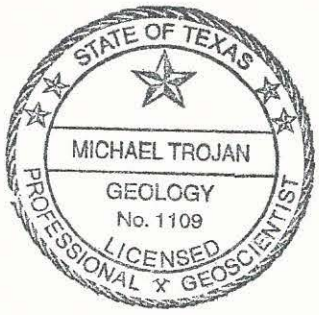
Subject: Report of City of Dropping Springs
Critical Environmental Features Assessment
168-Acre Undeveloped Tract
E. Hwy 290
Dripping Springs, Hays County, Texas 78620
MTA Project No. ACEI-16-016

Mr. Rue:

The information provided in this *City of Dripping Springs Critical Environmental Features Assessment* report addresses certain site environmental conditions and other environmental factors that the City of Dripping Springs may require as part of a Site Development Plan submittal for the above referenced property.

Thank you for providing me with the opportunity to assist you in environmental matters associated with the property. Should you have any questions or require additional information, please feel free to contact me at (512) 258-6606 or forward an email to mtrojan@austin.rr.com.

Respectfully,



Michael Trojan, PG
M. TROJAN & ASSOCIATES

Licensed Professional Geoscientist #1109

c: MTA Project File ACEI-16-016

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APPENDIX C: CRITICAL ENVIRONMENTAL FEATURES WORKSHEET

NOTICE

This *Critical Environmental Features Assessment* has been prepared in anticipation of a proposed development project(s) within the jurisdiction of the City of Dripping Springs, Texas. The scope and format of this *Critical Environmental Features Assessment* is consistent with that of similar environmental assessments and geologic assessments recognized by the City of Austin (COA) and Texas Commission on Environmental Quality (TCEQ), respectively. The specific focus of this *Critical Environmental Features Assessment* is to identify and document any onsite and offsite Critical Environmental Features (CEFs) that may warrant consideration in light of proposed future development on the subject property.

1.0 STUDY AREA AND PROJECT INFORMATION

M. Trojan & Associates was retained to conduct a *Critical Environmental Features Assessment* for proposed future development on a 168-acre undeveloped tract located along E. Hwy 290 in Dripping Springs, Hays County, Texas. The information provided in this report addresses certain environmental conditions and other environmental factors that the City of Dripping Springs may require as part of future Site Plan submittals.

The field reconnaissance for this *Critical Environmental Features Assessment* was conducted on October 19-21, 2016 by Mr. Michael Trojan, a Professional Geologist/Hydrogeologist certified by the Texas Board of Professional Geoscientists. Mr. Trojan has a total of 32 years of experience in all aspects of the environmental field and 22 years (1994 – present) direct experience in conducting vegetation surveys, geologic assessments over the Edwards Aquifer Recharge Zone and other karst terrain, CEFs assessments, and endangered species habitat assessments for land developers in the Central Texas area.

1.1 Study Area Location and General Characteristics

The study area is located on the north side of E. Hwy 290, and approximately two miles east of the City of Drippings Springs, Texas (refer to Figures 1, 2 and 3 of Appendix A). The property consists of approximately 168 acres of undeveloped land that is generally densely wooded. While the tract is undeveloped, as of the writing of this *Critical Environmental Features Assessment* report, the onsite segment of Headwaters Blvd. had been completed on the west-central portion of the tract.

1.2 Proposed Site Development

As of the writing of this *Critical Environmental Features Assessment* report, components of the tract are proposed for a variety of development; however, to date, no formal

draft layout or Site Plan is available for review. As such, a specific Site Plan is not depicted on Figure 4 of Appendix A.

1.3 Previously Published Reports

No previously published, site-specific technical reports were reviewed as part of this *Critical Environmental Features Assessment*.

2.0 CRITICAL ENVIRONMENTAL FEATURES ASSESSMENT FORM

This *Critical Environmental Features Assessment* has been prepared consistent with that of similar environmental assessments and geologic assessments recognized by the City of Austin (COA) and Texas Commission on Environmental Quality (TCEQ), respectively. As such, and for convenience, much of the data and information collected during the effort is presented in the below, well established *Environmental Resource Inventory Form* format that is the standard form used by COA. It should be noted that certain components of the Form may have been modified as those components do not apply to this tract and proposed future development on the property.

Environmental Resource Inventory Form

1. Site/Project Name: 168-Acre Undeveloped Tract

2. County Appraisal District Property ID (#s): R17595, R124181

3. Address/Location of Project: E. Hwy 290, Dripping Springs, Hays Co. TX 78620

4. Watershed: Barton Creek and Onion Creek

5. This site is within the (*Check all that apply*)

Edwards Aquifer Recharge Zone* (*See note below*)	☐ Yes	☒ No
Edwards Aquifer Contributing Zone*	☒ Yes	☐ No
Edwards Aquifer 1500 ft. Verification Zone*	☐ Yes	☒ No

6. Does this project propose floodplain modifications? ☐ Yes** ☒ No

If yes, then check all that apply:

☐ (1) The floodplain modifications proposed are necessary to protect the public health and safety;

☐ (2) The floodplain modifications proposed would provide a significant, demonstrable environmental benefit, as determined by a ***functional assessment*** of floodplain health; or

☐ (3) The floodplain modifications proposed are necessary for development allowed in the Critical Water Quality Zone

☐ (4) The floodplain modifications proposed are outside of the Critical Water Quality Zone in an area determined to be in poor or fair condition by a ***functional assessment*** of floodplain health.

** If yes, then a functional assessment must be completed and attached to the ERI.

NOTE: IF APPLICABLE, ADDITIONAL RELEVANT INFORMATION IS PROVIDED IN SECTION 4.0 OF THIS REPORT.

7. If the site is within an urban or suburban watershed, does this project propose a utility line within the Critical Water Quality Zone? [ ] Yes*** [X] No

*** If yes, then riparian restoration is required and a ***functional assessment*** must be completed and attached to the ERI.

NOTE: IF APPLICABLE, ADDITIONAL RELEVANT INFORMATION IS PROVIDED IN SECTION 5.0 OF THIS REPORT.

8. There is a total of two (2) Critical Environmental Features (CEFs) on or within 150 feet of the property. Provide the number of each type of CEFs on or within 150 feet of the site *(Please provide the number of CEFs)*:

1	Spring(s)/Seep(s)	____	Point Recharge Feature(s)	____	Bluff(s)
____	Canyon Rimrock(s)	____	Wetland(s)	1	Well(s)

NOTE: INFORMATION PERTAINING TO CEFs IS PROVIDED IN SECTION 3.0, ON FIGURES 8 and 9 OF APPENDIX A AND ON PHOTOGRAPHS IN APPENDIX B OF THIS REPORT.

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

All ERI reports must include:

- [X] Site-specific geologic map
- [X] Historical aerial photo of the site
- [X] Site soil map
- [X] Critical environmental features and well location map

Only if present on site *(maps can be combined)*:

- [ ] Edwards Aquifer Recharge Zone with 1500-foot Verification Zone *(only if site is over or within 1500 feet of the recharge zone)*
- [X] Edwards Aquifer Contributing Zone
- [ ] Water Quality Transition Zone (WQTZ)
- [ ] Critical Water Quality Zone (CWQZ)
- [ ] Floodplains for all water courses/drainage

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

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

Soil Series Unit Names, Infiltration Characteristics & Thickness		
Soil Series Unit Name & Subgroup**	Group*	Thickness (feet)
Brackett-Rock outcrop-Comfort complex, undulating (BtD)	B/C	up to 1.4
Brackett-Rock outcrop-Real complex, steep (BtG)	B/C-C	up to 1.2

*** Soil Hydrologic Groups Definitions (Abbreviated)**

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

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

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

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

** Subgroup Classification –

NOTE: SOIL TYPES ARE DEPICTED ON FIGURE 5 OF APPENDIX A OF THIS REPORT.

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

The study area slopes in multiple directions; however, the primary topographic slopes are to the north (refer to Figure 6 of Appendix A). Topographic slopes vary from medium to very steep, with the steepest slopes along topographic slope breaks and along some segments of drainage features (refer to Figure 6 of Appendix A). Topographic elevations on the study area range between approximately 1,305 and 1,185 feet above mean sea level (msl), with the highest elevations located at the summits of the onsite hilltops and lowest elevations within drainage features at both the north and south property boundaries.

The tract exhibits several primary drainage ways and numerous secondary drainage features that convey stormwater runoff to the primary drainage ways (refer to Figure 6 of Appendix A and photographs in Appendix B). As is depicted on the figure, stormwater runoff generated within the study area boundaries flows generally toward the north or south, with majority of the tract conveying runoff toward the north and offsite to several feeder creeks to Barton Creek. The southern-most portion of the tract conveys runoff toward the south to tributaries that drain into Onion Creek. Barton Creek lies approximately 1.8 miles to the north of the tract while Onion Creek is located about 3.3 miles south of the property.

According to review of a FEMA Flood Insurance Rate Map, no portion of the tract lies within the 100-year floodplain.

List surface geologic units below:

Geologic Units Exposed at Surface		
Group	Formation	Member
Trinity Group	Glen Rose	unknown

Brief Description of Site Geology *(attach additional sheets if needed)*:

According to the *Soil Survey of Comal and Hays Counties, Texas*, the dominant soils that are reported to cover the study area are as follows (also refer to Figure 5 of Appendix A for soil type locations):

Soil Component Name:	Brackett-Rock outcrop-Comfort complex, undulating (BtD)
Soil Surface Texture:	Brackett soil: grayish-brown gravelly clay loam to approximately 6 inches, underlain by pale brown and pale yellow gravelly clay loam to about 17 inches Comfort soil: dark brown extremely stony clay to approximately 4 inches, underlain by dark reddish-brown extremely stony clay to about 11 inches
Hydrologic Group:	Permeability is moderately slow; very low available water capacity; runoff is medium
Soil Drainage Class:	Well drained
Soil Component Name:	Brackett-Rock outcrop-Real complex, steep (BtG)
Soil Surface Texture:	Brackett soil: grayish-brown gravelly clay loam to approximately 6 inches, underlain by light gray gravelly clay loam to about 14 inches Comfort soil: very dark grayish-brown gravelly clay loam to approximately 12 inches
Hydrologic Group:	Permeability is moderately slow to slow; very low available water capacity; runoff is rapid
Soil Drainage Class:	Well drained

Based on the *Soil Survey* and as is depicted on Figure 5 of Attachment C, the Brackett/Comfort complex and Brackett/Real complex soils are reported to cover the entire study area. Shallow excavations were made at various locations across the property and soil characteristics were observed to be similar to those described in the *Soil Survey* (refer to photograph in Appendix B). The soils were found to be relatively thin to medium-thick. Some soil profiles within the primary drainage ways were determined to be up to approximately 4.0 feet thick. The site inspection observe only minor soil erosion, primarily within/around secondary drainage ways.

Based on the *Geologic Atlas of Texas, Llano Sheet*, and review of other available geologic/hydrologic publications, the outcropping (near surface) geologic formation

at the subject property is the Glen Rose Formation (Kgr) (refer to Figure 7 of Appendix A). The Glen Rose is reported to consist of limestone and dolomite. The limestone is light gray to yellowish-gray, aphanitic to fine-grained, hard to soft and marly. The dolomite is yellow-brown, fine-grained and porous. The thickness of the Glen Rose is reported to be up to 380 feet.

Abundant rock outcrops of the Glen Rose were observed across the entire property. Outcrops were observed to be most prevalent along topographic slopes breaks and within drainage ways (refer to photographs in Appendix B).

The property is located over the Edwards Aquifer Contributing Zone.

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

There are 1 Wells present on the project site and the locations are shown and labeled.
_____ 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.
There are 0 Wells that are offsite and within 150 feet of this site.

NOTE: IF APPLICABLE, WELLS ARE DISCUSSED IN SECTION 3.1.6 AND WELL LOCATION(S) IS DEPICTED ON FIGURE 8 IN APPENDIX A OF THIS REPORT.

11. VEGETATION REPORT – Provide the information requested below.

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

The study area represents landscape dominated by relatively dense, mature woodland species with approximately 60 to 70 percent coverage of medium-high canopy. As indicated in the below table, the dominant species is cedar, which accounts for approximately 95 percent of all onsite vegetation. In addition to cedar, the woodland community includes live oak, red oak, and cedar elm trees.

There is woodland community onsite. [X] Yes [ ] No

If yes, list the dominant species below.

Woodland Species	
Common Name	Scientific Name
Ash juniper (dominant)	*Juniperus ashei*
Live oak	*Quercus virginiana*

There is grassland/prairie/savanna onsite. [ ] Yes [X] No

If yes, list the dominant species below.

Grassland/Prairie/Savanna Species	
Common Name	Scientific Name

There is hydrophytic vegetation onsite. [ ] Yes [X] No

If yes, list the dominant species below.

Hydrophytic Plant Species		
Common Name	Scientific Name	Wetland Indicator Status

A tree survey of all trees with a diameter of at least eight inches measured four and one-half feet above natural grade level has been completed on the site.
[ ] Yes [X] No

12. WASTEWATER REPORT – Provide the information requested below.
N/A – at this point a Site Plan is not available

Wastewater for the site will be treated by *(check that apply)*:
[ ] Onsite system(s)
[ ] City of Austin centralized sewage collection system
[ ] Other centralized collection system

The site sewage collection system is designed and will be constructed to in accordance to all State, County and City standard specifications.
[ ] Yes [ ] No

Calculations of the size of the drainfield or wastewater irrigation area(s) are attached at the end of this report or shown on the site plan.
[ ] Yes [ ] No

Wastewater lines are proposed within the Critical Water Quality Zone.
[ ] Yes [ ] No | If yes, then provide justification below.

Is the project site over the Edwards Aquifer?
[ ] Yes [ ] No

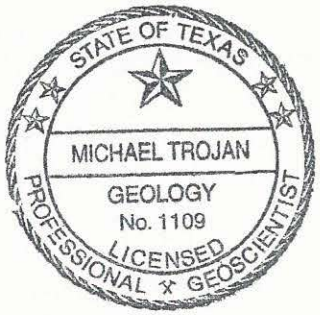
If yes, then describe the wastewater disposal systems proposed for the site, its treatment level and effects on receiving watercourses or the Edwards Aquifer.

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

Date(s) field assessment was performed: October 19-21, 2016
Date(s)

Michael Trojan, PG	(512) 258-6606 / (512) 917-3695
Print Name	Telephone
Signature	mtrojan@austin.rr.com
	Email Address
M. Trojan & Associates	October 31, 2016
Name of Company	Date

For project sites within the Edwards Aquifer Recharge Zone, my signature and seal also certifies that I am a licensed Professional Geoscientist in the State of Texas.



Michael Trojan, PG
Certified Professional Geoscientist #1109 (TX)

3.0 CRITICAL ENVIRONMENTAL FEATURES

The field reconnaissance of the study area included search for and identification of CEFs, including bluffs; canyon rimrock; point recharge features (e.g., caves, faults, fractures/joints, sinkholes/depressions and other natural features); springs and seeps; wetlands; and manmade features in bedrock. These feature types are consistent with those recognized by local regulatory entities, including COA and TCEQ.

The reconnaissance was accomplished by walking 30- to 50-foot (approximate) spaced transects across the entire study area. The findings of this inspection are summarized in Sections 3.1.1 through 3.1.6. In addition, the field reconnaissance included inspection of neighboring properties a distance of approximately 150 to 200 feet (as practicable) from all boundaries of the study area for identification of offsite CEFs that could be deemed as significant in terms of development on the property. The findings of this offsite inspection are summarized in Section 3.2.

3.1 Onsite Critical Environmental Features

3.1.1 Bluffs

In general, Central Texas regulatory entities define a bluff as an abrupt vertical change in topography of more than 40 feet with an average slope steeper than four feet of rise for one foot of horizontal travel (approximately 75 degrees).

Based on observations made across the entire study area, no bluffs were identified.

3.1.2 Canyon Rimrock

In general, Central Texas regulatory entities define a canyon rimrock as an abrupt vertical rock outcrop of more than 60 percent slope (31 degrees), greater than four feet vertically, and a horizontal extent equal to or greater than 50 feet.

Based on observations made across the entire study area, no canyon rimrock was identified.

3.1.3 Point Recharge Features

In general, Central Texas regulatory entities define point recharge features as: caves, faults, fractures/joints, sinkholes/depressions and other natural features that can provide an avenue/conduit for rapid recharge to the subsurface.

Based on observations made across the entire study area, no point recharge features were identified.

3.1.4 Springs/Seeps

In general, Central Texas regulatory entities define a spring and/or seep as a point or zone of natural groundwater discharge in upland and/or riparian zones which produce measurable flow down gradient of the source, or a pool, or both, or (during drought conditions) an area characterized by the presence of a mesic plant community.

The site reconnaissance identified one springs/seeps zone CEF on the tract. This CEF is described below.

CEF S-1: Springs/Seeps Zone

Latitude: 30.196662 (center of the CEF zone)
Longitude: -98.042187 (center of the CEF zone)
Dimensions: 80 X 8' (approx.)

CEF S-1 represents a zone of minor springs and/or seeps along a segment of the primary ephemeral drainage way near the center of the tract (refer to Figures 8 and 9 of Appendix A, photographs in Appendix B and the CEF Worksheet in Appendix C). Specifically, the zone consists of a stream pool segment approximately 80 feet in length and 8.0 feet in maximum width that receives direct seepage from bordering banks.

On the day of the field reconnaissance, the 80-foot segment of the drainage way was observed to be filled with water up to approximately 0.75 feet in depth, and it was assessed that total springs/seeps discharge did not exceed approximately 1.0 gallons per minute. Moreover, field evidence suggests that the feature is seasonal and dry during periods of drought. This is supported by the absence of hydrophytic vegetation species along the drainage segment.

Regarding the CEF's relevance with respect to future development on the tract, CEF S-1 is believed to be insignificant as:

1. The feature is seasonal; and
2. The feature lies at a significant distance (minimum of 250 to 300 feet) from any proposed project site areas on the tract.

3.1.5 Wetlands

In general, Central Texas regulatory entities define a wetland as land transitional between terrestrial and aquatic systems where the water table is usually at or near the surface or the land is covered by shallow water. An area is classified as a wetland if it

meets the US Army Corps of Engineers (USACE) three parameter technical criteria as outlined in the USACE 1987 *Wetlands Delineation Manual*.

Based on observations made across the entire study area, no wetlands were identified. Regarding a potential of wetlands associated with springs/seeps zone CEF S-1 (discussed in Section 3.1.4), this springs/seeps CEF is seasonal and there is absence of hydrophytic vegetation species along the drainage segment.

3.1.6 Manmade Features in Bedrock

In general, Central Texas regulatory entities define manmade features in bedrock to include: water wells, sanitary sewer lines, storm sewer lines, trenches, quarries, and other cultural features that intersect bedrock and can potentially increase the rate of recharge to the subsurface. The following manmade features in bedrock were identified on the tract:

Water Well (CEF MB-1)

Latitude: 30.195288
Longitude: -98.036656

CEF MB-1 represents a water well located on the eastern one-third of the tract (refer to Figure 8 of Appendix A, photograph in Appendix B and CEF Worksheet in Appendix C). The well was observed to be relatively new and not in use (i.e., not completed at ground surface with electrical hook-up, piping, etc.). Installation of the well is not documented in the Texas Water Development Board Submitted Drillers Reports (SDR) Database, and the well details/dimensions are unknown.

Regarding the well's relevance with respect to future development on the tract, the well is assessed not to be significant as the well is properly sealed from ground surface. Still, if the well is not intended for future use, then the structure should be properly plugged and abandoned per the appropriate State regulations.

Underground Infrastructure

Latitude: N/A
Longitude: N/A

Underground infrastructure has been installed in bedrock along the onsite segment of Headwaters Blvd. that crosses the west-central portion of the tract. These features are engineered and represent fully-enclosed storm sewer

and wastewater infrastructure (Note: This assessment has no knowledge of the installation details). These underground infrastructure features are not included on the CEF Worksheet of Appendix C.

The infrastructure is fully-enclosed and is installed in bedrock that shows no evidence of karst features. Therefore, it is assessed that the underground infrastructure is not significant in the potential to increase the rate of recharge to the subsurface. It is further assessed that these features will not be affected by future development on the tract.

3.2 Offsite Critical Environmental Features

The offsite reconnaissance identified the following CEFs/features within approximately 150 to 200 feet from all property boundaries (refer to Figure 8 of Appendix A):

Offsite Springs/Seeps Zones

The reconnaissance identified spring/seeps zones directly north of the north property boundary (refer to Figure 8 of Appendix A and photograph in Appendix B). These zones are found along the same ephemeral drainage way as onsite springs/seeps CEF S-1 and exhibit very similar characteristics to those of onsite CEF S-1 (refer to Section 3.1.4).

Regarding the CEF's relevance with respect to future development on the tract, these offsite CEFs are assessed to be insignificant as:

1. The features are seasonal; and
2. The features are located at great distances from any proposed project site areas on the tract.

Manmade Features in Bedrock

Underground infrastructure has been installed in bedrock along the northward, offsite continuation of Headwaters Blvd. as well as along the north Hwy 290 right-of-way. These features are engineered and represent fully-enclosed storm sewer and wastewater infrastructure (Note: This assessment has no knowledge of the installation details).

The infrastructure is fully-enclosed and is installed in bedrock that shows no evidence of karst features. Therefore, it is assessed that the offsite underground infrastructure is not significant in the potential to increase the rate of recharge to the subsurface. It is further assessed that these features will not be affected by future development on the tract.

4.0 FLOODPLAIN MODIFICATIONS

As conceptual future projects on the tract do not propose floodplain modifications, this section does not apply.

5.0 UTILITY/WASTEWATER LINE WITHIN THE CWQZ

As conceptual future projects on the tract do not propose a utility and/or wastewater line within a "Critical Water Quality Zone" (CWQZ), this section does not apply.

7.0 REFERENCES

- City of Dripping Springs Code of Ordinances.
- Edwards Aquifer Recharge Zone information – Texas Commission on Environmental Quality online information sources.
- FEMA Flood Insurance Rate Map.
- Geologic Atlas of Texas, Llano Sheet. 1986. The University of Texas at Austin, Bureau of Economic Geology.
- Groundwater hydrology – Texas Water Development Board online information resources.
- Personal communications with representatives of Rue Investments and Austin Civil Engineering, Inc.
- Site topographic survey/map – provided by Austin Civil Engineering, Inc.
- Soil Conservation Service STATSGO soils information.
- Soil Survey of Comal and Hays Counties, U.S. Department of Agriculture – Natural Resources Conservation Service, dated 1984.
- Texas Water Development Board, Submitted Drillers Reports (SDR) Database.
- U.S. Geological Survey topographic map.

APPENDIX A

FIGURES



M. TROJAN & ASSOCIATES
Environmental Consultants

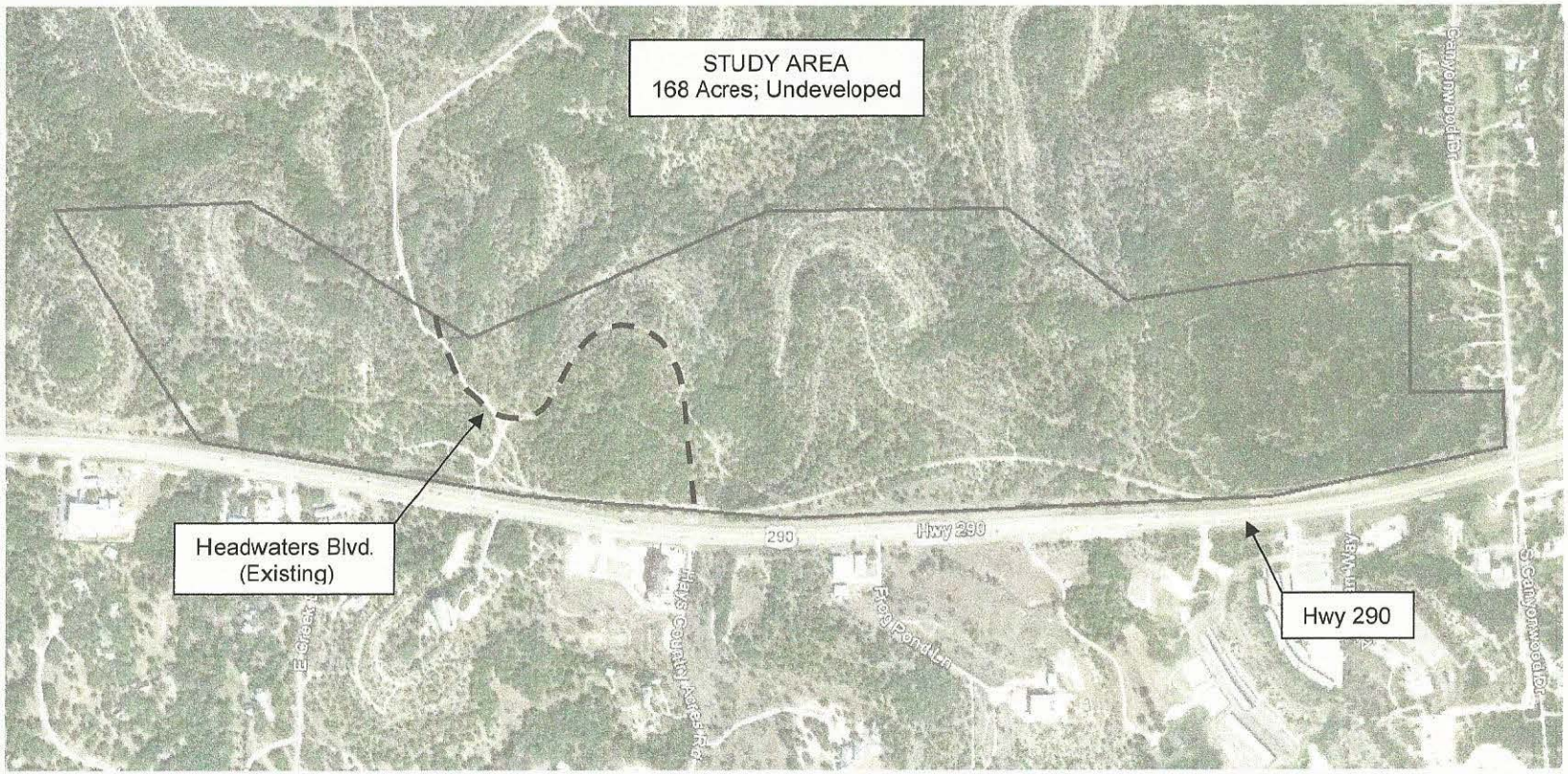
8244 Lime Creek Road
Leander, Texas 78641
(512) 258-6606

Scale:	No Scale
Date:	October 31, 2016
Project:	City of Dripping Springs CEF Assessment
MTA Project:	ACEI-16-016

FIGURE 1

SITE LOCATION MAP

168-ACRE UNDEVELOPED TRACT
E. HWY 290
DRIPPING SPRINGS, HAYS COUNTY, TEXAS 78620



2015 Aerial Photograph

M. TROJAN & ASSOCIATES
Environmental Consultants

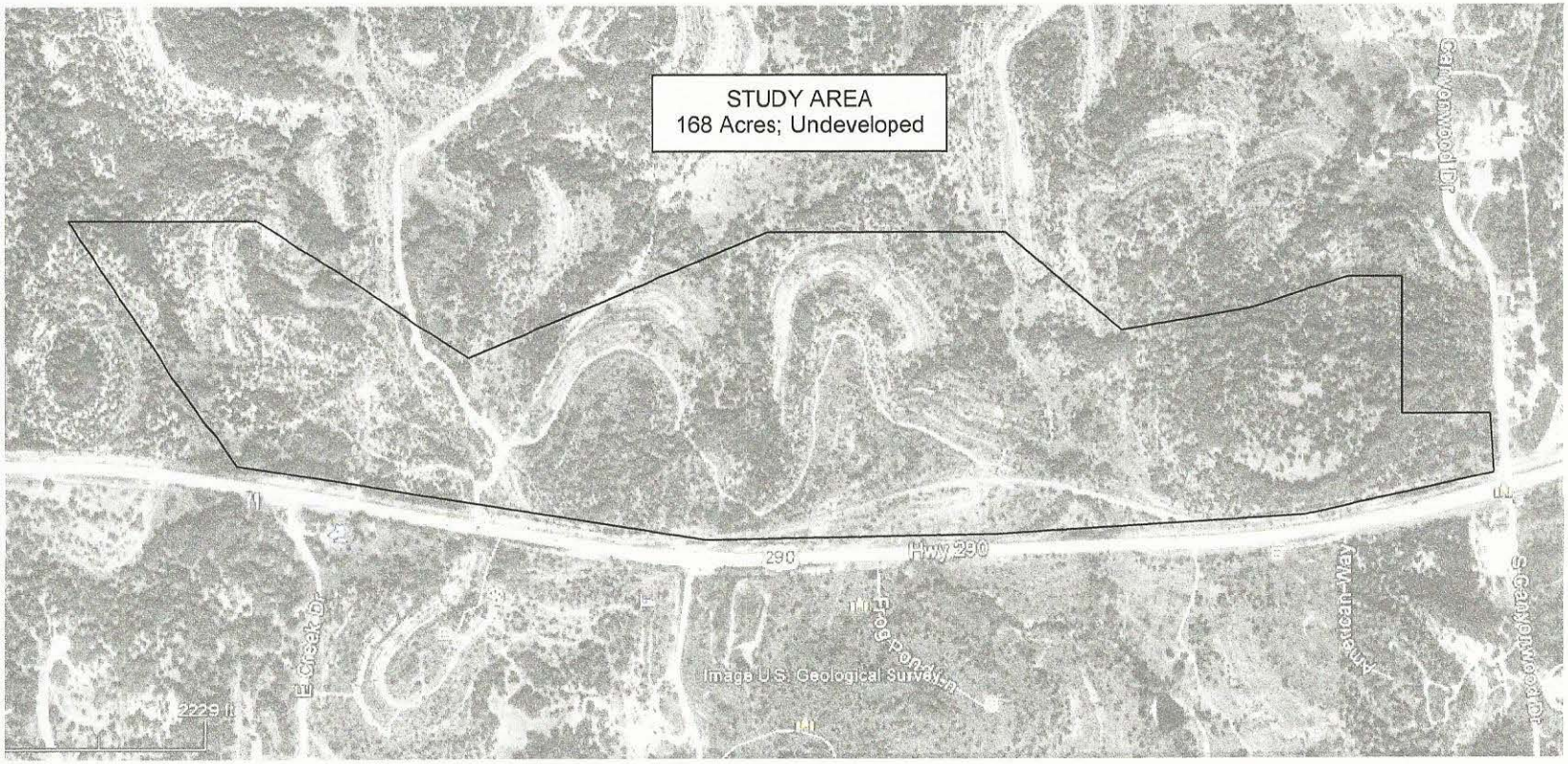
8244 Lime Creek Road
Leander, Texas 78641
(512) 258-6606

Scale:	1" = 920' (approx.)
Date:	October 31, 2016
Project:	City of Dripping Springs CEF Assessment
MTA Project:	ACEI-16-016

FIGURE 2

SITE AERIAL PHOTOGRAPH

168-ACRE UNDEVELOPED TRACT
E. HWY 290
DRIPPING SPRINGS, HAYS COUNTY, TEXAS 78620



1995 Aerial Photograph

M. TROJAN & ASSOCIATES
Environmental Consultants

8244 Lime Creek Road
Leander, Texas 78641
(512) 258-6606

Scale:	1" = 920' (approx.)
Date:	October 31, 2016
Project:	City of Dripping Springs CEF Assessment
MTA Project:	ACEI-16-016

FIGURE 3

HISTORICAL SITE AERIAL PHOTOGRAPH

168-ACRE UNDEVELOPED TRACT
E. HWY 290
DRIPPING SPRINGS, HAYS COUNTY, TEXAS 78620

NO PRELIMINARY SITE PLAN AVAILABLE

M. TROJAN & ASSOCIATES
Environmental Consultants

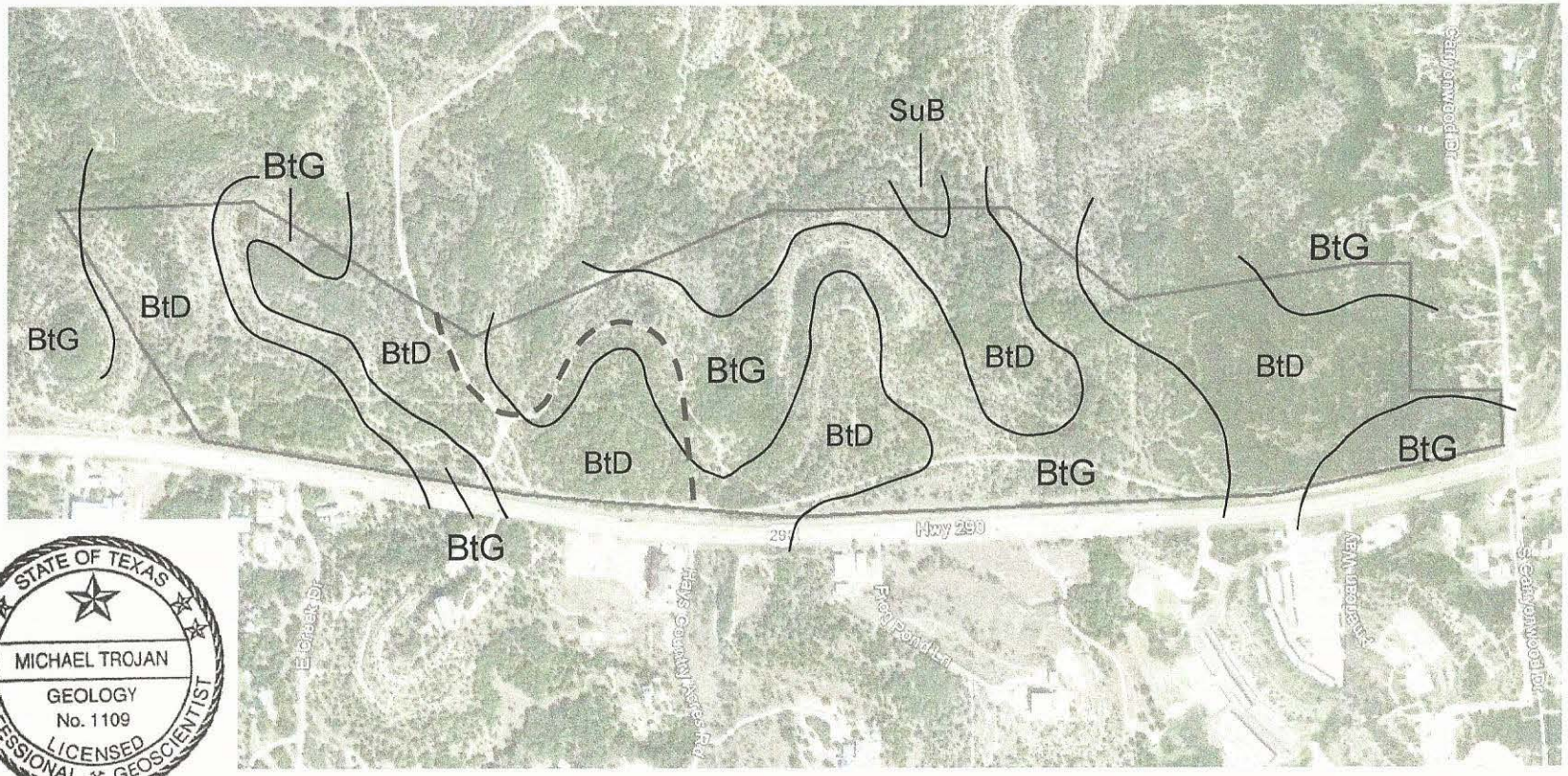
8244 Lime Creek Road
Leander, Texas 78641
(512) 258-6606

Scale:	No Scale
Date:	October 31, 2016
Project:	City of Dripping Springs CEF Assessment
MTA Project:	ACEI-16-016

FIGURE 4

SITE PLAN

168-ACRE UNDEVELOPED TRACT
E. HWY 290
DRIPPING SPRINGS, HAYS COUNTY, TEXAS 78620



STATE OF TEXAS
MICHAEL TROJAN
GEOLOGY
No. 1109
LICENSED
PROFESSIONAL GEOSCIENTIST

BtD – Brackett-Rock outcrop-Comfort complex, undulating / BtG – Brackett-Rock outcrop-Real complex, steep
SuB – Sunev clay loam, 1-3% slopes

N

M. TROJAN & ASSOCIATES
Environmental Consultants

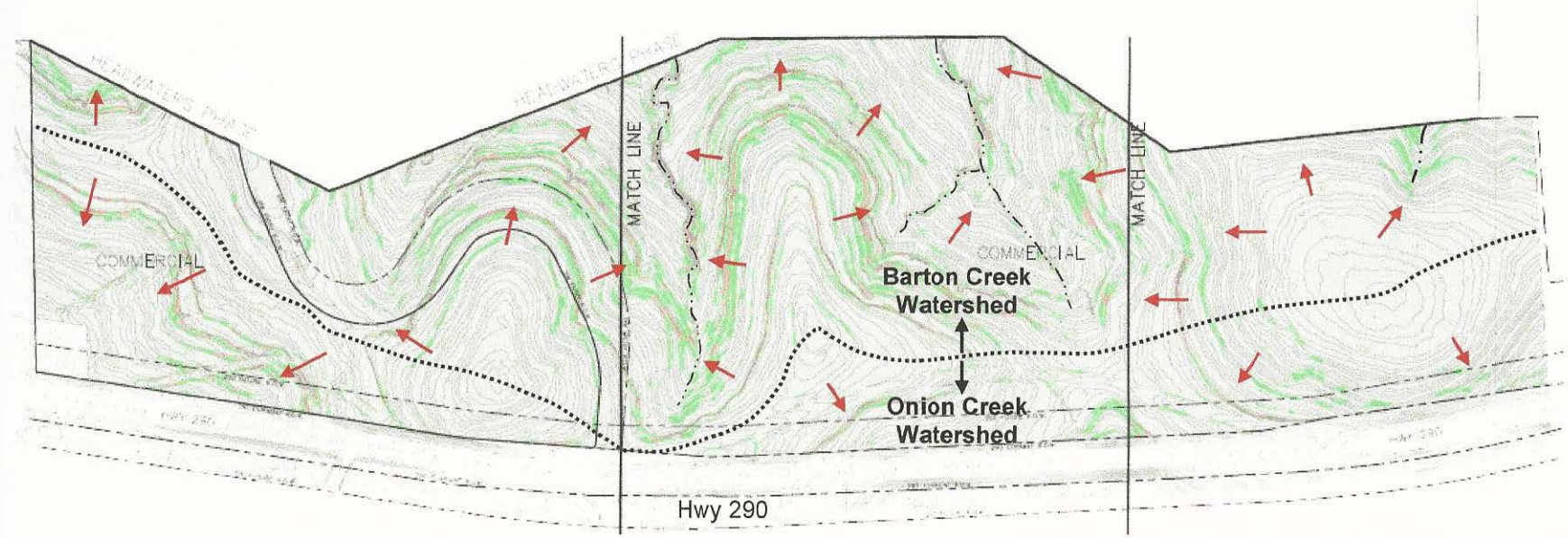
8244 Lime Creek Road
Leander, Texas 78641
(512) 258-6606

Scale:	1" = 920' (approx.)
Date:	October 31, 2016
Project:	City of Dripping Springs CEF Assessment
MTA Project:	ACEI-16-016

FIGURE 5

SITE SOILS MAP

168-ACRE UNDEVELOPED TRACT
E. HWY 290
DRIPPING SPRINGS, HAYS COUNTY, TEXAS 78620



Source: Austin Civil Engineering, Inc. and Hays County

M. TROJAN & ASSOCIATES
Environmental Consultants

8244 Lime Creek Road
Leander, Texas 78641
(512) 258-6606

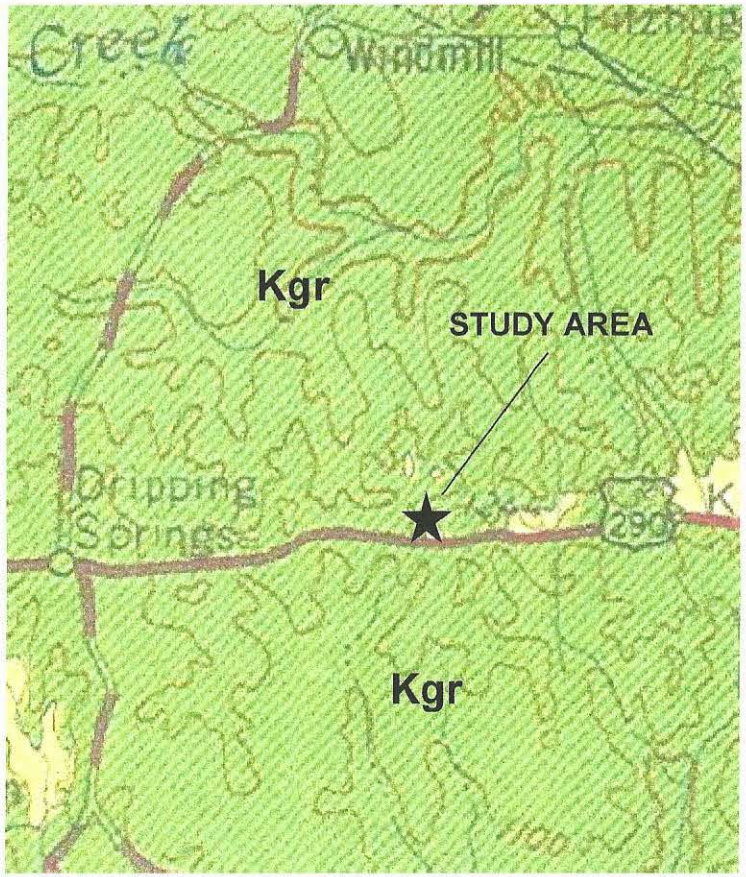
Scale:	No Scale
Date:	October 31, 2016
Project:	City of Dripping Springs CEF Assessment
MTA Project:	ACEI-16-016

FIGURE 6

SURFACE WATER HYDROLOGY

168-ACRE UNDEVELOPED TRACT
E. HWY 290
DRIPPING SPRINGS, HAYS COUNTY, TEXAS 78620

STUDY AREA
The study area and all surrounding properties are underlain by the Glen Rose Formation (Kgr); property lies over the Edwards Aquifer Contributing Zone



Kgr – Glen Rose Formation

Source: (1) *Geologic Atlas of Texas, Llano Sheet*, Bureau of Economic Geology, dated 1986

STATE OF TEXAS
MICHAEL TROJAN
GEOLOGY
No. 1109
LICENSED
PROFESSIONAL GEOSCIENTIST

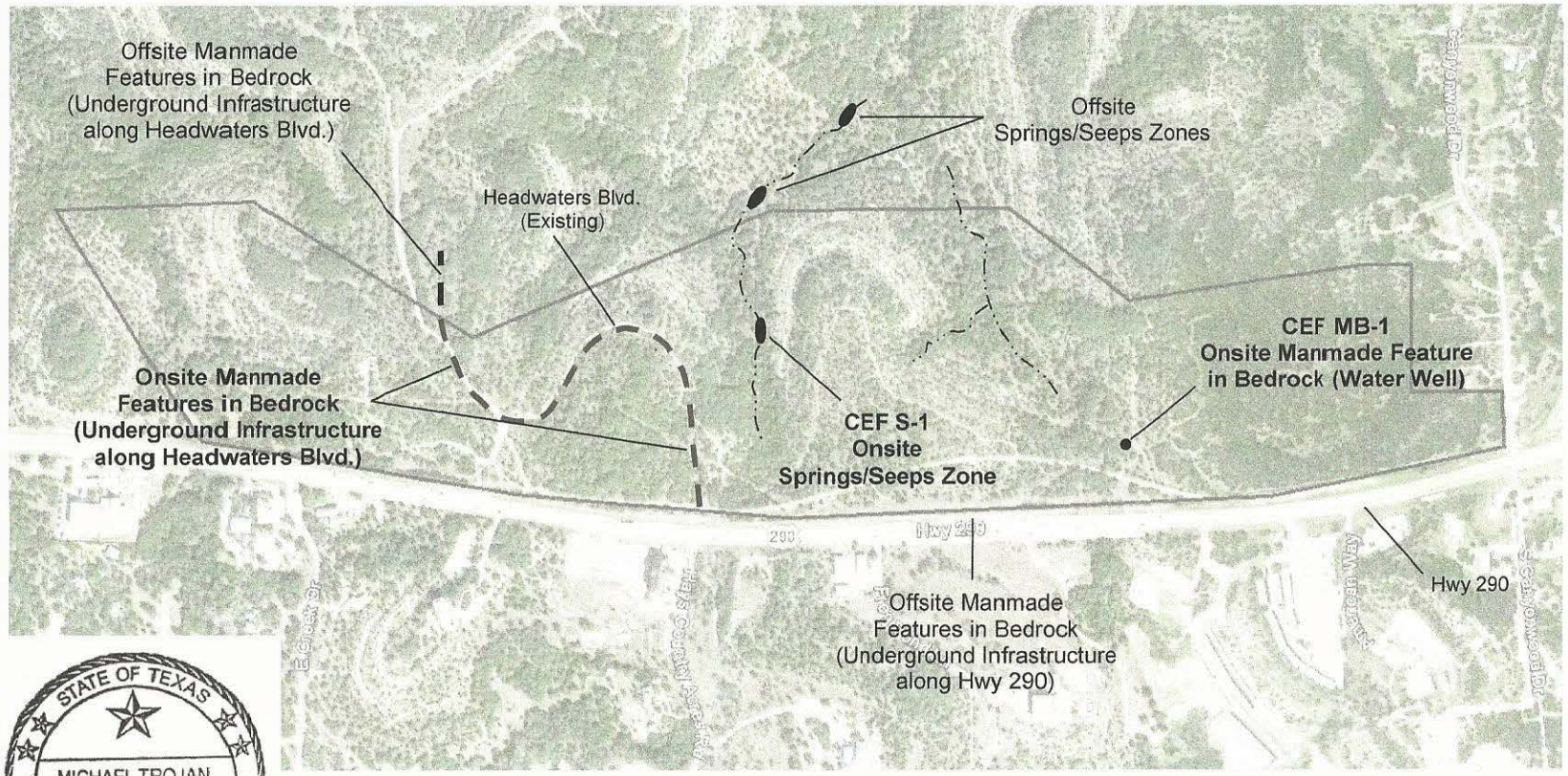
M. TROJAN & ASSOCIATES
Environmental Consultants
8244 Lime Creek Road
Leander, Texas 78641
(512) 258-6606

Scale: No Scale
Date: October 31, 2016
Project: City of Dripping Springs CEF Assessment
MTA Project: ACEI-16-016

FIGURE 7

GEOLOGIC MAP

168-ACRE UNDEVELOPED TRACT
E. HWY 290
DRIPPING SPRINGS, HAYS COUNTY, TEXAS 78620



STATE OF TEXAS
MICHAEL TROJAN
GEOLOGY
No. 1109
LICENSED PROFESSIONAL GEOSCIENTIST

M. TROJAN & ASSOCIATES
Environmental Consultants

8244 Lime Creek Road
Leander, Texas 78641
(512) 258-6606

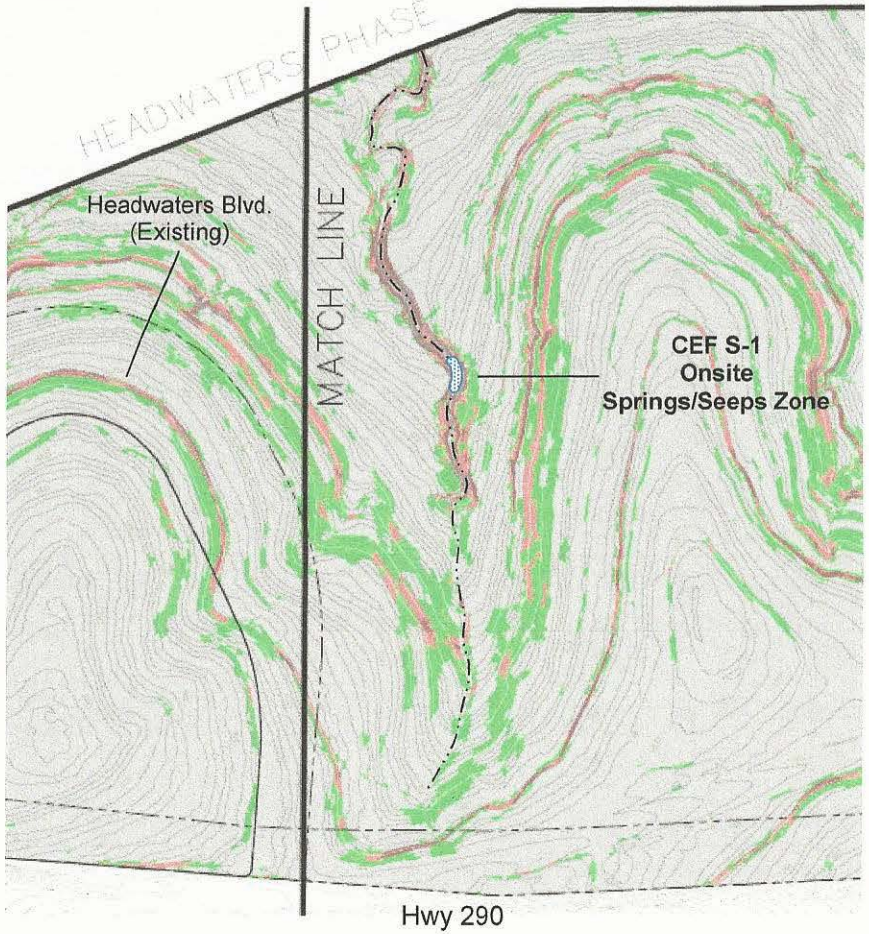
Scale:	1" = 920' (approx.)
Date:	October 31, 2016
Project:	City of Dripping Springs CEF Assessment
MTA Project	ACEI-16-016

FIGURE 8

SITE CEFs MAP

168-ACRE UNDEVELOPED TRACT
E. HWY 290
DRIPPING SPRINGS, HAYS COUNTY, TEXAS 78620

—·—·— Primary ephemeral drainage way exhibiting bed and bank features



STATE OF TEXAS
MICHAEL TROJAN
GEOLOGY
No. 1109
LICENSED
PROFESSIONAL GEOSCIENTIST

M. TROJAN & ASSOCIATES
Environmental Consultants
8244 Lime Creek Road
Leander, Texas 78641
(512) 258-6606

Scale:	1" = 300' (approx.)
Date:	October 31, 2016
Project:	City of Dripping Springs CEF Assessment
MTA Project	ACEI-16-016

FIGURE 9

CEF S-1 DETAIL

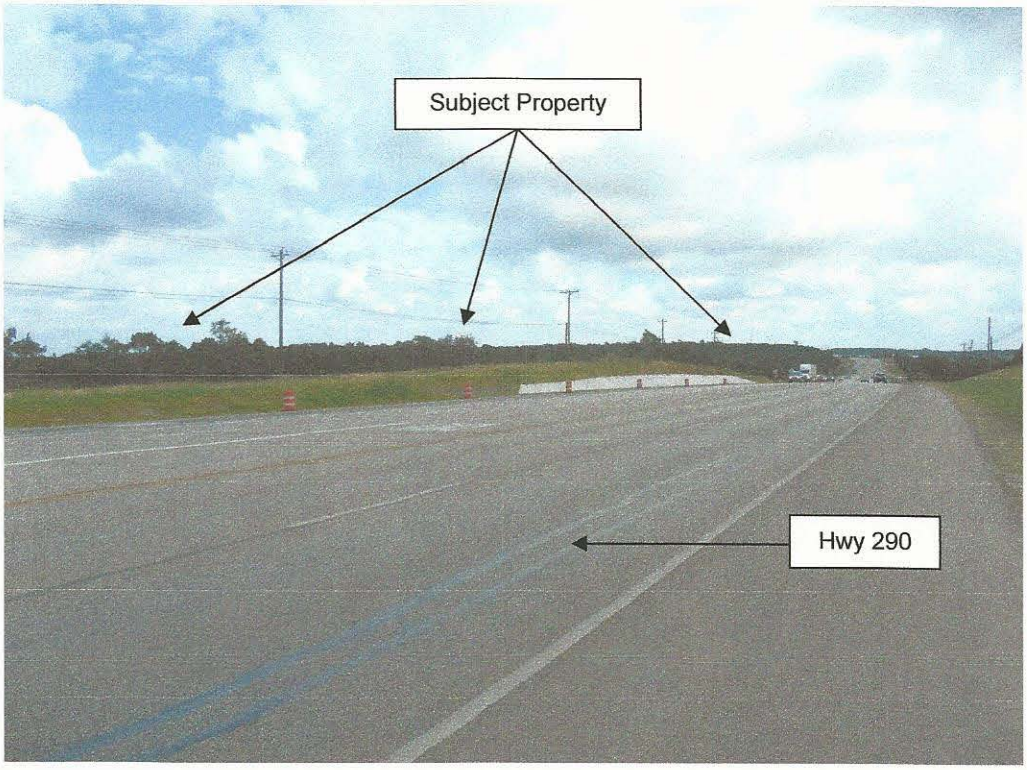
168-ACRE UNDEVELOPED TRACT
E. HWY 290
DRIPPING SPRINGS, HAYS COUNTY, TEXAS 78620

APPENDIX B

SITE PHOTOGRAPHS

PHOTOGRAPHIC REPORTING DATA SHEET

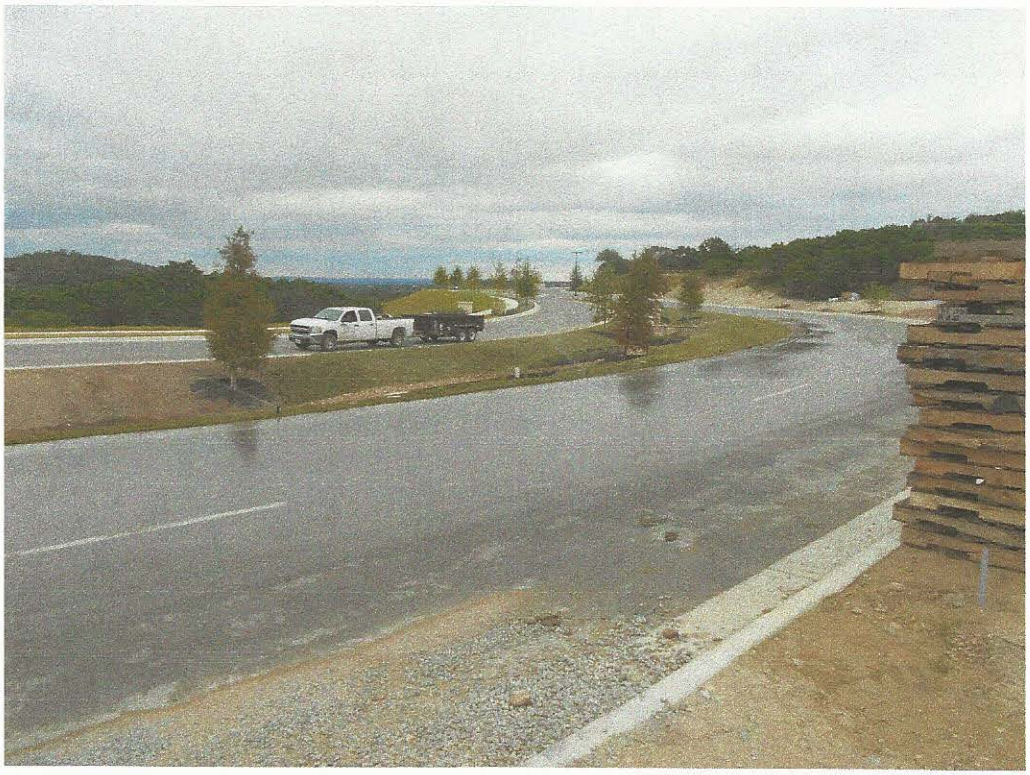
[PHOTOGRAPH 1]



Project:	City of Dripping Springs Critical Environmental Features Assessment
Site:	168-Acre Undeveloped Tract
Location:	E. Hwy 290, Dripping Springs, Hays County, Texas 78620
Date Taken:	October 19-21, 2016
Photographer:	Michael Trojan, PG
Description:	Typical view of the subject property from Hwy 290. Photograph taken from Hwy 290 facing east.

PHOTOGRAPHIC REPORTING DATA SHEET

[PHOTOGRAPH 2]



Project:	City of Dripping Springs Critical Environmental Features Assessment
Site:	168-Acre Undeveloped Tract
Location:	E. Hwy 290, Dripping Springs, Hays County, Texas 78620
Date Taken:	October 19-21, 2016
Photographer:	Michael Trojan, PG
Description:	View of a segment of Headwaters Blvd. (existing) on the west-central portion of the tract.

PHOTOGRAPHIC REPORTING DATA SHEET

[PHOTOGRAPH 3]



Project:	City of Dripping Springs Critical Environmental Features Assessment
Site:	168-Acre Undeveloped Tract
Location:	E. Hwy 290, Dripping Springs, Hays County, Texas 78620
Date Taken:	October 19-21, 2016
Photographer:	Michael Trojan, PG

Description: Typical view of the subject property from the eastern-most hilltop. Photograph taken from the eastern-most portion of the tract facing west.

PHOTOGRAPHIC REPORTING DATA SHEET

[PHOTOGRAPH 4]



Project:	City of Dripping Springs Critical Environmental Features Assessment
Site:	168-Acre Undeveloped Tract
Location:	E. Hwy 290, Dripping Springs, Hays County, Texas 78620
Date Taken:	October 19-21, 2016
Photographer:	Michael Trojan, PG

Description: Typical view of onsite landscape and large vegetation at low elevations on the tract.

PHOTOGRAPHIC REPORTING DATA SHEET

[PHOTOGRAPH 5]



Project:	City of Dripping Springs Critical Environmental Features Assessment
Site:	168-Acre Undeveloped Tract
Location:	E. Hwy 290, Dripping Springs, Hays County, Texas 78620
Date Taken:	October 19-21, 2016
Photographer:	Michael Trojan, PG
Description:	Typical view of onsite landscape and large vegetation at high elevations on the tract.

PHOTOGRAPHIC REPORTING DATA SHEET

[PHOTOGRAPH 6]



Project: City of Dripping Springs Critical Environmental Features Assessment
Site: 168-Acre Undeveloped Tract
Location: E. Hwy 290, Dripping Springs, Hays County, Texas 78620
Date Taken: October 19-21, 2016
Photographer: Michael Trojan, PG

Description: View of a typical segment of a primary ephemeral drainage way on the tract.

PHOTOGRAPHIC REPORTING DATA SHEET

[PHOTOGRAPH 7]



Project:	City of Dripping Springs Critical Environmental Features Assessment
Site:	168-Acre Undeveloped Tract
Location:	E. Hwy 290, Dripping Springs, Hays County, Texas 78620
Date Taken:	October 19-21, 2016
Photographer:	Michael Trojan, PG

Description: Second view of a typical segment of a primary ephemeral drainage way on the tract.

PHOTOGRAPHIC REPORTING DATA SHEET

[PHOTOGRAPH 8]



Project:	City of Dripping Springs Critical Environmental Features Assessment
Site:	168-Acre Undeveloped Tract
Location:	E. Hwy 290, Dripping Springs, Hays County, Texas 78620
Date Taken:	October 19-21, 2016
Photographer:	Michael Trojan, PG

Description: View of a typical segment of a secondary ephemeral drainage feature (feeder to a primary drainage way) on the tract.

PHOTOGRAPHIC REPORTING DATA SHEET

[PHOTOGRAPH 9]



Project:	City of Dripping Springs Critical Environmental Features Assessment
Site:	168-Acre Undeveloped Tract
Location:	E. Hwy 290, Dripping Springs, Hays County, Texas 78620
Date Taken:	October 19-21, 2016
Photographer:	Michael Trojan, PG

Description: View of a typical soil profile on the tract.

PHOTOGRAPHIC REPORTING DATA SHEET

[PHOTOGRAPH 10]



Project:	City of Dripping Springs Critical Environmental Features Assessment
Site:	168-Acre Undeveloped Tract
Location:	E. Hwy 290, Dripping Springs, Hays County, Texas 78620
Date Taken:	October 19-21, 2016
Photographer:	Michael Trojan, PG

Description: View of typical Glen Rose bedrock outcrops along topographic slopes breaks on the tract.

PHOTOGRAPHIC REPORTING DATA SHEET

[PHOTOGRAPH 11]



Project:	City of Dripping Springs Critical Environmental Features Assessment
Site:	168-Acre Undeveloped Tract
Location:	E. Hwy 290, Dripping Springs, Hays County, Texas 78620
Date Taken:	October 19-21, 2016
Photographer:	Michael Trojan, PG

Description: View of typical Glen Rose bedrock outcrops along drainage ways on the tract.

PHOTOGRAPHIC REPORTING DATA SHEET

[PHOTOGRAPH 12]



Project:	City of Dripping Springs Critical Environmental Features Assessment
Site:	168-Acre Undeveloped Tract
Location:	E. Hwy 290, Dripping Springs, Hays County, Texas 78620
Date Taken:	October 19-21, 2016
Photographer:	Michael Trojan, PG

Description: View of onsite Manmade Feature in Bedrock CEF MB-1 (water well); the well is not in use.

PHOTOGRAPHIC REPORTING DATA SHEET

[PHOTOGRAPH 13]



Project:	City of Dripping Springs Critical Environmental Features Assessment
Site:	168-Acre Undeveloped Tract
Location:	E. Hwy 290, Dripping Springs, Hays County, Texas 78620
Date Taken:	October 19-21, 2016
Photographer:	Michael Trojan, PG

Description: View of onsite "seasonal" Springs/Seeps Feature (CEF S-1) along the western primary ephemeral drainage way.

PHOTOGRAPHIC REPORTING DATA SHEET

[PHOTOGRAPH 14]



Project:	City of Dripping Springs Critical Environmental Features Assessment
Site:	168-Acre Undeveloped Tract
Location:	E. Hwy 290, Dripping Springs, Hays County, Texas 78620
Date Taken:	October 19-21, 2016
Photographer:	Michael Trojan, PG

Description: View of offsite "seasonal" springs/seeps features directly downgradient (north of the tract) along the western primary ephemeral drainage way.

PHOTOGRAPHIC REPORTING DATA SHEET

[PHOTOGRAPH 15]



Project:	City of Dripping Springs Critical Environmental Features Assessment
Site:	168-Acre Undeveloped Tract
Location:	E. Hwy 290, Dripping Springs, Hays County, Texas 78620
Date Taken:	October 19-21, 2016
Photographer:	Michael Trojan, PG

Description: Second view of offsite "seasonal" springs/seeps features directly downgradient (north of the tract) along the western primary ephemeral drainage way.

APPENDIX C

CRITICAL ENVIRONMENTAL FEATURE WORKSHEET

City of Dripping Springs Critical Environmental Features Assessment – Critical Environmental Feature Worksheet

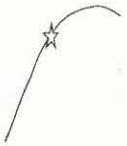
1	Project Name:	168-Acre Undeveloped Tract
2	Project Address:	E. Hwy 290, Dripping Springs, Hays Co., TX 78620
3	Site Visit Date:	October 19-21, 2016
4	Environmental Resource Inventory Date:	October 31, 2016

5	Primary Contact Name:	Hunter Shadburne (Austin Civil Engineering, Inc.)
6	Phone Number:	(512) 306-0018
7	Prepared By:	Michael Trojan, PG
8	Email Address:	mtrojan@austin.rr.com

9	FEATURE TYPE (Wetland, Rimrock, Bluffs, Recharge Feature, Spring)	FEATURE ID (e.g. S-1)	FEATURE LONGITUDE (WGS 1984 in Feet)		FEATURE LATITUDE (WGS 1984 in Feet)		WETLAND DIMENSIONS (ft)		RIMROCK/BLUFF DIMENSIONS (ft)		RECHARGE FEATURE DIMENSIONS				Spring Est. Discharge
			coordinate	*notation*	*coordinate*	*notation*	X	Y	Length	Avg Height	X	Y	Z	Trend	cfs
	Springs/Seeps Zone	CEF S-1	-98.042187		30.196662										<0.25
	Water Well	CEF MB-1	-98.036656		30.195288										

City of Austin Use Only CASE NUMBER:	

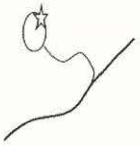
For rimrock, locate the midpoint of the segment that describes the feature.



For wetlands, locate the approximate centroid of the feature and the estimated area.

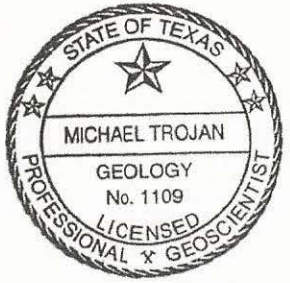


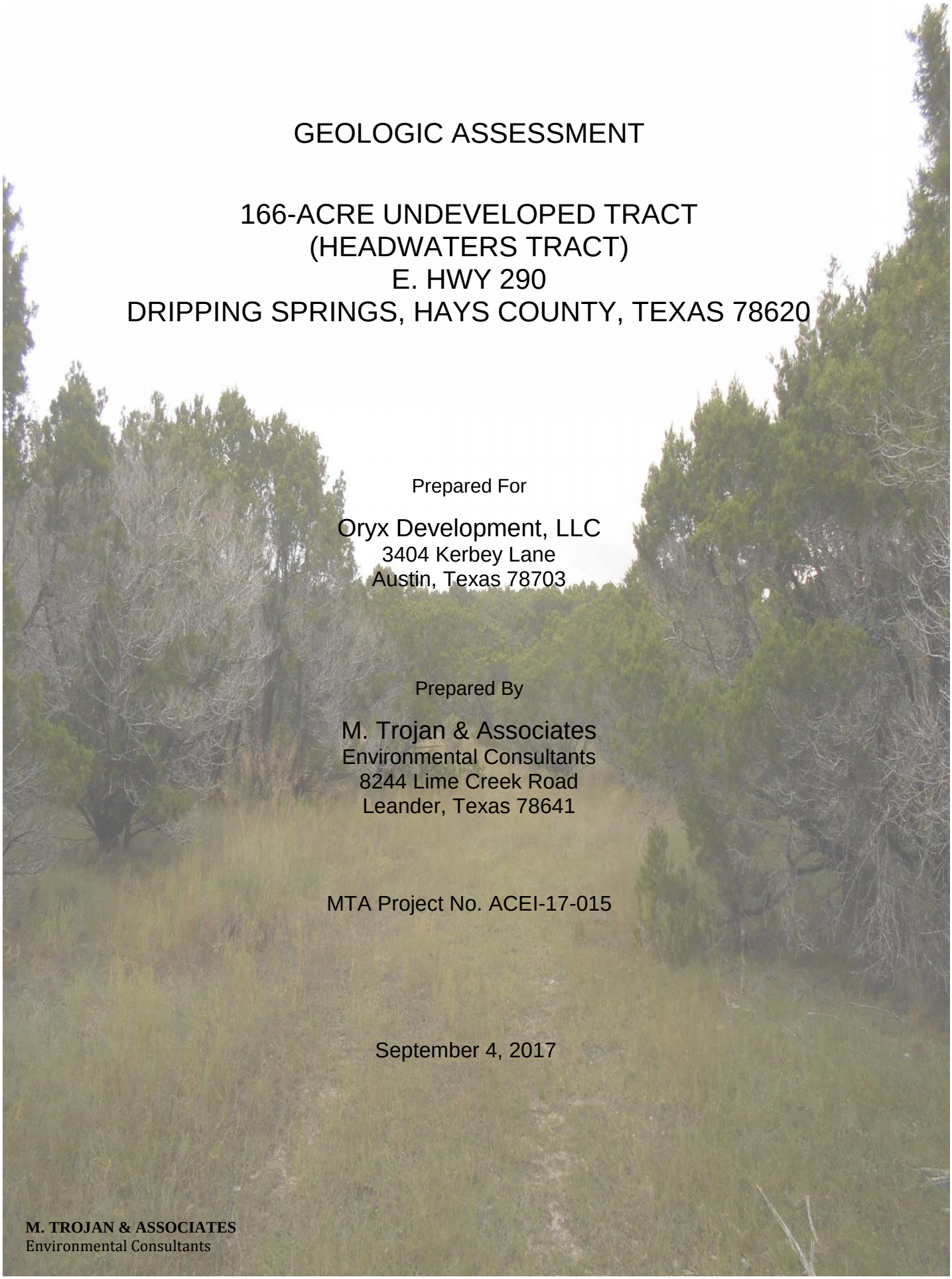
For a spring or seep, locate the source of groundwater that feeds a pool or stream.



Please state the method of coordinate data collection and the appropriate precision and accuracy of the points and the unit of measurement.

Method		Accuracy	
GPS	X	sub-meter	X
Surveyed		meter	
Other		>1 meter	





GEOLOGIC ASSESSMENT

166-ACRE UNDEVELOPED TRACT
(HEADWATERS TRACT)
E. HWY 290
DRIPPING SPRINGS, HAYS COUNTY, TEXAS 78620

Prepared For

Oryx Development, LLC
3404 Kerbey Lane
Austin, Texas 78703

Prepared By

M. Trojan & Associates
Environmental Consultants
8244 Lime Creek Road
Leander, Texas 78641

MTA Project No. ACEI-17-015

September 4, 2017

M. TROJAN & ASSOCIATES
Environmental Consultants

September 4, 2017

Blake Rue
Oryx Development, LLC
3404 Kerbey Lane
Austin, Texas 78703

Subject: Report of TCEQ *Geologic Assessment*
166-Acre Undeveloped Tract
(Headwaters Tract)
E. Hwy 290
Dripping Springs, Hays County, Texas 78620
MTA Project No. ACEI-17-015

Mr. Rue:

M. Trojan & Associates is pleased to submit this report of a Texas Commission on Environmental Quality (TCEQ) *Geologic Assessment* for the above referenced property. This *Geologic Assessment* was performed in accordance with the TCEQ requirements and instructions for completing TCEQ Form 0585.

I appreciate the opportunity to assist you in your environmental matters associated with the subject property and trust that the contents of this report are satisfactory. Should you have any questions or require additional information, please feel free to contact me at (512) 258-6606, or forward an email to mtrojan@austin.rr.com.

Respectfully,



Michael Trojan, PG
M. TROJAN & ASSOCIATES

Certified Professional Geoscientist #1109 (TX)

c: MTA Project File ACEI-17-015

TABLE OF CONTENTS

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3.1 STUDY AREA 6
3.2 PROPOSED SITE DEVELOPMENT 6
3.3 PREVIOUSLY PUBLISHED REPORTS 6

4.0 GEOLIC ASSESSMENT LIMITATIONS 7

ATTACHMENTS

ATTACHMENT A: GEOLOGIC ASSESSMENT TABLE

ATTACHMENT B: STRATIGRAPHIC COLUMN

ATTACHMENT C: SITE GEOLOGY

ATTACHMENT D: SITE GEOLOGIC MAPS

Figure 1 – Site Location Map
Figure 2 – Site Aerial Photograph
Figure 3 – Surface Water Hydrology
Figure 4 – Site Soils Map
Figure 5 – General Geologic Map
Figure 6 – Site Geologic Map

ATTACHMENT E: SITE PHOTOGRAPHS

1.0 TCEQ FORM 0585

Geologic Assessment

Texas Commission on Environmental Quality

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

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

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

Signature

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

Print Name of Geologist: Michael Trojan, PG Telephone: (512) 258-6606

Representing: M. Trojan & Associates Fax:

Signature of Geologist:



_____



Michael Trojan, PG
Certified Professional Geoscientist #1109 (TX)

Regulated Entity Name: 166-Acre Undeveloped Tract (Headwaters Tract)
E. Hwy 290, Dripping Springs, Hays County, Texas 78620

Project Information

1. Date(s) Geologic Assessment was performed: October 19-21, 2016 and August 29, 2017

2. Type of Project:

X	WPAP		AST
X	SCS		UST

3. Location of Project:

	Recharge Zone
	Transition Zone
	Contributing Zone within the Transition Zone

4. [X] **Attachment A – Geologic Assessment Table**. Completed Geologic Assessment Table (Form TCEQ-0585-Table) is attached.

5. [X] Soil cover on the project site is summarized in the table below and uses the SCS Hydrologic Soil Groups* (Urban Hydrology for Small Watersheds, Technical Release No. 55, Appendix A, Soil Conservation Service, 1986). If there is more than one soil type on the project site, show each soil type on the site Geologic Map or a separate soils map (refer to Attachment D).

Table 1 – Soil Units, Infiltration, Characteristics and Thickness

Soil Units, Infiltration Characteristics & Thickness		
Soil Name	Group*	Thickness (feet)
Brackett-Rock outcrop-Comfort complex, undulating (BtD)	B/C	up to 1.4
Brackett-Rock outcrop-Real complex, steep (BtG)	B/C-C	up to 1.2

* Soil Group Definitions (Abbreviated)

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

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

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

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

6. [X] **Attachment B – Stratigraphic Column**. A stratigraphic column showing formations, members, and thicknesses is attached. The outcropping unit, if present, should be at the top of the stratigraphic column. Otherwise, the uppermost unit should be at the top of the stratigraphic column.

7. [X] **Attachment C – Site Geology**. A narrative description of the site specific geology including any features identified in the Geologic Assessment Table, a discussion of the potential for fluid movement to the Edwards Aquifer, stratigraphy, structure(s), and karst characteristics is attached.

8. [X] **Attachment D – Site Geologic Map(s)**. The Site Geologic Map must be the same scale as the applicant's Site Plan.

Applicant's Site Plan Scale: unknown
Site Geologic Map Scale: 1" = 920'
Site Soils Map Scale (if more than 1 soil type): 1" = 920'

9. Method of collecting positional data:

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

10. [ ] The project site and boundaries are clearly shown and labeled on the Site Geologic Map.

11. [X] Surface geologic units are shown and labeled on the Site Geologic Map.

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

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

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

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

[X] There are 1 (#) 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.
- [X] The wells are not in use and will be properly abandoned.
- [ ] The wells are in use and comply with 16 TAC Chapter 76.

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

Administrative Information

15. [X] 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.

2.0 OVERVIEW

M. Trojan & Associates was retained to conduct a Geologic *Assessment* for proposed future development on a 166-acre undeveloped tract located along E. Hwy 290 in Dripping Springs, Hays County, Texas (refer to Figures 1 and 2 of Attachment D). All aspects of the *Geologic Assessment* were conducted by Mr. Michael Trojan, PG (Certified Professional Geoscientist #1109 in Texas), and the assessment was performed in accordance with Texas Commission on Environmental Quality (TCEQ) requirements and instructions for completing TCEQ Form 0585. The assessment included reconnaissance of the entire property as well as bordering portions of all neighboring properties.

The objective of the *Geologic Assessment* was to identify any naturally occurring geologic (karst) or manmade features that may significantly contribute to recharge of the subsurface. The Edwards Aquifer rules define sensitive features as:

> *" . . . those that have potential for interconnectedness between the surface and the Edwards Aquifer and where rapid infiltration to the subsurface may occur."*

The scope of the *Geologic Assessment* included the following general components:

- Review of published soils and geologic/hydrogeologic information;
- Field evaluation of topographic features;
- Field evaluation of soil types and horizons, relative thicknesses, and hydrologic characteristics (visual only);
- General review of the subsurface geologic units beneath the property as well as geologic units exposed at ground surface (if visible);
- Field evaluation of geologic conditions to determine the presence or absence of caves, solution cavities, solution-enlarged fractures, faults, other natural bedrock features, sinkholes, swallets or swallow holes in drainage features, non-karst closed depressions, manmade features in bedrock, and any other natural or manmade features, and evaluation of such features with respect to their potential ability to convey infiltrating surface water to the underlying subsurface; and
- Preparation of TCEQ Form 0585 for presentation of the findings of this assessment.

3.0 GENERAL PROPERTY DESCRIPTION AND SITE DEVELOPMENT

3.1 Study Area

The study area is located on the north side of E. Hwy 290, and approximately two miles east of the City of Drippings Springs, Texas (refer to Figures 1 and 2 of Attachment D and photographs included in Attachment E). The property consists of approximately 166 acres of undeveloped land that is generally densely wooded. While the tract is undeveloped, as of the writing of this *Geologic Assessment* report, the onsite segment of Headwaters Blvd. has been completed on the west-central portion of the tract.

3.2 Proposed Site Development

As of the writing of this *Geologic Assessment* report, components of the tract are proposed for a variety of developments; however, to date, no formal Site Plan is available for review.

3.3 Previously Published Reports

No previously published, site-specific technical reports were reviewed as part of this *Geologic Assessment*.

4.0 GEOLIC ASSESSMENT LIMITATIONS

This *Geologic Assessment* was conducted in accordance with rules and guidelines set forth by the TCEQ, as well as consistent with standard methods and practices generally employed by professionals engaged in conducting karst assessments. Still, the scope of the *Geologic Assessment* presents certain limitations. The primary limitations include:

1. The field reconnaissance is conducted to effectively identify the geologic conditions/features at the subject property. However, certain site conditions may render features undetectable as a result of obstruction by: (1) soil cover, (2) very dense, inaccessible vegetation, (3) manmade cover including, but not limited to driveways, concrete slabs, soil and debris piles/mounds, and/or (4) stormwater runoff ground cover following significant rainfall events.

2. The scope of the *Geologic Assessment* does not include identification of features that may be discovered at the time of site development – during excavation, trenching, grading and/or leveling.

ATTACHMENT A

GEOLOGIC ASSESSMENT TABLE

GEOLOGIC ASSESSMENT TABLE			PROJECT NAME: 166-Acre Undeveloped Tract (Headwaters Tract)																
LOCATION			FEATURE CHARACTERISTICS												EVALUATION			PHYSICAL SETTING	
1A	1B *	1C*	2A	2B	3	4			5	5A	6	7	8A	8B	9	10		11	12
FEATURE ID	LATITUDE	LONGITUDE	FEATURE TYPE	POINTS	FORMATION	DIMENSIONS (FEET)			TREND (DEGREES)	DOM	DENSITY (NO/FT)	APERTURE (FEET)	INFILL	RELATIVE INFILTRATION RATE	TOTAL	SENSITIVITY		CATCHMENT AREA (ACRES)	TOPOGRAPHY
						X	Y	Z		10						<40	>40	<1.6	>1.6	
ONSITE																			
MB-1	29.899591	-97.918577	MB (well)	30	Kgr	unk	unk	unk					X	<5	<35	X			hillside
MB-2	N/A	N/A	MB	30	Kgr	unk	unk	unk					X	<5	<35	X			hillside
OFFSITE																			
MB-3	N/A	N/A	MB	30	Kgr	unk	unk	unk					X	<5	<35	X			hillside
MB-4	N/A	N/A	MB	30	Kgr	unk	unk	unk					X	<5	<35	X			hillside

* DATUM:_____

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

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

12 TOPOGRAPHY

Cliff, Hilltop, Hillside, Drainage, Floodplain, Streambed



I have read, I understood, and I have followed the Texas Commission on Environmental Quality's Instructions to Geologists. The information presented here complies with that document and is a true representation of the conditions observed in the field.

My signature certifies that I am qualified as a geologist as defined by 30 TAC Chapter 213.

_____ Date: September 4, 2017

Sheet 1 of 1

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

ATTACHMENT B

STRATIGRAPHIC COLUMN

SYSTEM	SERIES	GROUP	FORMATION	LITHOLOGY/ THICKNESS
QUATERNARY				TERRACE AND ALLUVIUM SAND, SILT, CLAY, AND GRAVEL THICKNESS NOT REPORTED
CRETACEOUS	UPPER CRETACEOUS (GULFIAN)	AUSTIN		CHALK, MARL, AND LIMESTONE 325–420 FEET THICK
		EAGLE FORD	EAGLE FORD	SHALE AND SILTY LIMESTONE TO CALCAREOUS SILTSTONE 25–65 FEET THICK
			BUDA	LIMESTONE UP TO 45 FEET THICK
	LOWER CRETACEOUS (COMANCHEAN)		DEL RIO	CLAY 40–70 FEET THICK
			GEORGETOWN	LIMESTONE AND MARL 30–80 FEET THICK
		FREDERICKSBURG	EDWARDS	LIMESTONE AND DOLOSTONE 60–350 FEET THICK
			COMANCHE PEAK	LIMESTONE AND MARL UP TO 80 FEET THICK
			WALNUT FORMATION	LIMESTONE AND MARL UP TO 130 FEET THICK
			PALUXY SAND	SAND UP TO 10 FEET THICK
		GLEN ROSE		LIMESTON, DOLOMITE AND MARL 380+ FEET THICK

Geologic unit that directly underlies the subject property



M. TROJAN & ASSOCIATES
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8244 Lime Creek Road
Leander, Texas 78641
(512) 258-6606

Scale: No Scale
Date: September 4, 2017
Project: TCEQ Geologic Assessment
MTA Project: ACEI-17-015

STRATIGRAPHIC COLUMN

166-ACRE UNDEVELOPED TRACT
E. HWY 290
DRIPPING SPRINGS, HAYS COUNTY, TEXAS 78620

ATTACHMENT C

SITE GEOLOGY

TOPOGRAPHY AND SURFACE WATER HYDROLOGY

The study area slopes in multiple directions; however, the primary topographic slopes are to the north (refer to Figure 3 of Attachment D). Topographic slopes vary from medium to very steep, with the steepest slopes along topographic slope breaks and along some segments of drainage features (refer to Figure 3 of Attachment D). Topographic elevations on the study area range between approximately 1,305 and 1,185 feet above mean sea level (msl), with the highest elevations located at the summits of the onsite hilltops and lowest elevations within drainage features at both the north and south property boundaries.

The tract exhibits several primary drainage ways and numerous secondary drainage features that convey stormwater runoff to the primary drainage ways (refer to Figure 3 of Attachment D and photographs in Attachment E). As is depicted on the figure, stormwater runoff generated within the study area boundaries flows generally toward the north or south, with majority of the tract conveying runoff toward the north and offsite to several feeder creeks to Barton Creek. The southern-most portion of the tract conveys runoff toward the south to tributaries that drain into Onion Creek. Barton Creek lies approximately 1.8 miles to the north of the tract while Onion Creek is located about 3.3 miles south of the property.

According to review of a FEMA Flood Insurance Rate Map, no portion of the tract lies within the 100-year floodplain.

SOILS

According to the *Soil Survey of Comal and Hays Counties, Texas*, the dominant soils that are reported to cover the study area are as follows (also refer to Figure 4 of Attachment D):

Soil Component Name:	Brackett-Rock outcrop-Comfort complex, undulating (BtD)
Soil Surface Texture:	Brackett soil: grayish-brown gravelly clay loam to approximately 6 inches, underlain by pale brown and pale yellow gravelly clay loam to about 17 inches Comfort soil: dark brown extremely stony clay to approximately 4 inches, underlain by dark reddish-brown extremely stony clay to about 11 inches
Hydrologic Group:	Permeability is moderately slow; very low available water capacity; runoff is medium
Soil Drainage Class:	Well drained

Soil Component Name:	Brackett-Rock outcrop-Real complex, steep (BtG)
Soil Surface Texture:	Brackett soil: grayish-brown gravelly clay loam to approximately 6 inches, underlain by light gray gravelly clay loam to about 14 inches
Hydrologic Group:	Permeability is moderately slow to slow; very low available water capacity; runoff is rapid
Soil Drainage Class:	Well drained

Based on the *Soil Survey* and as is depicted on Figure 4 of Attachment D, the Brackett/Comfort complex and Brackett/Real complex soils are reported to cover the entire study area. Shallow excavations were made at various locations across the property and soil characteristics were observed to be similar to those described in the *Soil Survey* (refer to photograph in Attachment E). The soils were found to be relatively thin to medium-thick. Some soil profiles within the primary drainage ways were determined to be up to approximately 4.0 feet thick. The site inspection observe only minor soil erosion, primarily within/around secondary drainage ways.

GEOLOGY

Based on the *Geologic Atlas of Texas, Llano Sheet,* and review of other available geologic/hydrologic publications, the outcropping (near surface) geologic formation at the subject property is the Glen Rose Formation (Kgr) (refer to Figures 5 and 6 of Attachment D, photographs in Attachment E and the stratigraphic column in Attachment B). The Glen Rose is reported to consist of limestone, dolomite and marl. The limestone is light gray to yellowish-gray, aphanitic to fine-grained, hard to soft and marly. The dolomite is yellow-brown, fine-grained and porous. The thickness of the Glen Rose is reported to be up to 380 feet.

Abundant rock outcrops of the Glen Rose were observed across the entire property. Outcrops were observed to be most prevalent along topographic slopes breaks and within drainage ways (refer to photographs in Appendix B).

The property is located over the Edwards Aquifer Contributing Zone.

Onsite Features

The field reconnaissance of the study area included search for and identification of sensitive karst and manmade features, as defined by TCEQ, and to note potential ground recharge points that may be associated with such features. The field reconnaissance entailed walking 25-foot spaced transects across the entire study area. The results of the reconnaissance are provided below.

Caves

Based on TCEQ criteria, a cave is a natural underground open (or filled) space formed by dissolution of limestone that is large enough for an average-sized person to enter. When a surface cave opening is encountered, then the subsurface extent of the cave is relevant in terms of subsurface recharge.

Based on observations made across the entire study area, no cave openings/caves were identified.

Solution Cavities

Based on TCEQ criteria, a solution cavity is a natural cavity or depression formed as a result of dissolution of limestone. This category is designed to capture features that are not large enough for a normal-sized person to enter but appear to be part of a system of interconnected voids that connect the surface with the subsurface. The size and geometry of the feature is defined by in-place bedrock. Solution cavities also include areas where dissolution has increased the opening size and permeability along bedding planes as well as fractures.

Based on observations made across the entire study area, no solution cavities were identified.

Solution-Enlarged Fractures

Based on TCEQ criteria, a solution-enlarged fracture is one that shows evidence of being locally enlarged by dissolution of limestone, recognized by measurable (larger than hairline) openings and miss-matched fracture surface shapes.

Based on observations made across the entire study area, no solution-enlarged fractures were identified.

Faults

Based on TCEQ criteria, a fault is defined as a fracture along which there has been displacement of one side of the fracture relative to the other side. Displaced geologic materials and/or an abrupt change in surface topography can both be indicative of the presence of a fault.

Based on observations made across the entire study area, no field evidence of the presence of faults was observed.

Manmade Features in Bedrock

Based on TCEQ criteria, manmade features in bedrock may include water wells, sanitary sewer lines, storm sewer lines, trenches, quarries, and other cultural features that intersect bedrock and can potentially increase the rate of recharge to the subsurface.

Based on observations made across the entire study area, the following manmade features in bedrock were identified:

Manmade Feature in Bedrock MB-1

Feature MB-1 represents a water well located on the southeast portion of the tract (refer to Figure 6 of Attachment D and photograph in Attachment E). The well was observed to be relatively new and not in use (i.e., not completed at ground surface with electrical hook-up, surface piping, etc.). Installation of the well is not documented in the Texas Water Development Board Submitted Drillers Reports (SDR) Database, and the well details/dimensions are unknown.

Regarding the well's relevance with respect to future development on the tract, the well is assessed not to be significant as the well is properly sealed from ground surface. Still, if the well is not intended for future use, then the structure should be properly plugged and abandoned per the appropriate State regulations.

Manmade Feature in Bedrock MB-2

Feature MB-2 represents a collection of underground infrastructure (wet and dry) along the onsite segment of Headwaters Blvd. (refer to Figure 6 of Attachment D). The infrastructure is likely floored in bedrock and exhibits numerous portals/manholes at ground surface; however, this *Geologic Assessment* does not provide any information regarding the installation details of the infrastructure. It is believed that the associated underground cuts in bedrock do not exhibit any significant potential of hydraulic interconnectedness between the feature and deeper subsurface layers. Therefore, this feature is not considered as being (geologically) significant in terms of future development on the study area.

Swallet or Swallow Holes

Based on TCEQ criteria, a swallet or swallow hole may include a focused recharge feature in an intermittent drainage or stream in karst terrain. Some swallow holes have a surface expression, for example, a cave opening or formation of a whirlpool in the stream at high flow. The general case is that fine soil and sediment as well as gravel are deposited over the bedrock feature during falling stages of flow, thereby intermittently or frequently obscuring the feature.

Based on observations made across the entire study area, no swallet or swallow holes were identified.

Sinkholes

Based on TCEQ criteria, a sinkhole represents a shallow, broad topographic depression formed in response to karst processes. Sinkholes are pragmatically defined as features greater than six (6) feet in diameter with more than six (6) inches of topographic relief. Sinkholes are usually circular in map view. In cross section they may be subtle swales or funnel-shaped pits and some have exposed rimrock at the perimeter. The presence of a sinkhole implies that processes including collapse, subsidence, and soil sapping over geologic time have caused the land surface to sink below the surrounding area.

Based on observations made across the entire study area, no sinkholes were identified.

Other Natural Bedrock Features

Based on TCEQ criteria, other natural bedrock features include vuggy rock and reef deposits that may contain large holes or vugs.

Based on observations made across the entire study area, no other natural bedrock features were identified.

Non-karst Closed Depressions

Based on TCEQ criteria, a non-karst closed depression is a natural or non-natural topographic depression that is not formed by karst processes and is not bedrock floored. A feature larger than six (6) feet in at least one direction and with six (6) inches or more of topographic relief should be considered as a feature.

Based on observations made across the entire study area, no non-karst closed depressions were identified.

Zones

Based on TCEQ criteria, a zone is an area in which any type of karst feature occurs along a trend or in a cluster. Clustered or aligned features are more likely to be an indicator of an integrated flow system at depth than isolated features. Alignment is expected in areas where conduit flow is strongly influenced by structurally controlled fractures.

Based on observations made across the entire study area, no zones were identified.

Offsite Features

The field reconnaissance also included inspection of neighboring properties a distance of approximately 200 feet (as practical) from all boundaries of the subject property for identification of offsite sensitive karst and manmade features that could be deemed as significant in terms of development on the study area. The inspection identified the following offsite features:

Manmade Feature in Bedrock MB-3

Feature MB-3 represents an offsite collection of underground infrastructure (wet and dry) along E. Hwy 290 (refer to Figure 6 of Attachment D). The infrastructure is likely floored in bedrock and exhibits several portals/manholes at ground surface; however, this *Geologic Assessment* does not provide any information regarding the installation details of the infrastructure. It is believed that the associated underground cuts in bedrock do not exhibit any significant potential of hydraulic interconnectedness between the feature and deeper subsurface layers. Therefore, this feature is not considered as being (geologically) significant in terms of future development on the study area.

Manmade Feature in Bedrock MB-4

Feature MB-4 represents an offsite collection of underground infrastructure (wet and dry) along the offsite segment of Headwaters Blvd. to the north-northwest of the tract (i.e. northward extension of onsite feature MB-2) (refer to Figure 6 of Attachment D). The infrastructure is likely floored in bedrock and exhibits several portals/manholes at ground surface; however, this *Geologic Assessment* does not provide any information regarding the installation details of the infrastructure. It is believed that the associated

underground cuts in bedrock do not exhibit any significant potential of hydraulic interconnectedness between the feature and deeper subsurface layers. Therefore, this feature is not considered as being (geologically) significant in terms of future development on the study area.

POTENTIAL FOR FLUID MOVEMENT TO THE SUBSURFACE

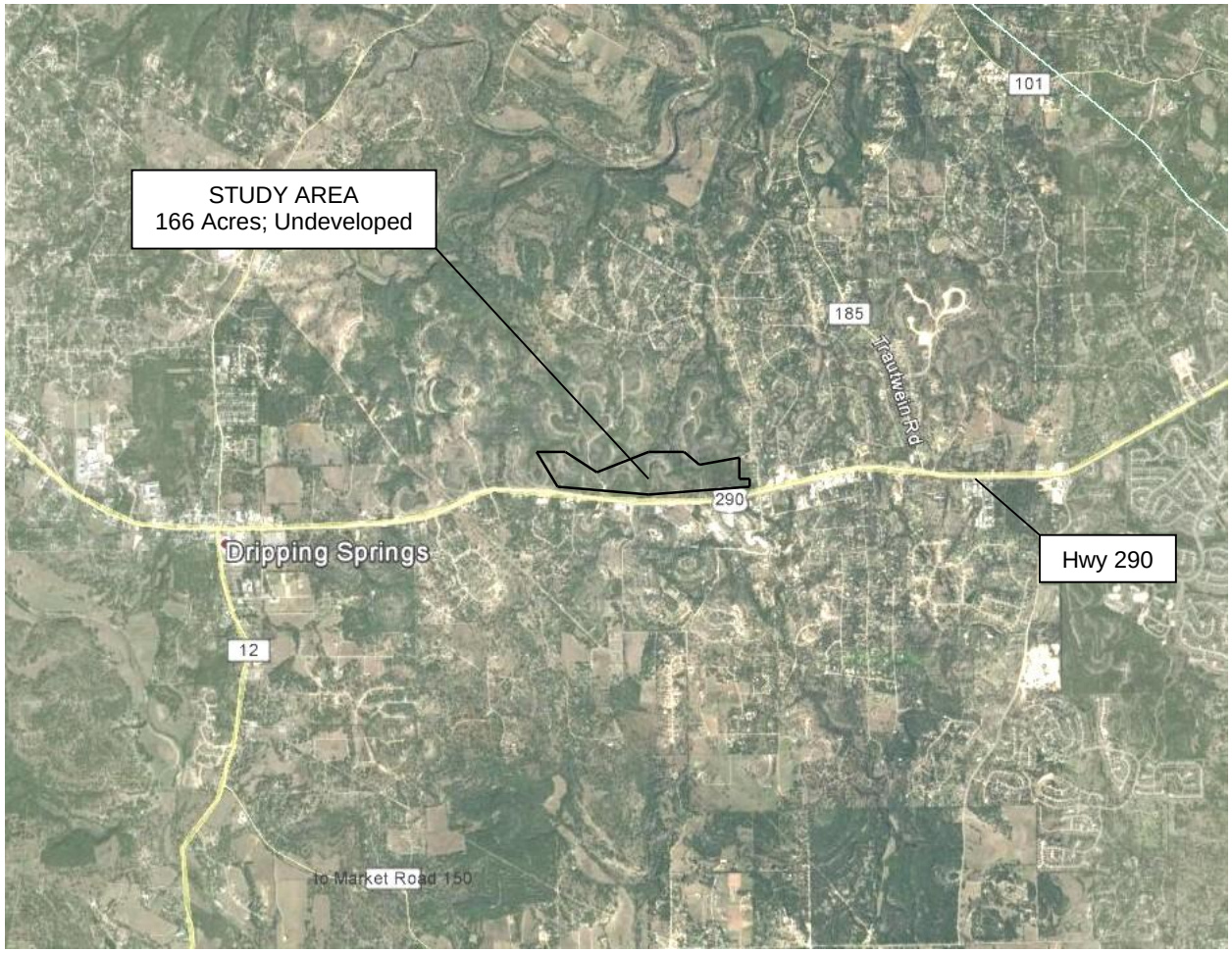
Based on review of available information and visual observations made during the field reconnaissance, this *Geologic Assessment* presents the following observations regarding the potential for recharge of the subsurface within the study area:

- Characteristics of soils that cover the study area are the primary factors that influence potential subsurface recharge on the property. Based on the *Soil Survey of Comal and Hays Counties*, the Brackett-Rock outcrop-Comfort complex and Brackett-Rock outcrop-Real complex is reported to cover the entire study area. These soils are relatively fine-grained, thin to medium-thick and exhibit moderately slow permeability. Thus, this *Geologic Assessment* assesses that percolation via soils to the subsurface is moderate to moderately slow.

- No significant, "defined" karst recharge points with focused recharge potential were observed to be located on the study area.

ATTACHMENT D

SITE GEOLOGIC MAPS



M. TROJAN & ASSOCIATES
Environmental Consultants

8244 Lime Creek Road
Leander, Texas 78641
(512) 258-6606

Scale: No Scale
Date: September 4, 2017
Project: TCEQ Geologic Assessment
MTA Project: ACEI-17-015

FIGURE 1

SITE LOCATION MAP

166-ACRE UNDEVELOPED TRACT
E. HWY 290
DRIPPING SPRINGS, HAYS COUNTY, TEXAS 78620



2017 Aerial Photograph

M. TROJAN & ASSOCIATES
Environmental Consultants

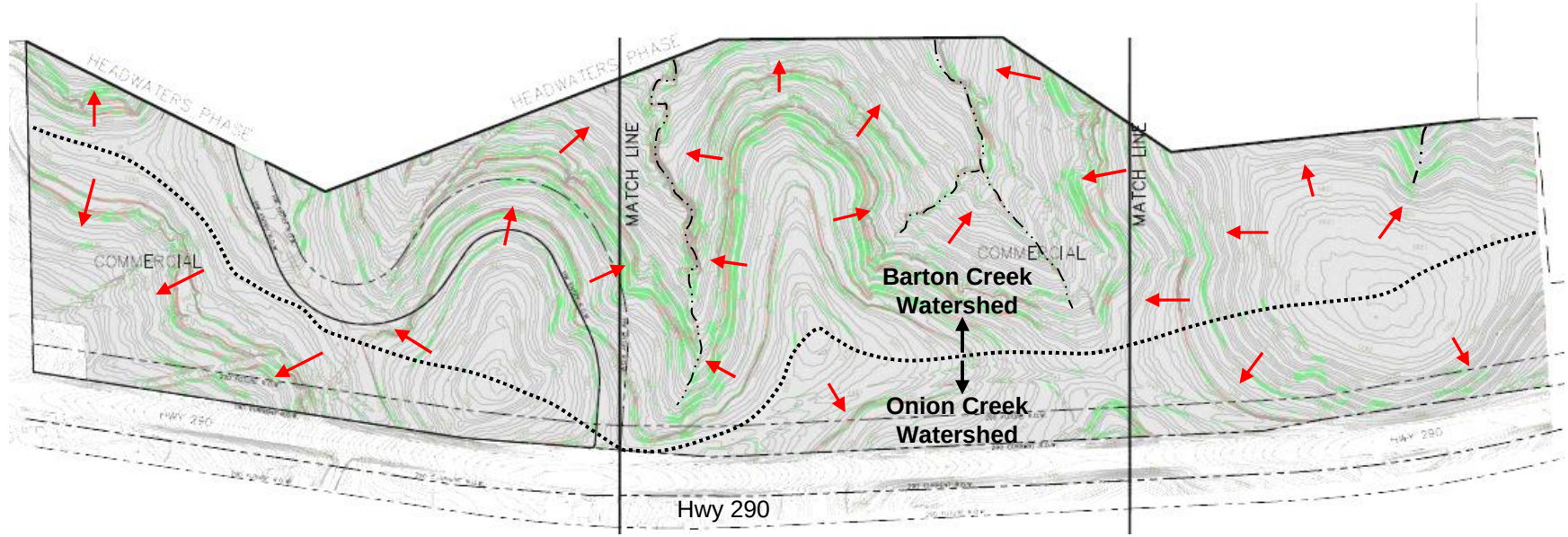
8244 Lime Creek Road
Leander, Texas 78641
(512) 258-6606

Scale:	1" = 920' (approx.)
Date:	September 4, 2017
Project:	TCEQ Geologic Assessment
MTA Project:	ACEI-17-015

FIGURE 2

SITE AERIAL PHOTOGRAPH

166-ACRE UNDEVELOPED TRACT
E. HWY 290
DRIPPING SPRINGS, HAYS COUNTY, TEXAS 78620



Source: Austin Civil Engineering, Inc. and Hays County

M. TROJAN & ASSOCIATES
Environmental Consultants

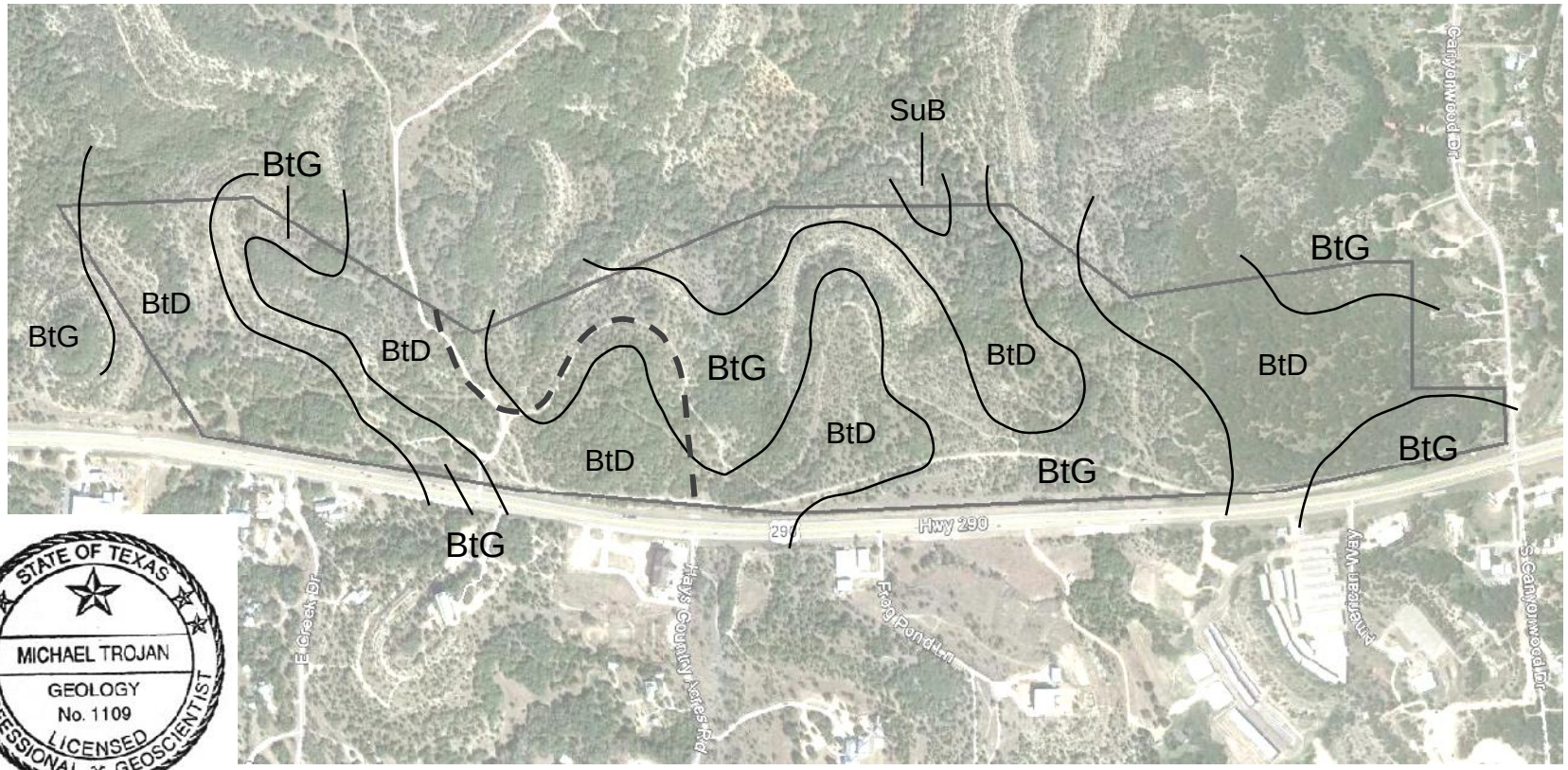
8244 Lime Creek Road
Leander, Texas 78641
(512) 258-6606

Scale:	No Scale
Date:	September 4, 2017
Project:	TCEQ Geologic Assessment
MTA Project:	ACEI-17-015

FIGURE 3

SURFACE WATER HYDROLOGY

166-ACRE UNDEVELOPED TRACT
E. HWY 290
DRIPPING SPRINGS, HAYS COUNTY, TEXAS 78620



STATE OF TEXAS
MICHAEL TROJAN
GEOLOGY
No. 1109
LICENSED
PROFESSIONAL GEOSCIENTIST

BtD – Brackett-Rock outcrop-Comfort complex, undulating / BtG – Brackett-Rock outcrop-Real complex, steep
SuB – Sunev clay loam, 1-3% slopes

M. TROJAN & ASSOCIATES
Environmental Consultants
8244 Lime Creek Road
Leander, Texas 78641
(512) 258-6606

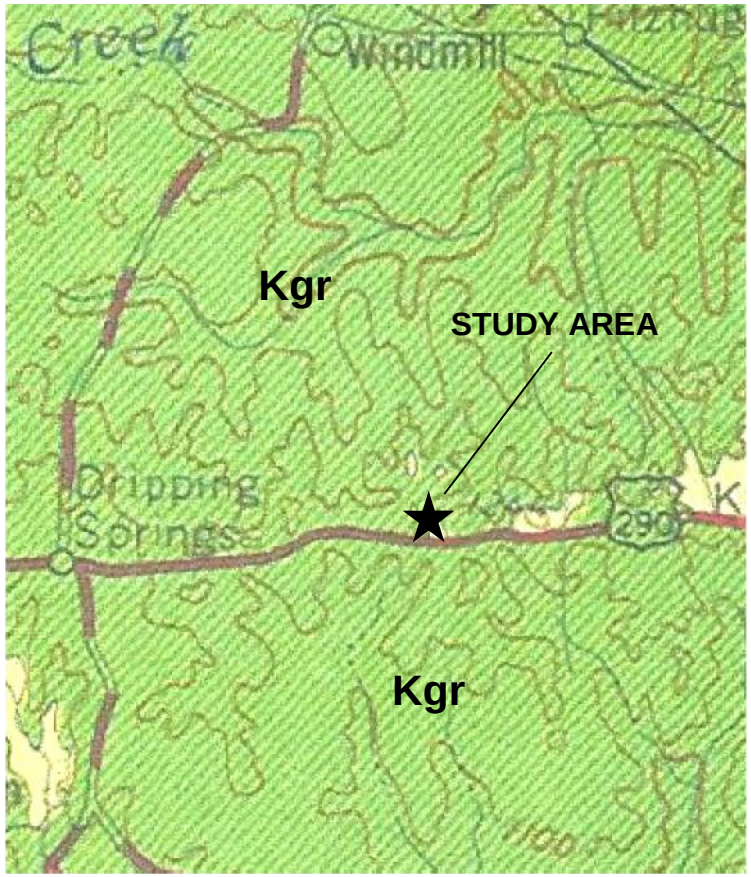
Scale: 1" = 920' (approx.)
Date: September 4, 2017
Project: TCEQ Geologic Assessment
MTA Project: ACEI-17-015

FIGURE 4

SITE SOILS MAP

166-ACRE UNDEVELOPED TRACT
E. HWY 290
DRIPPING SPRINGS, HAYS COUNTY, TEXAS 78620

STUDY AREA
The study area and all surrounding properties are underlain by the Glen Rose Formation (Kgr); property lies over the Edwards Aquifer Contributing Zone





Kgr – Glen Rose Formation

Source: (1) *Geologic Atlas of Texas, Llano Sheet*, Bureau of Economic Geology, dated 1986

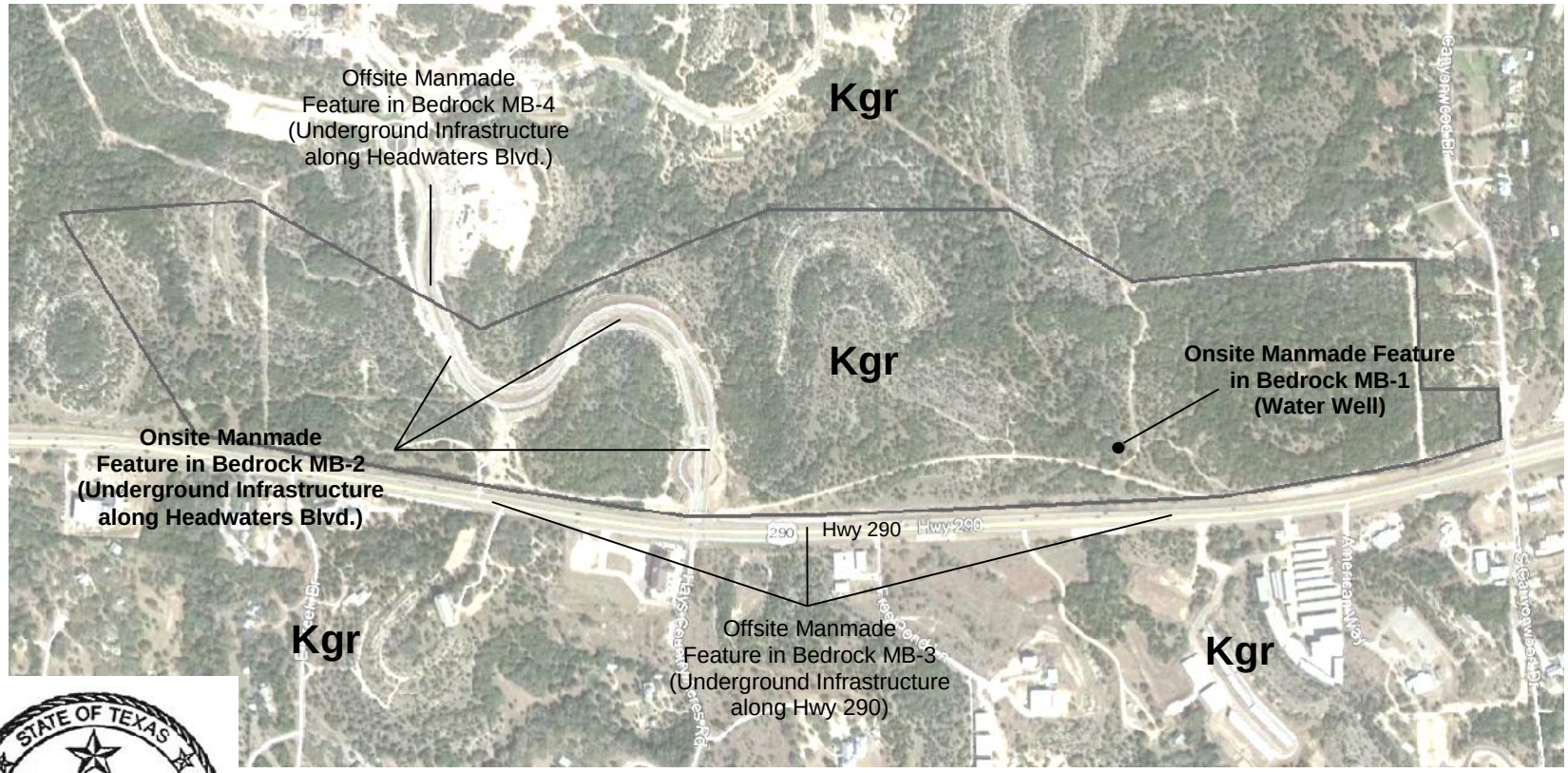
M. TROJAN & ASSOCIATES
Environmental Consultants
8244 Lime Creek Road
Leander, Texas 78641
(512) 258-6606

Scale: No Scale
Date: September 4, 2017
Project: TCEQ Geologic Assessment
MTA Project: ACEI-17-015

FIGURE 5

GENERAL GEOLOGIC MAP

166-ACRE UNDEVELOPED TRACT
E. HWY 290
DRIPPING SPRINGS, HAYS COUNTY, TEXAS 78620



STATE OF TEXAS
MICHAEL TROJAN
GEOLOGY
No. 1109
LICENSED
PROFESSIONAL GEOSCIENTIST

NO ONSITE SENSITIVE GEOLOGIC (KARST) FEATURES IDENTIFIED

The subject property is underlain by the Glen Rose Formation (Kgr) and the Edwards Aquifer Contributing Zone

N

M. TROJAN & ASSOCIATES
Environmental Consultants
8244 Lime Creek Road
Leander, Texas 78641
(512) 258-6606

Scale:	1" = 920' (approx.)
Date:	September 4, 2017
Project:	TCEQ Geologic Assessment
MTA Project	ACEI-17-015

FIGURE 6

SITE GEOLOGIC MAP

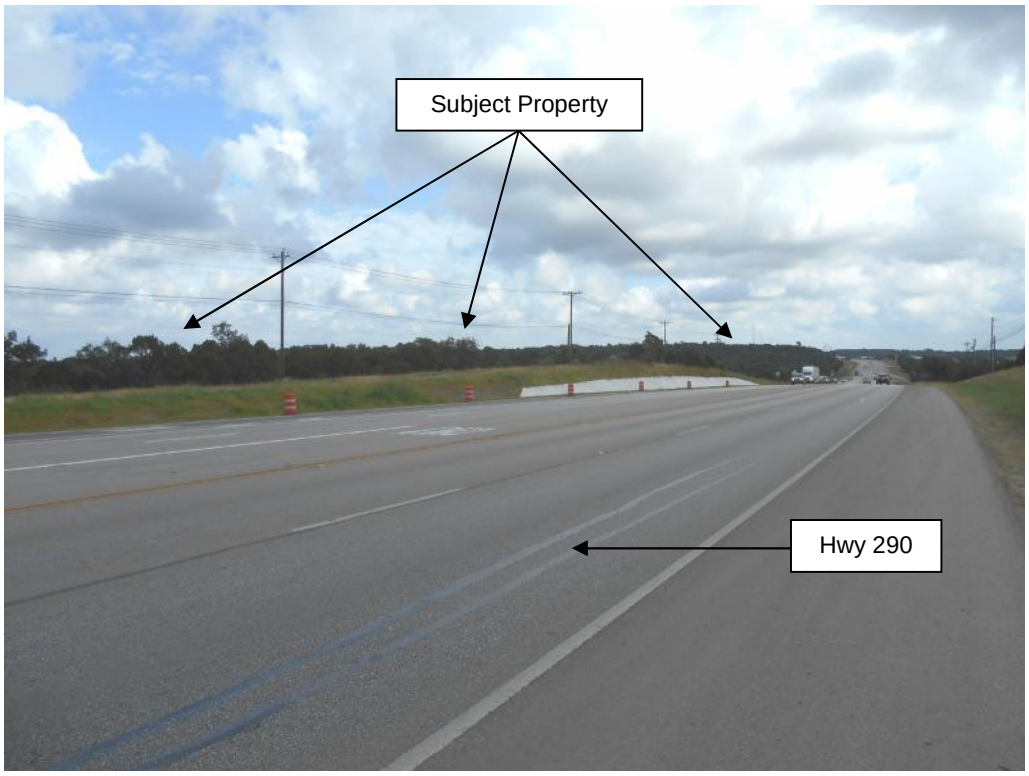
166-ACRE UNDEVELOPED TRACT
E. HWY 290
DRIPPING SPRINGS, HAYS COUNTY, TEXAS 78620

ATTACHMENT E

SITE PHOTOGRAPHS

PHOTOGRAPHIC REPORTING DATA SHEET

[PHOTOGRAPH 1]



Project: TCEQ Geologic Assessment
Site: 166-Acre Undeveloped Tract
Location: E. Hwy 290, Dripping Springs, Hays County, Texas 78620
Date Taken: October 19-21, 2016
Photographer: Michael Trojan, PG

Description: Typical view of the subject property from Hwy 290. Photograph taken from Hwy 290 facing east.

PHOTOGRAPHIC REPORTING DATA SHEET

[PHOTOGRAPH 2]



Project:	TCEQ Geologic Assessment
Site:	166-Acre Undeveloped Tract
Location:	E. Hwy 290, Dripping Springs, Hays County, Texas 78620
Date Taken:	October 19-21, 2016
Photographer:	Michael Trojan, PG
Description:	View of a segment of Headwaters Blvd. (existing) on the west-central portion of the tract.

PHOTOGRAPHIC REPORTING DATA SHEET

[PHOTOGRAPH 3]



Project: TCEQ Geologic Assessment
Site: 166-Acre Undeveloped Tract
Location: E. Hwy 290, Dripping Springs, Hays County, Texas 78620
Date Taken: October 19-21, 2016
Photographer: Michael Trojan, PG

Description: Typical view of the subject property from the eastern-most hilltop. Photograph taken from the eastern-most portion of the tract facing west.

PHOTOGRAPHIC REPORTING DATA SHEET

[PHOTOGRAPH 4]



Project:	TCEQ Geologic Assessment
Site:	166-Acre Undeveloped Tract
Location:	E. Hwy 290, Dripping Springs, Hays County, Texas 78620
Date Taken:	October 19-21, 2016
Photographer:	Michael Trojan, PG
Description:	Typical view of onsite landscape and large vegetation at low elevations on the tract.

PHOTOGRAPHIC REPORTING DATA SHEET

[PHOTOGRAPH 5]



Project: TCEQ Geologic Assessment
Site: 166-Acre Undeveloped Tract
Location: E. Hwy 290, Dripping Springs, Hays County, Texas 78620
Date Taken: October 19-21, 2016
Photographer: Michael Trojan, PG

Description: Typical view of onsite landscape and large vegetation at high elevations on the tract.

PHOTOGRAPHIC REPORTING DATA SHEET

[PHOTOGRAPH 6]



Project: TCEQ Geologic Assessment
Site: 166-Acre Undeveloped Tract
Location: E. Hwy 290, Dripping Springs, Hays County, Texas 78620
Date Taken: October 19-21, 2016
Photographer: Michael Trojan, PG

Description: View of a typical segment of a primary ephemeral drainage way on the tract.

PHOTOGRAPHIC REPORTING DATA SHEET

[PHOTOGRAPH 7]



Project: TCEQ Geologic Assessment
Site: 166-Acre Undeveloped Tract
Location: E. Hwy 290, Dripping Springs, Hays County, Texas 78620
Date Taken: October 19-21, 2016
Photographer: Michael Trojan, PG

Description: View of a typical segment of a secondary ephemeral drainage feature (feeder to a primary drainage way) on the tract.

PHOTOGRAPHIC REPORTING DATA SHEET

[PHOTOGRAPH 8]



Project: TCEQ Geologic Assessment
Site: 166-Acre Undeveloped Tract
Location: E. Hwy 290, Dripping Springs, Hays County, Texas 78620
Date Taken: October 19-21, 2016
Photographer: Michael Trojan, PG

Description: View of a typical soil profile on the tract.

PHOTOGRAPHIC REPORTING DATA SHEET

[PHOTOGRAPH 9]



Project: TCEQ Geologic Assessment
Site: 166-Acre Undeveloped Tract
Location: E. Hwy 290, Dripping Springs, Hays County, Texas 78620
Date Taken: October 19-21, 2016
Photographer: Michael Trojan, PG

Description: View of typical Glen Rose bedrock outcrops along topographic slopes breaks on the tract.

PHOTOGRAPHIC REPORTING DATA SHEET

[PHOTOGRAPH 10]



Project:	TCEQ Geologic Assessment
Site:	166-Acre Undeveloped Tract
Location:	E. Hwy 290, Dripping Springs, Hays County, Texas 78620
Date Taken:	October 19-21, 2016
Photographer:	Michael Trojan, PG
Description:	View of typical Glen Rose bedrock outcrops along short segments of drainage ways on the tract.

PHOTOGRAPHIC REPORTING DATA SHEET

[PHOTOGRAPH 11]



Project: TCEQ Geologic Assessment
Site: 166-Acre Undeveloped Tract
Location: E. Hwy 290, Dripping Springs, Hays County, Texas 78620
Date Taken: October 19-21, 2016
Photographer: Michael Trojan, PG

Description: View of onsite Manmade Feature in Bedrock MB-1 (water well); the well is not in use.

HEADWATERS COMMERCIAL EAST PHASE 1

GEOLOGIC ASSESSMENT

1. Letter of Clarification Regarding Report of City of Dripping Springs Critical Environmental Features Assessment and Texas Commission on Environmental Quality Geologic Assessment Scopes
2. Geologic Assessment

M. TROJAN & ASSOCIATES
Environmental Consultants

October 3, 2018
Sent Via E-mail

Blake Rue
Rue Investments
P.O. Box 302663
Austin, Texas 78703

Subject: Clarification Regarding Report of City of Dripping Springs
Critical Environmental Features Assessment and Texas Commission on
Environmental Quality Geologic Assessment Scopes
168-Acre Tract
E. Hwy 290
Dripping Springs, Hays County, Texas 78620
MTA Project No. ACEI-16-016

Mr. Rue:

Per your request and the request of Mr. Jesse Malone, PE of Malone/Wheeler, Inc., I am taking this opportunity herein to confirm the "environmental" site assessment tasks that have been completed by M. Trojan & Associates for the above referenced tract, as the resulting reports are required as parts of your future site development submittals to the City of Dripping Springs and the Texas Commission on Environmental Quality (TCEQ).

During 2016 and 2017, M. Trojan & Associates conducted a City of Dripping Springs Critical Environmental Features Assessment (CEFA) and TCEQ Geologic Assessment (GA). These site assessments were documented in the following reports:

Report Title:	Report of City of Dripping Springs Critical Environmental Features Assessment 168-Acre Undeveloped Tract E. Hwy 290 Dripping Springs, Hays County, Texas 78620
Date:	October 31, 2016
Prepared For:	Rue Investments
Prepared By:	M. Trojan & Associates
Scope:	Site reconnaissance to determine the presence of potential onsite and offsite karst or manmade features in bedrock, as well as occurrence of surface water hydrological features such as streams, springs and wetlands.

Report Title: Geologic Assessment
168-Acre Undeveloped Tract
E. Hwy 290
Dripping Springs, Hays County, Texas 78620
Date: September 4, 2017
Prepared For: Rue Investments
Prepared By: M. Trojan & Associates

Scope: Site reconnaissance to determine the presence of potential onsite and offsite karst or manmade features in bedrock.

Note: While the tract is located over the Edwards Aquifer Contributing Zone, the GA effort was conducted for the TCEQ Optional Enhancement Measures (OEM).

Both efforts were conducted by Mr. Michael Trojan, a Licensed Professional Geologist. The criteria used to identify potential features were consistent with those defined/acknowledged by the City of Dripping Springs and TCEQ, as well as the TCEQ OEM component. Moreover, identification and documentation of features was consistent with the "Headwaters at Barton Creek Development Agreement," including the Second Amendment to the Agreement.

Regarding submittal of the CEFA and GA reports as part of the future site development plan packages to the City and TCEQ, it is noted herein that both the GA and CEFA reports should be submitted to TCEQ for the TCEQ OEM as the scope of the CEFA effort included surface water hydrological features (Note: a seasonal spring feature was identified on the tract). The submittal package destined to the City of Dripping Springs need only to include the CEFA report.

Thank you for your time in receiving and reviewing this correspondence. Should you have any questions or require additional information, please feel free to contact me at (512) 917-3695, or forward an email to mtrojan0316@gmail.com.

Respectfully,



Michael Trojan, PG
M. TROJAN & ASSOCIATES

c: Jesse Malone, PE, Malone/Wheeler, Inc.
MTA Project ACEI-16-016

CITY OF DRIPPING SPRINGS
CRITICAL ENVIRONMENTAL FEATURES ASSESMENT

168-ACRE UNDEVELOPED TRACT
E. HWY 290
DRIPPING SPRINGS, HAYS COUNTY, TEXAS 78620

Prepared For

Rue Investments
P.O. Box 302663
Austin, Texas 78703

Prepared By

M. Trojan & Associates
Environmental Consultants
8244 Lime Creek Road
Leander, Texas 78641

MTA Project No. ACEI-16-016

October 31, 2016

M. TROJAN & ASSOCIATES
Environmental Consultants

M. TROJAN & ASSOCIATES
Environmental Consultants

October 31, 2016

Blake Rue
Rue Investments
P.O. Box 302663
Austin, Texas 78703

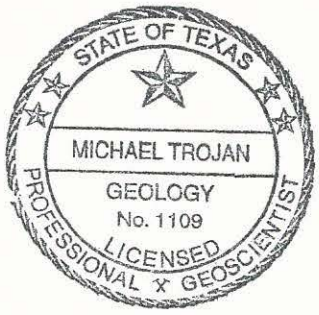
Subject: Report of City of Dropping Springs
Critical Environmental Features Assessment
168-Acre Undeveloped Tract
E. Hwy 290
Dripping Springs, Hays County, Texas 78620
MTA Project No. ACEI-16-016

Mr. Rue:

The information provided in this *City of Dripping Springs Critical Environmental Features Assessment* report addresses certain site environmental conditions and other environmental factors that the City of Dripping Springs may require as part of a Site Development Plan submittal for the above referenced property.

Thank you for providing me with the opportunity to assist you in environmental matters associated with the property. Should you have any questions or require additional information, please feel free to contact me at (512) 258-6606 or forward an email to mtrojan@austin.rr.com.

Respectfully,



Michael Trojan, PG
M. TROJAN & ASSOCIATES

Licensed Professional Geoscientist #1109

c: MTA Project File ACEI-16-016

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Photographs Taken During the Field Reconnaissance

APPENDIX C: CRITICAL ENVIRONMENTAL FEATURES WORKSHEET

NOTICE

This *Critical Environmental Features Assessment* has been prepared in anticipation of a proposed development project(s) within the jurisdiction of the City of Dripping Springs, Texas. The scope and format of this *Critical Environmental Features Assessment* is consistent with that of similar environmental assessments and geologic assessments recognized by the City of Austin (COA) and Texas Commission on Environmental Quality (TCEQ), respectively. The specific focus of this *Critical Environmental Features Assessment* is to identify and document any onsite and offsite Critical Environmental Features (CEFs) that may warrant consideration in light of proposed future development on the subject property.

1.0 STUDY AREA AND PROJECT INFORMATION

M. Trojan & Associates was retained to conduct a *Critical Environmental Features Assessment* for proposed future development on a 168-acre undeveloped tract located along E. Hwy 290 in Dripping Springs, Hays County, Texas. The information provided in this report addresses certain environmental conditions and other environmental factors that the City of Dripping Springs may require as part of future Site Plan submittals.

The field reconnaissance for this *Critical Environmental Features Assessment* was conducted on October 19-21, 2016 by Mr. Michael Trojan, a Professional Geologist/Hydrogeologist certified by the Texas Board of Professional Geoscientists. Mr. Trojan has a total of 32 years of experience in all aspects of the environmental field and 22 years (1994 – present) direct experience in conducting vegetation surveys, geologic assessments over the Edwards Aquifer Recharge Zone and other karst terrain, CEFs assessments, and endangered species habitat assessments for land developers in the Central Texas area.

1.1 Study Area Location and General Characteristics

The study area is located on the north side of E. Hwy 290, and approximately two miles east of the City of Drippings Springs, Texas (refer to Figures 1, 2 and 3 of Appendix A). The property consists of approximately 168 acres of undeveloped land that is generally densely wooded. While the tract is undeveloped, as of the writing of this *Critical Environmental Features Assessment* report, the onsite segment of Headwaters Blvd. had been completed on the west-central portion of the tract.

1.2 Proposed Site Development

As of the writing of this *Critical Environmental Features Assessment* report, components of the tract are proposed for a variety of development; however, to date, no formal

draft layout or Site Plan is available for review. As such, a specific Site Plan is not depicted on Figure 4 of Appendix A.

1.3 Previously Published Reports

No previously published, site-specific technical reports were reviewed as part of this *Critical Environmental Features Assessment*.

2.0 CRITICAL ENVIRONMENTAL FEATURES ASSESSMENT FORM

This *Critical Environmental Features Assessment* has been prepared consistent with that of similar environmental assessments and geologic assessments recognized by the City of Austin (COA) and Texas Commission on Environmental Quality (TCEQ), respectively. As such, and for convenience, much of the data and information collected during the effort is presented in the below, well established *Environmental Resource Inventory Form* format that is the standard form used by COA. It should be noted that certain components of the Form may have been modified as those components do not apply to this tract and proposed future development on the property.

Environmental Resource Inventory Form

1. Site/Project Name: 168-Acre Undeveloped Tract

2. County Appraisal District Property ID (#s): R17595, R124181

3. Address/Location of Project: E. Hwy 290, Dripping Springs, Hays Co. TX 78620

4. Watershed: Barton Creek and Onion Creek

5. This site is within the (*Check all that apply*)

Edwards Aquifer Recharge Zone* (*See note below*)	☐ Yes	☒ No
Edwards Aquifer Contributing Zone*	☒ Yes	☐ No
Edwards Aquifer 1500 ft. Verification Zone*	☐ Yes	☒ No

6. Does this project propose floodplain modifications? ☐ Yes** ☒ No

If yes, then check all that apply:

☐ (1) The floodplain modifications proposed are necessary to protect the public health and safety;

☐ (2) The floodplain modifications proposed would provide a significant, demonstrable environmental benefit, as determined by a ***functional assessment*** of floodplain health; or

☐ (3) The floodplain modifications proposed are necessary for development allowed in the Critical Water Quality Zone

☐ (4) The floodplain modifications proposed are outside of the Critical Water Quality Zone in an area determined to be in poor or fair condition by a ***functional assessment*** of floodplain health.

** If yes, then a functional assessment must be completed and attached to the ERI.

NOTE: IF APPLICABLE, ADDITIONAL RELEVANT INFORMATION IS PROVIDED IN SECTION 4.0 OF THIS REPORT.

7. If the site is within an urban or suburban watershed, does this project propose a utility line within the Critical Water Quality Zone? [ ] Yes*** [X] No

*** If yes, then riparian restoration is required and a ***functional assessment*** must be completed and attached to the ERI.

NOTE: IF APPLICABLE, ADDITIONAL RELEVANT INFORMATION IS PROVIDED IN SECTION 5.0 OF THIS REPORT.

8. There is a total of two (2) Critical Environmental Features (CEFs) on or within 150 feet of the property. Provide the number of each type of CEFs on or within 150 feet of the site *(Please provide the number of CEFs)*:

1	Spring(s)/Seep(s)	____	Point Recharge Feature(s)	____	Bluff(s)
____	Canyon Rimrock(s)	____	Wetland(s)	1	Well(s)

NOTE: INFORMATION PERTAINING TO CEFs IS PROVIDED IN SECTION 3.0, ON FIGURES 8 and 9 OF APPENDIX A AND ON PHOTOGRAPHS IN APPENDIX B OF THIS REPORT.

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

All ERI reports must include:

- [X] Site-specific geologic map
- [X] Historical aerial photo of the site
- [X] Site soil map
- [X] Critical environmental features and well location map

Only if present on site *(maps can be combined)*:

- [ ] Edwards Aquifer Recharge Zone with 1500-foot Verification Zone *(only if site is over or within 1500 feet of the recharge zone)*
- [X] Edwards Aquifer Contributing Zone
- [ ] Water Quality Transition Zone (WQTZ)
- [ ] Critical Water Quality Zone (CWQZ)
- [ ] Floodplains for all water courses/drainage

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

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

Soil Series Unit Names, Infiltration Characteristics & Thickness		
Soil Series Unit Name & Subgroup**	Group*	Thickness (feet)
Brackett-Rock outcrop-Comfort complex, undulating (BtD)	B/C	up to 1.4
Brackett-Rock outcrop-Real complex, steep (BtG)	B/C-C	up to 1.2

*** Soil Hydrologic Groups Definitions (Abbreviated)**

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

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

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

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

** Subgroup Classification –

NOTE: SOIL TYPES ARE DEPICTED ON FIGURE 5 OF APPENDIX A OF THIS REPORT.

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

The study area slopes in multiple directions; however, the primary topographic slopes are to the north (refer to Figure 6 of Appendix A). Topographic slopes vary from medium to very steep, with the steepest slopes along topographic slope breaks and along some segments of drainage features (refer to Figure 6 of Appendix A). Topographic elevations on the study area range between approximately 1,305 and 1,185 feet above mean sea level (msl), with the highest elevations located at the summits of the onsite hilltops and lowest elevations within drainage features at both the north and south property boundaries.

The tract exhibits several primary drainage ways and numerous secondary drainage features that convey stormwater runoff to the primary drainage ways (refer to Figure 6 of Appendix A and photographs in Appendix B). As is depicted on the figure, stormwater runoff generated within the study area boundaries flows generally toward the north or south, with majority of the tract conveying runoff toward the north and offsite to several feeder creeks to Barton Creek. The southern-most portion of the tract conveys runoff toward the south to tributaries that drain into Onion Creek. Barton Creek lies approximately 1.8 miles to the north of the tract while Onion Creek is located about 3.3 miles south of the property.

According to review of a FEMA Flood Insurance Rate Map, no portion of the tract lies within the 100-year floodplain.

List surface geologic units below:

Geologic Units Exposed at Surface		
Group	Formation	Member
Trinity Group	Glen Rose	unknown

Brief Description of Site Geology *(attach additional sheets if needed)*:

According to the *Soil Survey of Comal and Hays Counties, Texas*, the dominant soils that are reported to cover the study area are as follows (also refer to Figure 5 of Appendix A for soil type locations):

Soil Component Name:	Brackett-Rock outcrop-Comfort complex, undulating (BtD)
Soil Surface Texture:	Brackett soil: grayish-brown gravelly clay loam to approximately 6 inches, underlain by pale brown and pale yellow gravelly clay loam to about 17 inches Comfort soil: dark brown extremely stony clay to approximately 4 inches, underlain by dark reddish-brown extremely stony clay to about 11 inches
Hydrologic Group:	Permeability is moderately slow; very low available water capacity; runoff is medium
Soil Drainage Class:	Well drained
Soil Component Name:	Brackett-Rock outcrop-Real complex, steep (BtG)
Soil Surface Texture:	Brackett soil: grayish-brown gravelly clay loam to approximately 6 inches, underlain by light gray gravelly clay loam to about 14 inches Comfort soil: very dark grayish-brown gravelly clay loam to approximately 12 inches
Hydrologic Group:	Permeability is moderately slow to slow; very low available water capacity; runoff is rapid
Soil Drainage Class:	Well drained

Based on the *Soil Survey* and as is depicted on Figure 5 of Attachment C, the Brackett/Comfort complex and Brackett/Real complex soils are reported to cover the entire study area. Shallow excavations were made at various locations across the property and soil characteristics were observed to be similar to those described in the *Soil Survey* (refer to photograph in Appendix B). The soils were found to be relatively thin to medium-thick. Some soil profiles within the primary drainage ways were determined to be up to approximately 4.0 feet thick. The site inspection observe only minor soil erosion, primarily within/around secondary drainage ways.

Based on the *Geologic Atlas of Texas, Llano Sheet*, and review of other available geologic/hydrologic publications, the outcropping (near surface) geologic formation

at the subject property is the Glen Rose Formation (Kgr) (refer to Figure 7 of Appendix A). The Glen Rose is reported to consist of limestone and dolomite. The limestone is light gray to yellowish-gray, aphanitic to fine-grained, hard to soft and marly. The dolomite is yellow-brown, fine-grained and porous. The thickness of the Glen Rose is reported to be up to 380 feet.

Abundant rock outcrops of the Glen Rose were observed across the entire property. Outcrops were observed to be most prevalent along topographic slopes breaks and within drainage ways (refer to photographs in Appendix B).

The property is located over the Edwards Aquifer Contributing Zone.

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

There are 1 Wells present on the project site and the locations are shown and labeled.
_____ 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.
There are 0 Wells that are offsite and within 150 feet of this site.

NOTE: IF APPLICABLE, WELLS ARE DISCUSSED IN SECTION 3.1.6 AND WELL LOCATION(S) IS DEPICTED ON FIGURE 8 IN APPENDIX A OF THIS REPORT.

11. VEGETATION REPORT – Provide the information requested below.

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

The study area represents landscape dominated by relatively dense, mature woodland species with approximately 60 to 70 percent coverage of medium-high canopy. As indicated in the below table, the dominant species is cedar, which accounts for approximately 95 percent of all onsite vegetation. In addition to cedar, the woodland community includes live oak, red oak, and cedar elm trees.

There is woodland community onsite. [X] Yes [ ] No

If yes, list the dominant species below.

Woodland Species	
Common Name	Scientific Name
Ash juniper (dominant)	*Juniperus ashei*
Live oak	*Quercus virginiana*

There is grassland/prairie/savanna onsite. [ ] Yes [X] No

If yes, list the dominant species below.

Grassland/Prairie/Savanna Species	
Common Name	Scientific Name

There is hydrophytic vegetation onsite. [ ] Yes [X] No

If yes, list the dominant species below.

Hydrophytic Plant Species		
Common Name	Scientific Name	Wetland Indicator Status

A tree survey of all trees with a diameter of at least eight inches measured four and one-half feet above natural grade level has been completed on the site.
[ ] Yes [X] No

12. WASTEWATER REPORT – Provide the information requested below.
N/A – at this point a Site Plan is not available

Wastewater for the site will be treated by *(check that apply)*:
[ ] Onsite system(s)
[ ] City of Austin centralized sewage collection system
[ ] Other centralized collection system

The site sewage collection system is designed and will be constructed to in accordance to all State, County and City standard specifications.
[ ] Yes [ ] No

Calculations of the size of the drainfield or wastewater irrigation area(s) are attached at the end of this report or shown on the site plan.
[ ] Yes [ ] No

Wastewater lines are proposed within the Critical Water Quality Zone.
[ ] Yes [ ] No | If yes, then provide justification below.

Is the project site over the Edwards Aquifer?
[ ] Yes [ ] No

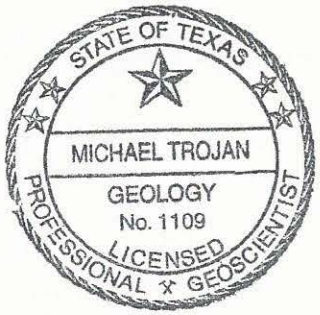
If yes, then describe the wastewater disposal systems proposed for the site, its treatment level and effects on receiving watercourses or the Edwards Aquifer.

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

Date(s) field assessment was performed: October 19-21, 2016
Date(s)

Michael Trojan, PG	(512) 258-6606 / (512) 917-3695
Print Name	Telephone
Signature	mtrojan@austin.rr.com
	Email Address
M. Trojan & Associates	October 31, 2016
Name of Company	Date

For project sites within the Edwards Aquifer Recharge Zone, my signature and seal also certifies that I am a licensed Professional Geoscientist in the State of Texas.



Michael Trojan, PG
Certified Professional Geoscientist #1109 (TX)

3.0 CRITICAL ENVIRONMENTAL FEATURES

The field reconnaissance of the study area included search for and identification of CEFs, including bluffs; canyon rimrock; point recharge features (e.g., caves, faults, fractures/joints, sinkholes/depressions and other natural features); springs and seeps; wetlands; and manmade features in bedrock. These feature types are consistent with those recognized by local regulatory entities, including COA and TCEQ.

The reconnaissance was accomplished by walking 30- to 50-foot (approximate) spaced transects across the entire study area. The findings of this inspection are summarized in Sections 3.1.1 through 3.1.6. In addition, the field reconnaissance included inspection of neighboring properties a distance of approximately 150 to 200 feet (as practicable) from all boundaries of the study area for identification of offsite CEFs that could be deemed as significant in terms of development on the property. The findings of this offsite inspection are summarized in Section 3.2.

3.1 Onsite Critical Environmental Features

3.1.1 Bluffs

In general, Central Texas regulatory entities define a bluff as an abrupt vertical change in topography of more than 40 feet with an average slope steeper than four feet of rise for one foot of horizontal travel (approximately 75 degrees).

Based on observations made across the entire study area, no bluffs were identified.

3.1.2 Canyon Rimrock

In general, Central Texas regulatory entities define a canyon rimrock as an abrupt vertical rock outcrop of more than 60 percent slope (31 degrees), greater than four feet vertically, and a horizontal extent equal to or greater than 50 feet.

Based on observations made across the entire study area, no canyon rimrock was identified.

3.1.3 Point Recharge Features

In general, Central Texas regulatory entities define point recharge features as: caves, faults, fractures/joints, sinkholes/depressions and other natural features that can provide an avenue/conduit for rapid recharge to the subsurface.

Based on observations made across the entire study area, no point recharge features were identified.

3.1.4 Springs/Seeps

In general, Central Texas regulatory entities define a spring and/or seep as a point or zone of natural groundwater discharge in upland and/or riparian zones which produce measurable flow down gradient of the source, or a pool, or both, or (during drought conditions) an area characterized by the presence of a mesic plant community.

The site reconnaissance identified one springs/seeps zone CEF on the tract. This CEF is described below.

CEF S-1: Springs/Seeps Zone

Latitude: 30.196662 (center of the CEF zone)
Longitude: -98.042187 (center of the CEF zone)
Dimensions: 80 X 8' (approx.)

CEF S-1 represents a zone of minor springs and/or seeps along a segment of the primary ephemeral drainage way near the center of the tract (refer to Figures 8 and 9 of Appendix A, photographs in Appendix B and the CEF Worksheet in Appendix C). Specifically, the zone consists of a stream pool segment approximately 80 feet in length and 8.0 feet in maximum width that receives direct seepage from bordering banks.

On the day of the field reconnaissance, the 80-foot segment of the drainage way was observed to be filled with water up to approximately 0.75 feet in depth, and it was assessed that total springs/seeps discharge did not exceed approximately 1.0 gallons per minute. Moreover, field evidence suggests that the feature is seasonal and dry during periods of drought. This is supported by the absence of hydrophytic vegetation species along the drainage segment.

Regarding the CEF's relevance with respect to future development on the tract, CEF S-1 is believed to be insignificant as:

1. The feature is seasonal; and
2. The feature lies at a significant distance (minimum of 250 to 300 feet) from any proposed project site areas on the tract.

3.1.5 Wetlands

In general, Central Texas regulatory entities define a wetland as land transitional between terrestrial and aquatic systems where the water table is usually at or near the surface or the land is covered by shallow water. An area is classified as a wetland if it

meets the US Army Corps of Engineers (USACE) three parameter technical criteria as outlined in the USACE 1987 *Wetlands Delineation Manual*.

Based on observations made across the entire study area, no wetlands were identified. Regarding a potential of wetlands associated with springs/seeps zone CEF S-1 (discussed in Section 3.1.4), this springs/seeps CEF is seasonal and there is absence of hydrophytic vegetation species along the drainage segment.

3.1.6 Manmade Features in Bedrock

In general, Central Texas regulatory entities define manmade features in bedrock to include: water wells, sanitary sewer lines, storm sewer lines, trenches, quarries, and other cultural features that intersect bedrock and can potentially increase the rate of recharge to the subsurface. The following manmade features in bedrock were identified on the tract:

Water Well (CEF MB-1)

Latitude: 30.195288
Longitude: -98.036656

CEF MB-1 represents a water well located on the eastern one-third of the tract (refer to Figure 8 of Appendix A, photograph in Appendix B and CEF Worksheet in Appendix C). The well was observed to be relatively new and not in use (i.e., not completed at ground surface with electrical hook-up, piping, etc.). Installation of the well is not documented in the Texas Water Development Board Submitted Drillers Reports (SDR) Database, and the well details/dimensions are unknown.

Regarding the well's relevance with respect to future development on the tract, the well is assessed not to be significant as the well is properly sealed from ground surface. Still, if the well is not intended for future use, then the structure should be properly plugged and abandoned per the appropriate State regulations.

Underground Infrastructure

Latitude: N/A
Longitude: N/A

Underground infrastructure has been installed in bedrock along the onsite segment of Headwaters Blvd. that crosses the west-central portion of the tract. These features are engineered and represent fully-enclosed storm sewer

and wastewater infrastructure (Note: This assessment has no knowledge of the installation details). These underground infrastructure features are not included on the CEF Worksheet of Appendix C.

The infrastructure is fully-enclosed and is installed in bedrock that shows no evidence of karst features. Therefore, it is assessed that the underground infrastructure is not significant in the potential to increase the rate of recharge to the subsurface. It is further assessed that these features will not be affected by future development on the tract.

3.2 Offsite Critical Environmental Features

The offsite reconnaissance identified the following CEFs/features within approximately 150 to 200 feet from all property boundaries (refer to Figure 8 of Appendix A):

Offsite Springs/Seeps Zones

The reconnaissance identified spring/seeps zones directly north of the north property boundary (refer to Figure 8 of Appendix A and photograph in Appendix B). These zones are found along the same ephemeral drainage way as onsite springs/seeps CEF S-1 and exhibit very similar characteristics to those of onsite CEF S-1 (refer to Section 3.1.4).

Regarding the CEF's relevance with respect to future development on the tract, these offsite CEFs are assessed to be insignificant as:

1. The features are seasonal; and
2. The features are located at great distances from any proposed project site areas on the tract.

Manmade Features in Bedrock

Underground infrastructure has been installed in bedrock along the northward, offsite continuation of Headwaters Blvd. as well as along the north Hwy 290 right-of-way. These features are engineered and represent fully-enclosed storm sewer and wastewater infrastructure (Note: This assessment has no knowledge of the installation details).

The infrastructure is fully-enclosed and is installed in bedrock that shows no evidence of karst features. Therefore, it is assessed that the offsite underground infrastructure is not significant in the potential to increase the rate of recharge to the subsurface. It is further assessed that these features will not be affected by future development on the tract.

4.0 FLOODPLAIN MODIFICATIONS

As conceptual future projects on the tract do not propose floodplain modifications, this section does not apply.

5.0 UTILITY/WASTEWATER LINE WITHIN THE CWQZ

As conceptual future projects on the tract do not propose a utility and/or wastewater line within a "Critical Water Quality Zone" (CWQZ), this section does not apply.

7.0 REFERENCES

- City of Dripping Springs Code of Ordinances.
- Edwards Aquifer Recharge Zone information – Texas Commission on Environmental Quality online information sources.
- FEMA Flood Insurance Rate Map.
- Geologic Atlas of Texas, Llano Sheet. 1986. The University of Texas at Austin, Bureau of Economic Geology.
- Groundwater hydrology – Texas Water Development Board online information resources.
- Personal communications with representatives of Rue Investments and Austin Civil Engineering, Inc.
- Site topographic survey/map – provided by Austin Civil Engineering, Inc.
- Soil Conservation Service STATSGO soils information.
- Soil Survey of Comal and Hays Counties, U.S. Department of Agriculture – Natural Resources Conservation Service, dated 1984.
- Texas Water Development Board, Submitted Drillers Reports (SDR) Database.
- U.S. Geological Survey topographic map.

APPENDIX A

FIGURES



M. TROJAN & ASSOCIATES
Environmental Consultants

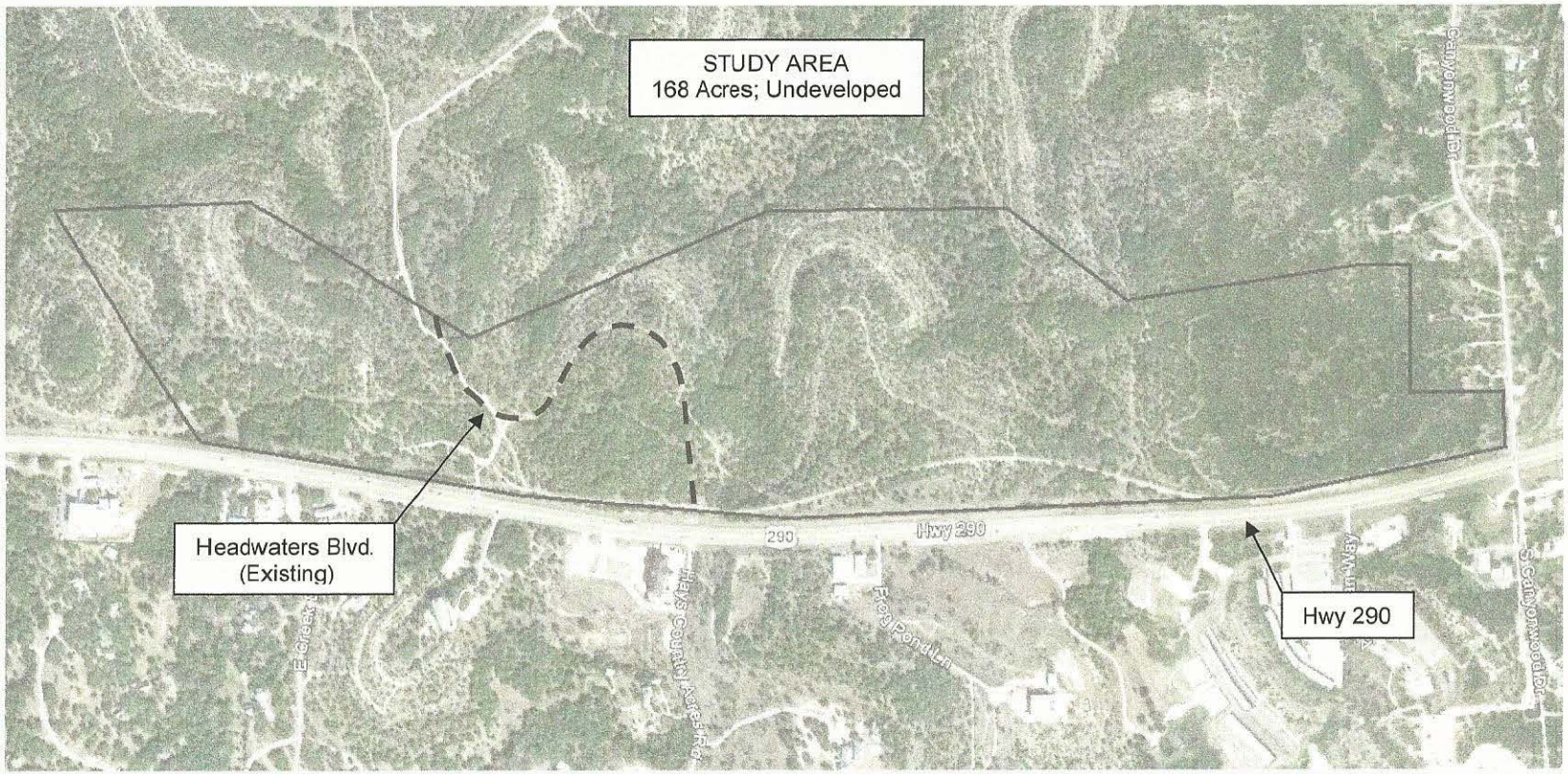
8244 Lime Creek Road
Leander, Texas 78641
(512) 258-6606

Scale:	No Scale
Date:	October 31, 2016
Project:	City of Dripping Springs CEF Assessment
MTA Project:	ACEI-16-016

FIGURE 1

SITE LOCATION MAP

168-ACRE UNDEVELOPED TRACT
E. HWY 290
DRIPPING SPRINGS, HAYS COUNTY, TEXAS 78620



2015 Aerial Photograph

M. TROJAN & ASSOCIATES
Environmental Consultants

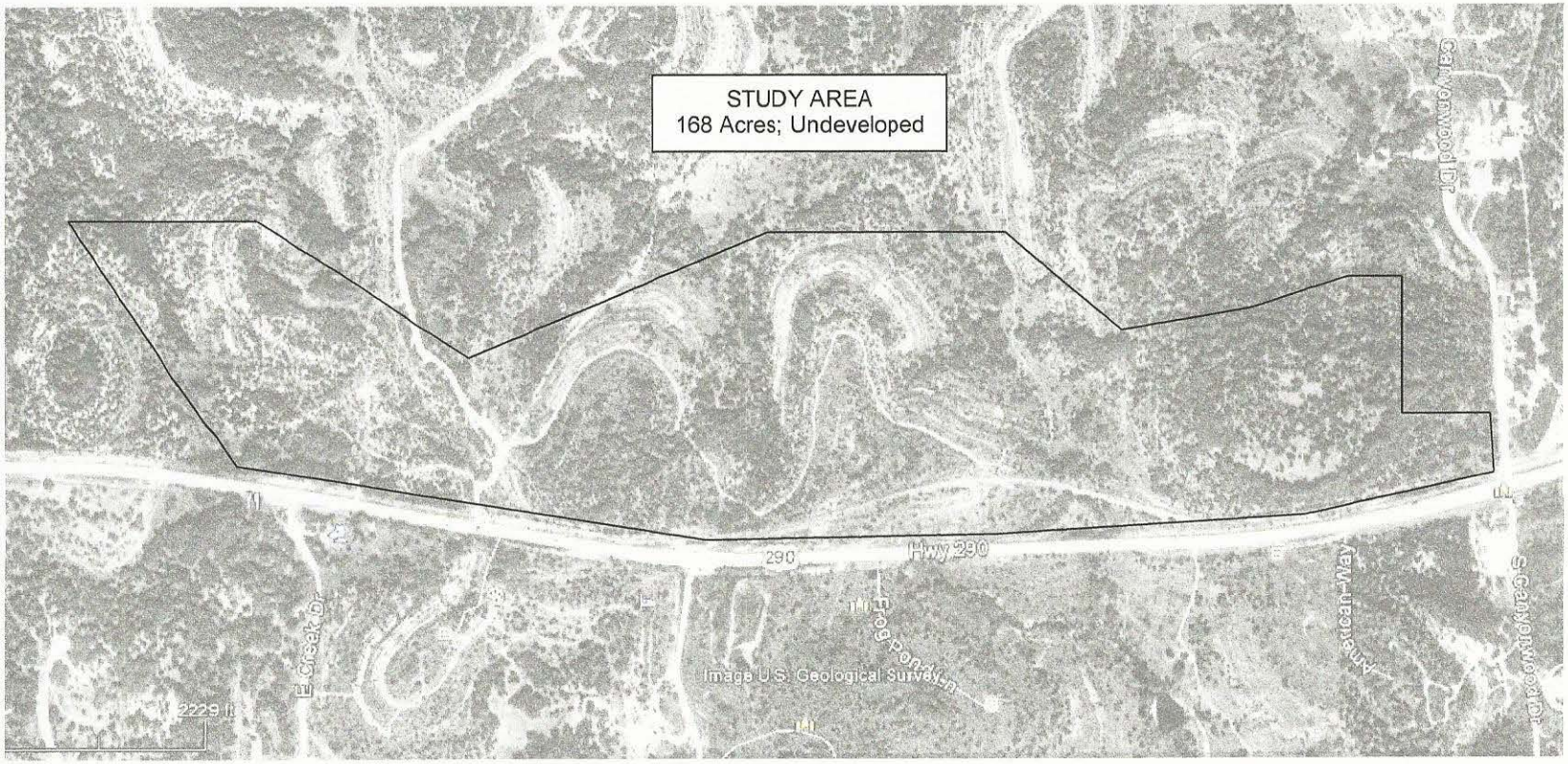
8244 Lime Creek Road
Leander, Texas 78641
(512) 258-6606

Scale:	1" = 920' (approx.)
Date:	October 31, 2016
Project:	City of Dripping Springs CEF Assessment
MTA Project:	ACEI-16-016

FIGURE 2

SITE AERIAL PHOTOGRAPH

168-ACRE UNDEVELOPED TRACT
E. HWY 290
DRIPPING SPRINGS, HAYS COUNTY, TEXAS 78620



1995 Aerial Photograph

M. TROJAN & ASSOCIATES
Environmental Consultants

8244 Lime Creek Road
Leander, Texas 78641
(512) 258-6606

Scale:	1" = 920' (approx.)
Date:	October 31, 2016
Project:	City of Dripping Springs CEF Assessment
MTA Project:	ACEI-16-016

FIGURE 3

HISTORICAL SITE AERIAL PHOTOGRAPH

168-ACRE UNDEVELOPED TRACT
E. HWY 290
DRIPPING SPRINGS, HAYS COUNTY, TEXAS 78620

NO PRELIMINARY SITE PLAN AVAILABLE

M. TROJAN & ASSOCIATES
Environmental Consultants

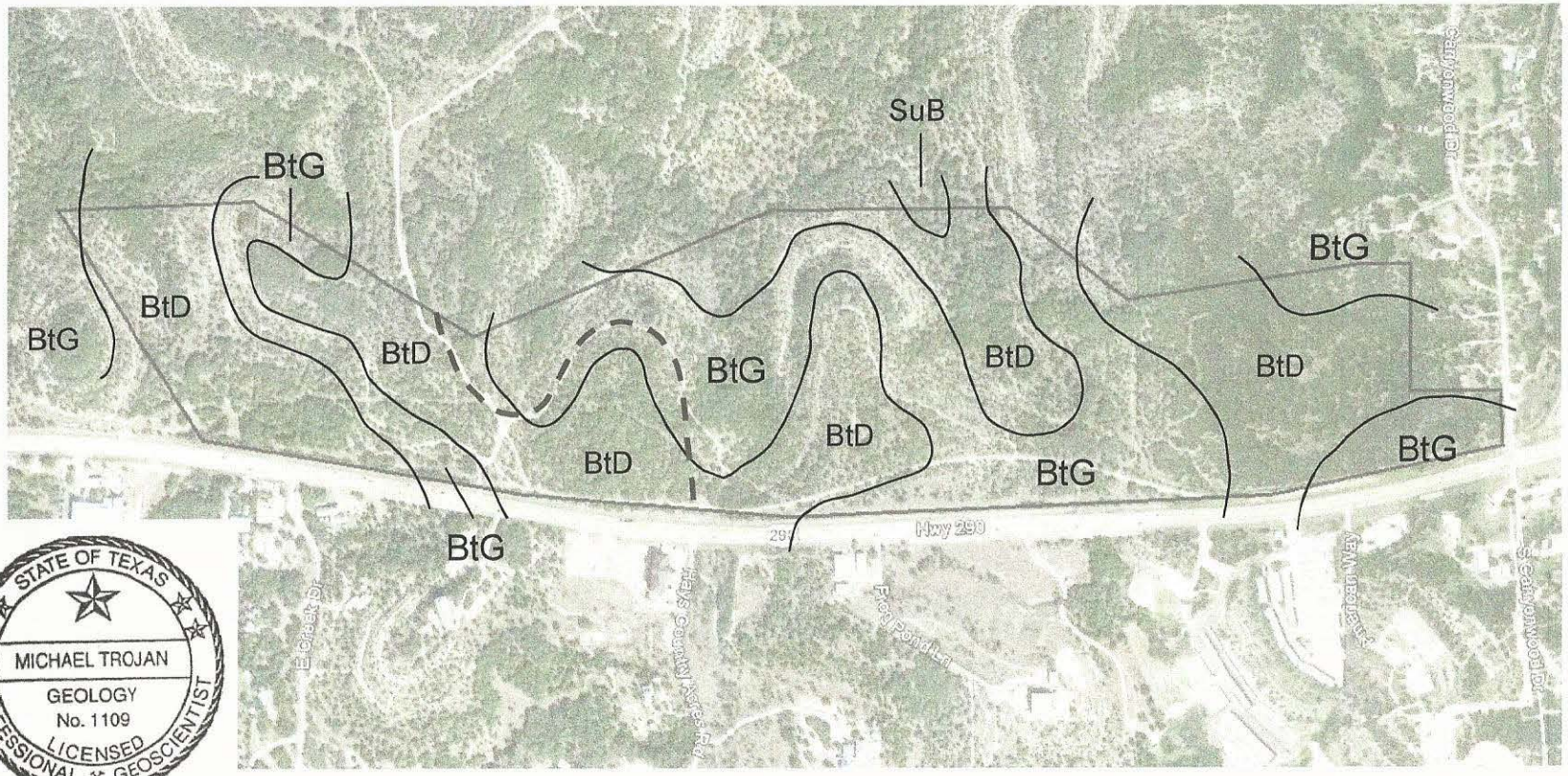
8244 Lime Creek Road
Leander, Texas 78641
(512) 258-6606

Scale:	No Scale
Date:	October 31, 2016
Project:	City of Dripping Springs CEF Assessment
MTA Project:	ACEI-16-016

FIGURE 4

SITE PLAN

168-ACRE UNDEVELOPED TRACT
E. HWY 290
DRIPPING SPRINGS, HAYS COUNTY, TEXAS 78620



STATE OF TEXAS
MICHAEL TROJAN
GEOLOGY
No. 1109
LICENSED
PROFESSIONAL GEOSCIENTIST

BtD – Brackett-Rock outcrop-Comfort complex, undulating / BtG – Brackett-Rock outcrop-Real complex, steep
SuB – Sunev clay loam, 1-3% slopes

N

M. TROJAN & ASSOCIATES
Environmental Consultants

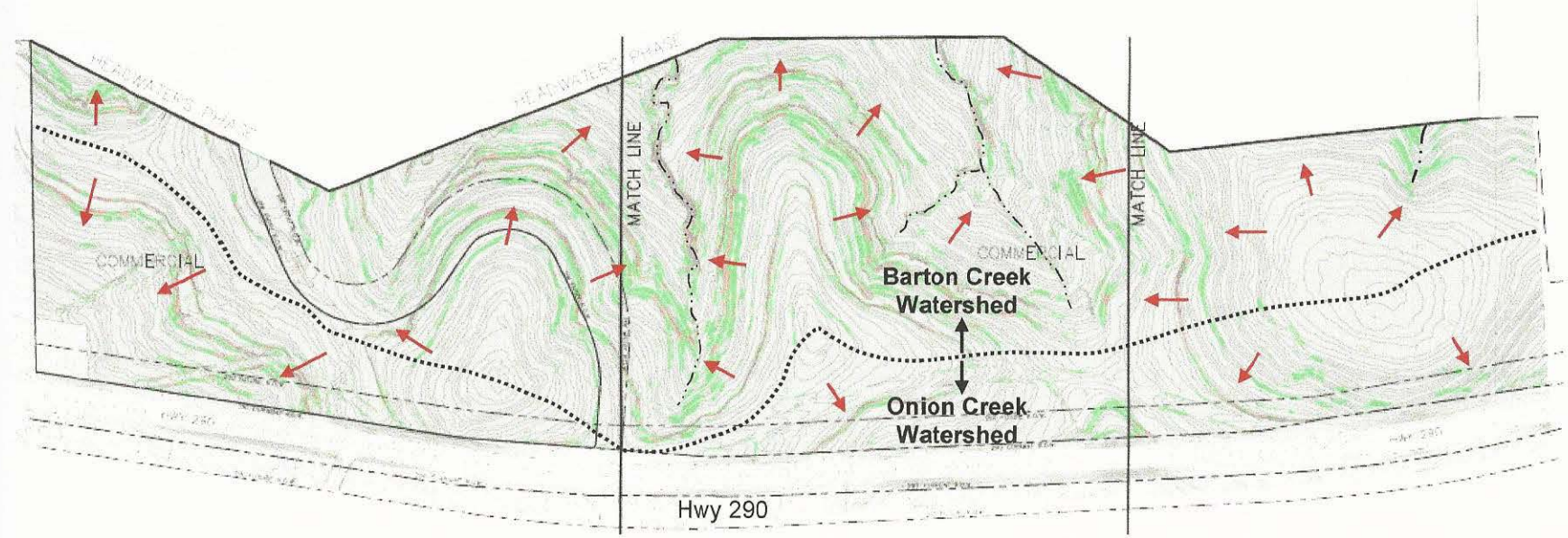
8244 Lime Creek Road
Leander, Texas 78641
(512) 258-6606

Scale:	1" = 920' (approx.)
Date:	October 31, 2016
Project:	City of Dripping Springs CEF Assessment
MTA Project:	ACEI-16-016

FIGURE 5

SITE SOILS MAP

168-ACRE UNDEVELOPED TRACT
E. HWY 290
DRIPPING SPRINGS, HAYS COUNTY, TEXAS 78620



Source: Austin Civil Engineering, Inc. and Hays County

M. TROJAN & ASSOCIATES
Environmental Consultants

8244 Lime Creek Road
Leander, Texas 78641
(512) 258-6606

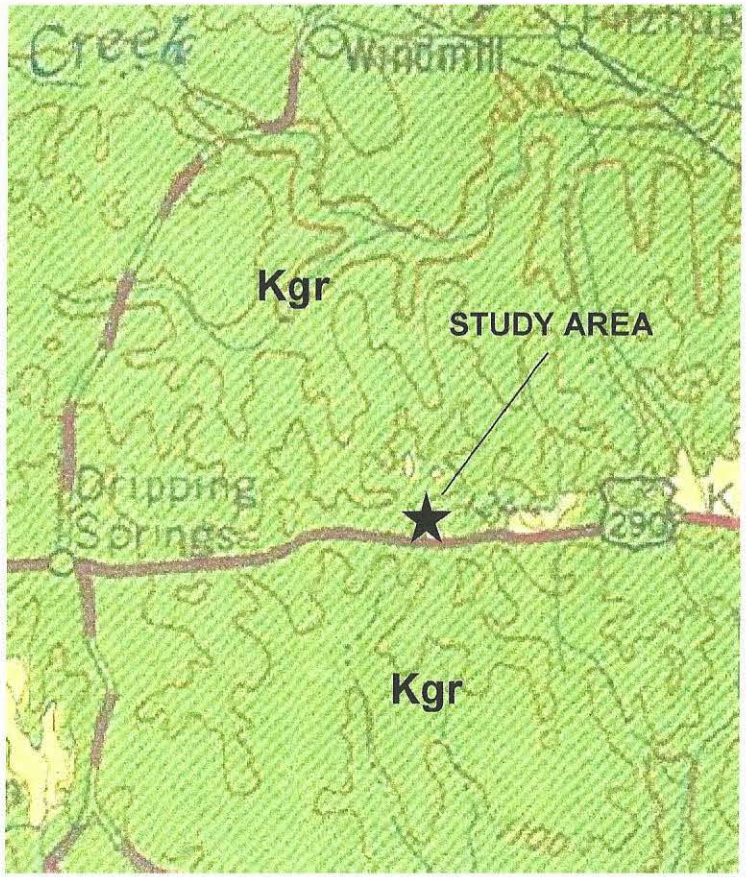
Scale:	No Scale
Date:	October 31, 2016
Project:	City of Dripping Springs CEF Assessment
MTA Project:	ACEI-16-016

FIGURE 6

SURFACE WATER HYDROLOGY

168-ACRE UNDEVELOPED TRACT
E. HWY 290
DRIPPING SPRINGS, HAYS COUNTY, TEXAS 78620

STUDY AREA
The study area and all surrounding properties are underlain by the Glen Rose Formation (Kgr); property lies over the Edwards Aquifer Contributing Zone



Kgr – Glen Rose Formation

Source: (1) *Geologic Atlas of Texas, Llano Sheet*, Bureau of Economic Geology, dated 1986

STATE OF TEXAS
MICHAEL TROJAN
GEOLOGY
No. 1109
LICENSED
PROFESSIONAL GEOSCIENTIST

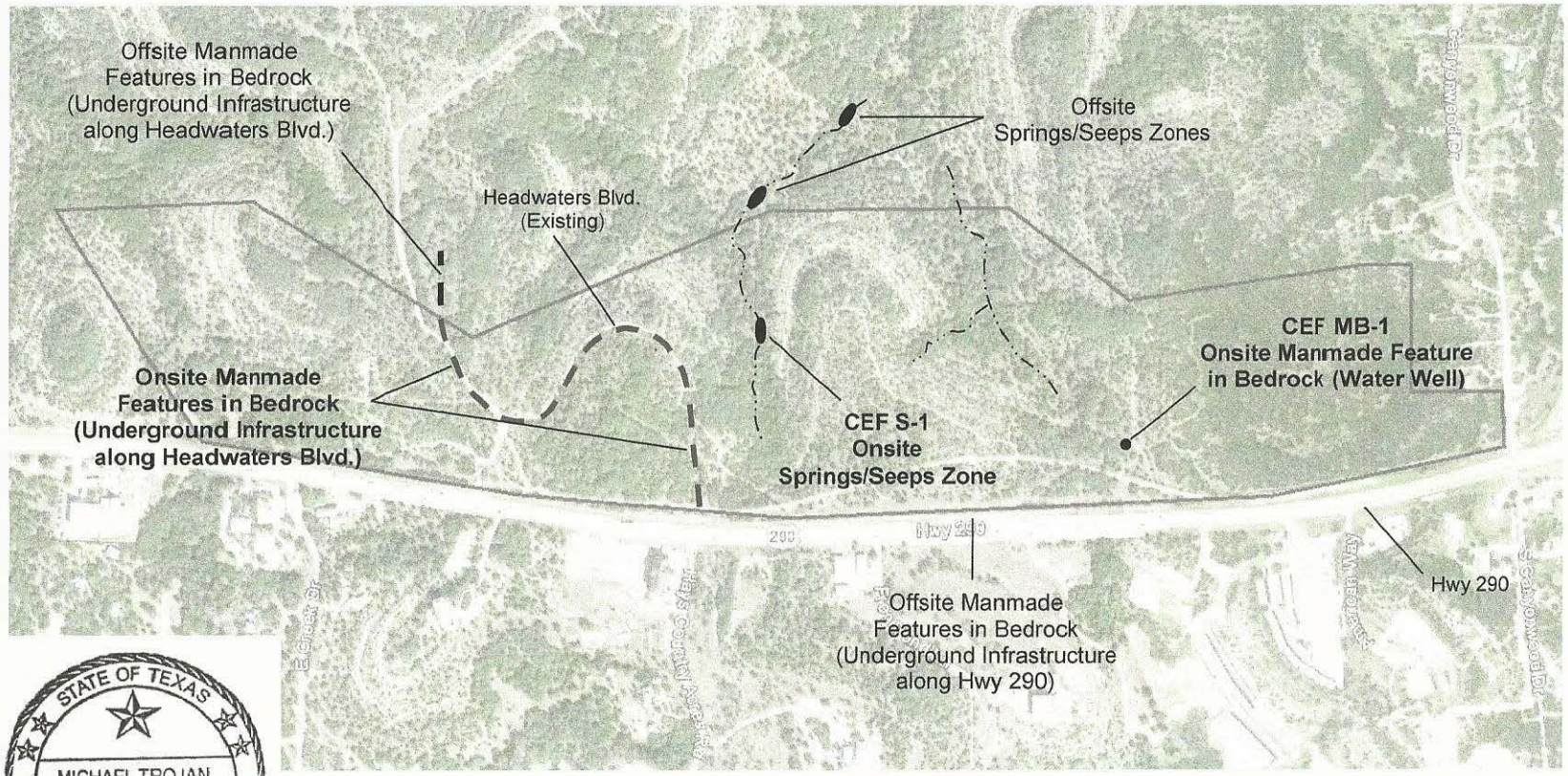
M. TROJAN & ASSOCIATES
Environmental Consultants
8244 Lime Creek Road
Leander, Texas 78641
(512) 258-6606

Scale: No Scale
Date: October 31, 2016
Project: City of Dripping Springs CEF Assessment
MTA Project: ACEI-16-016

FIGURE 7

GEOLOGIC MAP

168-ACRE UNDEVELOPED TRACT
E. HWY 290
DRIPPING SPRINGS, HAYS COUNTY, TEXAS 78620



STATE OF TEXAS
MICHAEL TROJAN
GEOLOGY
No. 1109
LICENSED PROFESSIONAL GEOSCIENTIST

M. TROJAN & ASSOCIATES
Environmental Consultants

8244 Lime Creek Road
Leander, Texas 78641
(512) 258-6606

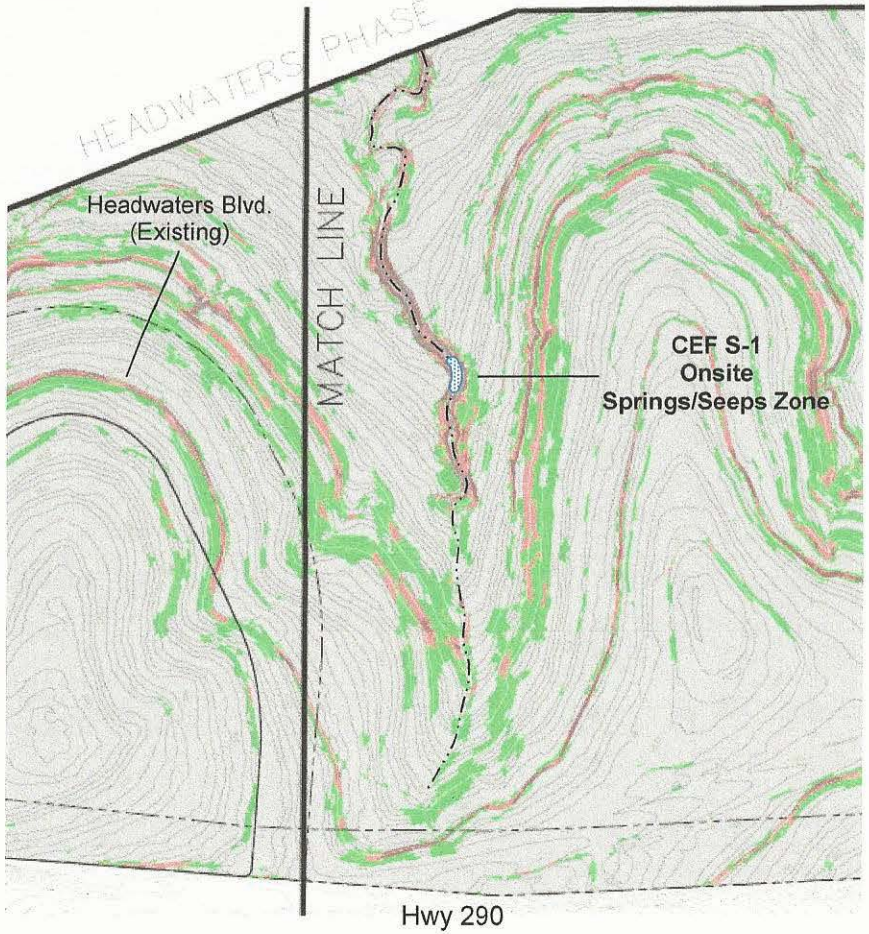
Scale:	1" = 920' (approx.)
Date:	October 31, 2016
Project:	City of Dripping Springs CEF Assessment
MTA Project	ACEI-16-016

FIGURE 8

SITE CEFs MAP

168-ACRE UNDEVELOPED TRACT
E. HWY 290
DRIPPING SPRINGS, HAYS COUNTY, TEXAS 78620

—·—·— Primary ephemeral drainage way exhibiting bed and bank features



STATE OF TEXAS
MICHAEL TROJAN
GEOLOGY
No. 1109
LICENSED
PROFESSIONAL GEOSCIENTIST

M. TROJAN & ASSOCIATES
Environmental Consultants
8244 Lime Creek Road
Leander, Texas 78641
(512) 258-6606

Scale:	1" = 300' (approx.)
Date:	October 31, 2016
Project:	City of Dripping Springs CEF Assessment
MTA Project	ACEI-16-016

FIGURE 9

CEF S-1 DETAIL

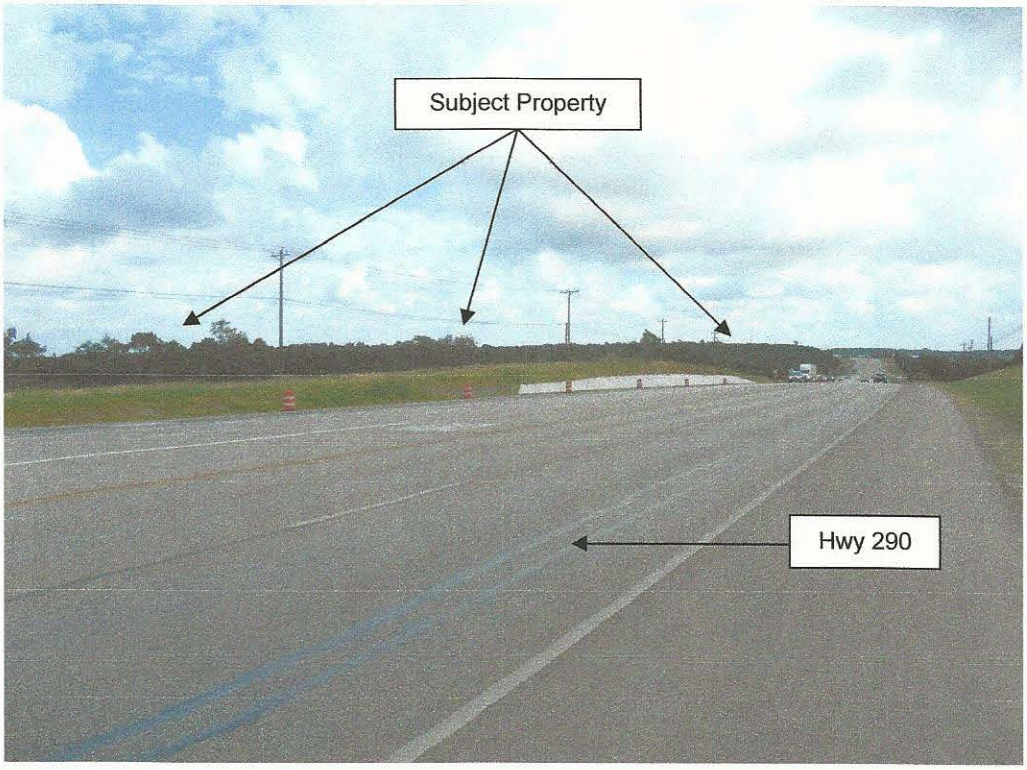
168-ACRE UNDEVELOPED TRACT
E. HWY 290
DRIPPING SPRINGS, HAYS COUNTY, TEXAS 78620

APPENDIX B

SITE PHOTOGRAPHS

PHOTOGRAPHIC REPORTING DATA SHEET

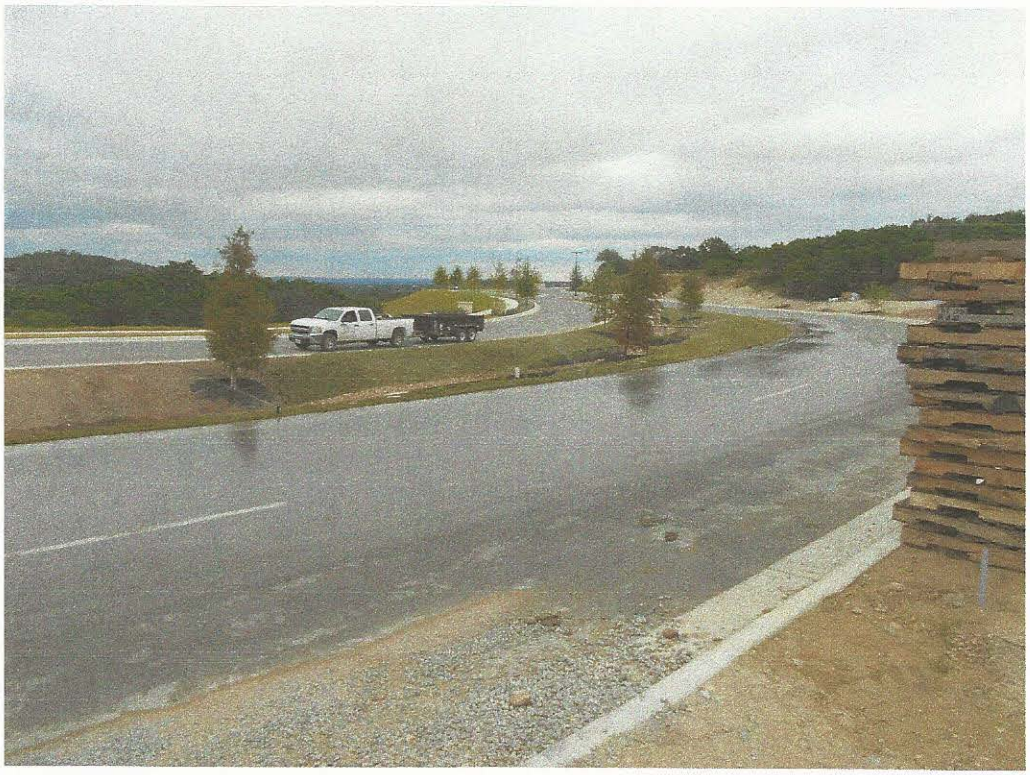
[PHOTOGRAPH 1]



Project:	City of Dripping Springs Critical Environmental Features Assessment
Site:	168-Acre Undeveloped Tract
Location:	E. Hwy 290, Dripping Springs, Hays County, Texas 78620
Date Taken:	October 19-21, 2016
Photographer:	Michael Trojan, PG
Description:	Typical view of the subject property from Hwy 290. Photograph taken from Hwy 290 facing east.

PHOTOGRAPHIC REPORTING DATA SHEET

[PHOTOGRAPH 2]



Project:	City of Dripping Springs Critical Environmental Features Assessment
Site:	168-Acre Undeveloped Tract
Location:	E. Hwy 290, Dripping Springs, Hays County, Texas 78620
Date Taken:	October 19-21, 2016
Photographer:	Michael Trojan, PG
Description:	View of a segment of Headwaters Blvd. (existing) on the west-central portion of the tract.

PHOTOGRAPHIC REPORTING DATA SHEET

[PHOTOGRAPH 3]



Project:	City of Dripping Springs Critical Environmental Features Assessment
Site:	168-Acre Undeveloped Tract
Location:	E. Hwy 290, Dripping Springs, Hays County, Texas 78620
Date Taken:	October 19-21, 2016
Photographer:	Michael Trojan, PG

Description: Typical view of the subject property from the eastern-most hilltop. Photograph taken from the eastern-most portion of the tract facing west.

PHOTOGRAPHIC REPORTING DATA SHEET

[PHOTOGRAPH 4]



Project:	City of Dripping Springs Critical Environmental Features Assessment
Site:	168-Acre Undeveloped Tract
Location:	E. Hwy 290, Dripping Springs, Hays County, Texas 78620
Date Taken:	October 19-21, 2016
Photographer:	Michael Trojan, PG

Description: Typical view of onsite landscape and large vegetation at low elevations on the tract.

PHOTOGRAPHIC REPORTING DATA SHEET

[PHOTOGRAPH 5]



Project:	City of Dripping Springs Critical Environmental Features Assessment
Site:	168-Acre Undeveloped Tract
Location:	E. Hwy 290, Dripping Springs, Hays County, Texas 78620
Date Taken:	October 19-21, 2016
Photographer:	Michael Trojan, PG
Description:	Typical view of onsite landscape and large vegetation at high elevations on the tract.

PHOTOGRAPHIC REPORTING DATA SHEET

[PHOTOGRAPH 6]



Project: City of Dripping Springs Critical Environmental Features Assessment
Site: 168-Acre Undeveloped Tract
Location: E. Hwy 290, Dripping Springs, Hays County, Texas 78620
Date Taken: October 19-21, 2016
Photographer: Michael Trojan, PG

Description: View of a typical segment of a primary ephemeral drainage way on the tract.

PHOTOGRAPHIC REPORTING DATA SHEET

[PHOTOGRAPH 7]



Project:	City of Dripping Springs Critical Environmental Features Assessment
Site:	168-Acre Undeveloped Tract
Location:	E. Hwy 290, Dripping Springs, Hays County, Texas 78620
Date Taken:	October 19-21, 2016
Photographer:	Michael Trojan, PG

Description: Second view of a typical segment of a primary ephemeral drainage way on the tract.

PHOTOGRAPHIC REPORTING DATA SHEET

[PHOTOGRAPH 8]



Project:	City of Dripping Springs Critical Environmental Features Assessment
Site:	168-Acre Undeveloped Tract
Location:	E. Hwy 290, Dripping Springs, Hays County, Texas 78620
Date Taken:	October 19-21, 2016
Photographer:	Michael Trojan, PG

Description: View of a typical segment of a secondary ephemeral drainage feature (feeder to a primary drainage way) on the tract.

PHOTOGRAPHIC REPORTING DATA SHEET

[PHOTOGRAPH 9]



Project:	City of Dripping Springs Critical Environmental Features Assessment
Site:	168-Acre Undeveloped Tract
Location:	E. Hwy 290, Dripping Springs, Hays County, Texas 78620
Date Taken:	October 19-21, 2016
Photographer:	Michael Trojan, PG

Description: View of a typical soil profile on the tract.

PHOTOGRAPHIC REPORTING DATA SHEET

[PHOTOGRAPH 10]



Project:	City of Dripping Springs Critical Environmental Features Assessment
Site:	168-Acre Undeveloped Tract
Location:	E. Hwy 290, Dripping Springs, Hays County, Texas 78620
Date Taken:	October 19-21, 2016
Photographer:	Michael Trojan, PG

Description: View of typical Glen Rose bedrock outcrops along topographic slopes breaks on the tract.

PHOTOGRAPHIC REPORTING DATA SHEET

[PHOTOGRAPH 11]



Project:	City of Dripping Springs Critical Environmental Features Assessment
Site:	168-Acre Undeveloped Tract
Location:	E. Hwy 290, Dripping Springs, Hays County, Texas 78620
Date Taken:	October 19-21, 2016
Photographer:	Michael Trojan, PG

Description: View of typical Glen Rose bedrock outcrops along drainage ways on the tract.

PHOTOGRAPHIC REPORTING DATA SHEET

[PHOTOGRAPH 12]



Project:	City of Dripping Springs Critical Environmental Features Assessment
Site:	168-Acre Undeveloped Tract
Location:	E. Hwy 290, Dripping Springs, Hays County, Texas 78620
Date Taken:	October 19-21, 2016
Photographer:	Michael Trojan, PG

Description: View of onsite Manmade Feature in Bedrock CEF MB-1 (water well); the well is not in use.

PHOTOGRAPHIC REPORTING DATA SHEET

[PHOTOGRAPH 13]



Project:	City of Dripping Springs Critical Environmental Features Assessment
Site:	168-Acre Undeveloped Tract
Location:	E. Hwy 290, Dripping Springs, Hays County, Texas 78620
Date Taken:	October 19-21, 2016
Photographer:	Michael Trojan, PG

Description: View of onsite "seasonal" Springs/Seeps Feature (CEF S-1) along the western primary ephemeral drainage way.

PHOTOGRAPHIC REPORTING DATA SHEET

[PHOTOGRAPH 14]



Project:	City of Dripping Springs Critical Environmental Features Assessment
Site:	168-Acre Undeveloped Tract
Location:	E. Hwy 290, Dripping Springs, Hays County, Texas 78620
Date Taken:	October 19-21, 2016
Photographer:	Michael Trojan, PG

Description: View of offsite "seasonal" springs/seeps features directly downgradient (north of the tract) along the western primary ephemeral drainage way.

PHOTOGRAPHIC REPORTING DATA SHEET

[PHOTOGRAPH 15]



Project:	City of Dripping Springs Critical Environmental Features Assessment
Site:	168-Acre Undeveloped Tract
Location:	E. Hwy 290, Dripping Springs, Hays County, Texas 78620
Date Taken:	October 19-21, 2016
Photographer:	Michael Trojan, PG

Description: Second view of offsite "seasonal" springs/seeps features directly downgradient (north of the tract) along the western primary ephemeral drainage way.

APPENDIX C

CRITICAL ENVIRONMENTAL FEATURE WORKSHEET

City of Dripping Springs Critical Environmental Features Assessment – Critical Environmental Feature Worksheet

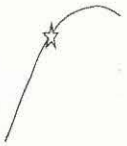
1	Project Name:	168-Acre Undeveloped Tract
2	Project Address:	E. Hwy 290, Dripping Springs, Hays Co., TX 78620
3	Site Visit Date:	October 19-21, 2016
4	Environmental Resource Inventory Date:	October 31, 2016

5	Primary Contact Name:	Hunter Shadburne (Austin Civil Engineering, Inc.)
6	Phone Number:	(512) 306-0018
7	Prepared By:	Michael Trojan, PG
8	Email Address:	mtrojan@austin.rr.com

9	FEATURE TYPE (Wetland, Rimrock, Bluffs, Recharge Feature, Spring)	FEATURE ID (e.g. S-1)	FEATURE LONGITUDE (WGS 1984 in Feet)		FEATURE LATITUDE (WGS 1984 in Feet)		WETLAND DIMENSIONS (ft)		RIMROCK/BLUFF DIMENSIONS (ft)		RECHARGE FEATURE DIMENSIONS				Spring Est. Discharge
			coordinate	*notation*	*coordinate*	*notation*	X	Y	Length	Avg Height	X	Y	Z	Trend	cfs
	Springs/Seeps Zone	CEF S-1	-98.042187		30.196662										<0.25
	Water Well	CEF MB-1	-98.036656		30.195288										

City of Austin Use Only CASE NUMBER:	

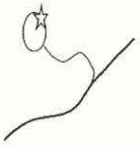
For rimrock, locate the midpoint of the segment that describes the feature.



For wetlands, locate the approximate centroid of the feature and the estimated area.

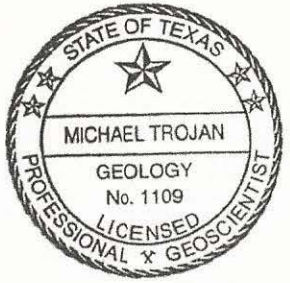


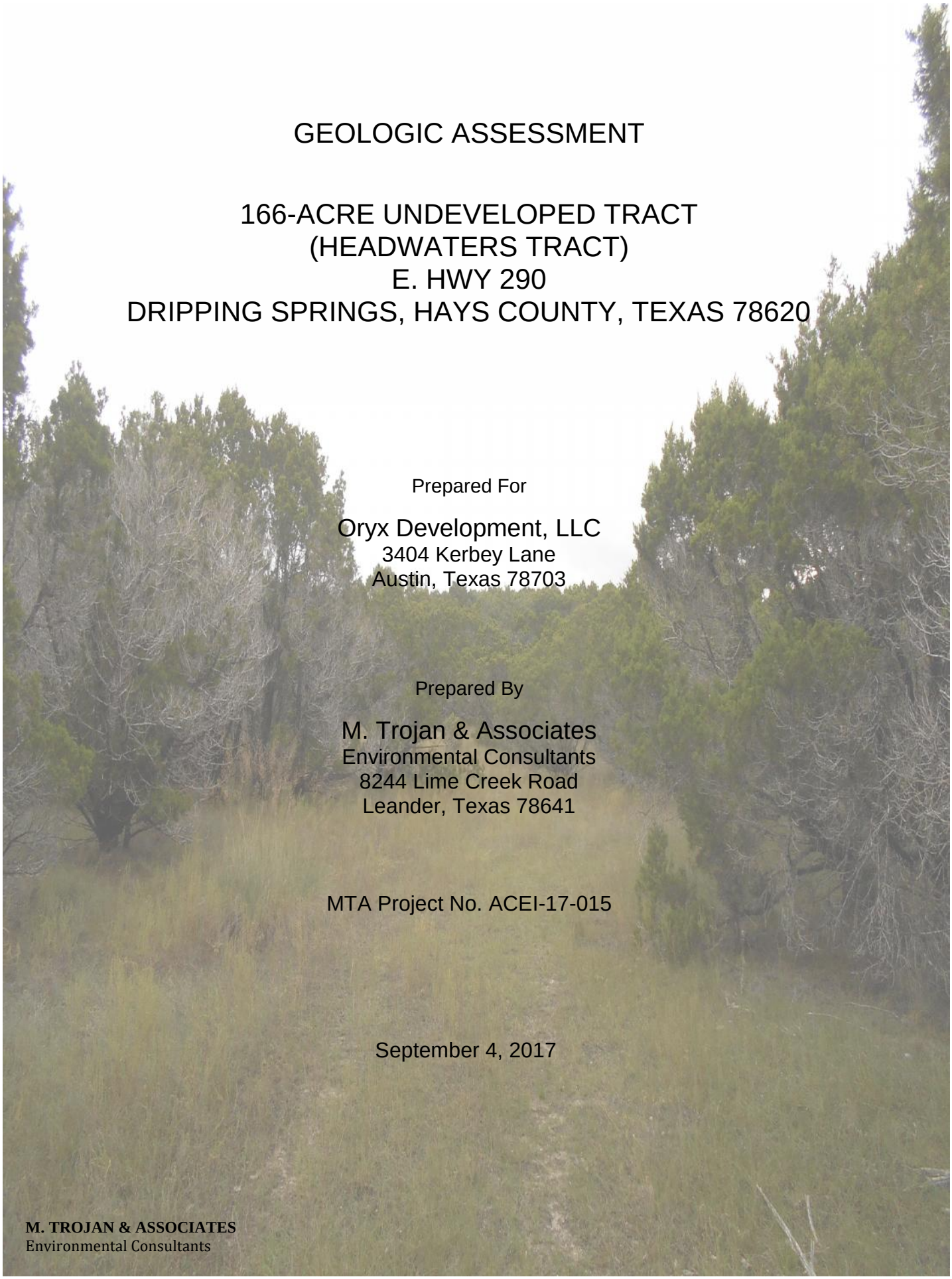
For a spring or seep, locate the source of groundwater that feeds a pool or stream.



Please state the method of coordinate data collection and the appropriate precision and accuracy of the points and the unit of measurement.

Method		Accuracy	
GPS	X	sub-meter	X
Surveyed		meter	
Other		>1 meter	





GEOLOGIC ASSESSMENT

166-ACRE UNDEVELOPED TRACT
(HEADWATERS TRACT)
E. HWY 290
DRIPPING SPRINGS, HAYS COUNTY, TEXAS 78620

Prepared For

Oryx Development, LLC
3404 Kerbey Lane
Austin, Texas 78703

Prepared By

M. Trojan & Associates
Environmental Consultants
8244 Lime Creek Road
Leander, Texas 78641

MTA Project No. ACEI-17-015

September 4, 2017

M. TROJAN & ASSOCIATES
Environmental Consultants

September 4, 2017

Blake Rue
Oryx Development, LLC
3404 Kerbey Lane
Austin, Texas 78703

Subject: Report of TCEQ *Geologic Assessment*
166-Acre Undeveloped Tract
(Headwaters Tract)
E. Hwy 290
Dripping Springs, Hays County, Texas 78620
MTA Project No. ACEI-17-015

Mr. Rue:

M. Trojan & Associates is pleased to submit this report of a Texas Commission on Environmental Quality (TCEQ) *Geologic Assessment* for the above referenced property. This *Geologic Assessment* was performed in accordance with the TCEQ requirements and instructions for completing TCEQ Form 0585.

I appreciate the opportunity to assist you in your environmental matters associated with the subject property and trust that the contents of this report are satisfactory. Should you have any questions or require additional information, please feel free to contact me at (512) 258-6606, or forward an email to mtrojan@austin.rr.com.

Respectfully,



Michael Trojan, PG
M. TROJAN & ASSOCIATES

Certified Professional Geoscientist #1109 (TX)

c: MTA Project File ACEI-17-015

TABLE OF CONTENTS

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2.0 OVERVIEW 5

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3.1 STUDY AREA 6
3.2 PROPOSED SITE DEVELOPMENT 6
3.3 PREVIOUSLY PUBLISHED REPORTS 6

4.0 GEOLIC ASSESSMENT LIMITATIONS 7

ATTACHMENTS

ATTACHMENT A: GEOLOGIC ASSESSMENT TABLE

ATTACHMENT B: STRATIGRAPHIC COLUMN

ATTACHMENT C: SITE GEOLOGY

ATTACHMENT D: SITE GEOLOGIC MAPS

Figure 1 – Site Location Map
Figure 2 – Site Aerial Photograph
Figure 3 – Surface Water Hydrology
Figure 4 – Site Soils Map
Figure 5 – General Geologic Map
Figure 6 – Site Geologic Map

ATTACHMENT E: SITE PHOTOGRAPHS

1.0 TCEQ FORM 0585

Geologic Assessment

Texas Commission on Environmental Quality

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

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

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

Signature

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

Print Name of Geologist: Michael Trojan, PG Telephone: (512) 258-6606

Representing: M. Trojan & Associates Fax:

Signature of Geologist:



_____



Michael Trojan, PG
Certified Professional Geoscientist #1109 (TX)

Regulated Entity Name: 166-Acre Undeveloped Tract (Headwaters Tract)
E. Hwy 290, Dripping Springs, Hays County, Texas 78620

Project Information

1. Date(s) Geologic Assessment was performed: October 19-21, 2016 and August 29, 2017

2. Type of Project:

X	WPAP		AST
X	SCS		UST

3. Location of Project:

	Recharge Zone
	Transition Zone
	Contributing Zone within the Transition Zone

4. [X] **Attachment A – Geologic Assessment Table**. Completed Geologic Assessment Table (Form TCEQ-0585-Table) is attached.

5. [X] Soil cover on the project site is summarized in the table below and uses the SCS Hydrologic Soil Groups* (Urban Hydrology for Small Watersheds, Technical Release No. 55, Appendix A, Soil Conservation Service, 1986). If there is more than one soil type on the project site, show each soil type on the site Geologic Map or a separate soils map (refer to Attachment D).

Table 1 – Soil Units, Infiltration, Characteristics and Thickness

Soil Units, Infiltration Characteristics & Thickness		
Soil Name	Group*	Thickness (feet)
Brackett-Rock outcrop-Comfort complex, undulating (BtD)	B/C	up to 1.4
Brackett-Rock outcrop-Real complex, steep (BtG)	B/C-C	up to 1.2

* Soil Group Definitions (Abbreviated)

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

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

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

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

6. [X] **Attachment B – Stratigraphic Column**. A stratigraphic column showing formations, members, and thicknesses is attached. The outcropping unit, if present, should be at the top of the stratigraphic column. Otherwise, the uppermost unit should be at the top of the stratigraphic column.

7. [X] **Attachment C – Site Geology**. A narrative description of the site specific geology including any features identified in the Geologic Assessment Table, a discussion of the potential for fluid movement to the Edwards Aquifer, stratigraphy, structure(s), and karst characteristics is attached.

8. [X] **Attachment D – Site Geologic Map(s)**. The Site Geologic Map must be the same scale as the applicant's Site Plan.

Applicant's Site Plan Scale: unknown
Site Geologic Map Scale: 1" = 920'
Site Soils Map Scale (if more than 1 soil type): 1" = 920'

9. Method of collecting positional data:

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

10. [ ] The project site and boundaries are clearly shown and labeled on the Site Geologic Map.

11. [X] Surface geologic units are shown and labeled on the Site Geologic Map.

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

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

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

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

[X] There are 1 (#) 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.
- [X] The wells are not in use and will be properly abandoned.
- [ ] The wells are in use and comply with 16 TAC Chapter 76.

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

Administrative Information

15. [X] 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.

2.0 OVERVIEW

M. Trojan & Associates was retained to conduct a Geologic *Assessment* for proposed future development on a 166-acre undeveloped tract located along E. Hwy 290 in Dripping Springs, Hays County, Texas (refer to Figures 1 and 2 of Attachment D). All aspects of the *Geologic Assessment* were conducted by Mr. Michael Trojan, PG (Certified Professional Geoscientist #1109 in Texas), and the assessment was performed in accordance with Texas Commission on Environmental Quality (TCEQ) requirements and instructions for completing TCEQ Form 0585. The assessment included reconnaissance of the entire property as well as bordering portions of all neighboring properties.

The objective of the *Geologic Assessment* was to identify any naturally occurring geologic (karst) or manmade features that may significantly contribute to recharge of the subsurface. The Edwards Aquifer rules define sensitive features as:

> *" . . . those that have potential for interconnectedness between the surface and the Edwards Aquifer and where rapid infiltration to the subsurface may occur."*

The scope of the *Geologic Assessment* included the following general components:

- Review of published soils and geologic/hydrogeologic information;
- Field evaluation of topographic features;
- Field evaluation of soil types and horizons, relative thicknesses, and hydrologic characteristics (visual only);
- General review of the subsurface geologic units beneath the property as well as geologic units exposed at ground surface (if visible);
- Field evaluation of geologic conditions to determine the presence or absence of caves, solution cavities, solution-enlarged fractures, faults, other natural bedrock features, sinkholes, swallets or swallow holes in drainage features, non-karst closed depressions, manmade features in bedrock, and any other natural or manmade features, and evaluation of such features with respect to their potential ability to convey infiltrating surface water to the underlying subsurface; and
- Preparation of TCEQ Form 0585 for presentation of the findings of this assessment.

3.0 GENERAL PROPERTY DESCRIPTION AND SITE DEVELOPMENT

3.1 Study Area

The study area is located on the north side of E. Hwy 290, and approximately two miles east of the City of Drippings Springs, Texas (refer to Figures 1 and 2 of Attachment D and photographs included in Attachment E). The property consists of approximately 166 acres of undeveloped land that is generally densely wooded. While the tract is undeveloped, as of the writing of this *Geologic Assessment* report, the onsite segment of Headwaters Blvd. has been completed on the west-central portion of the tract.

3.2 Proposed Site Development

As of the writing of this *Geologic Assessment* report, components of the tract are proposed for a variety of developments; however, to date, no formal Site Plan is available for review.

3.3 Previously Published Reports

No previously published, site-specific technical reports were reviewed as part of this *Geologic Assessment*.

4.0 GEOLIC ASSESSMENT LIMITATIONS

This *Geologic Assessment* was conducted in accordance with rules and guidelines set forth by the TCEQ, as well as consistent with standard methods and practices generally employed by professionals engaged in conducting karst assessments. Still, the scope of the *Geologic Assessment* presents certain limitations. The primary limitations include:

1. The field reconnaissance is conducted to effectively identify the geologic conditions/features at the subject property. However, certain site conditions may render features undetectable as a result of obstruction by: (1) soil cover, (2) very dense, inaccessible vegetation, (3) manmade cover including, but not limited to driveways, concrete slabs, soil and debris piles/mounds, and/or (4) stormwater runoff ground cover following significant rainfall events.

2. The scope of the *Geologic Assessment* does not include identification of features that may be discovered at the time of site development – during excavation, trenching, grading and/or leveling.

ATTACHMENT A

GEOLOGIC ASSESSMENT TABLE

GEOLOGIC ASSESSMENT TABLE			PROJECT NAME: 166-Acre Undeveloped Tract (Headwaters Tract)																
LOCATION			FEATURE CHARACTERISTICS												EVALUATION			PHYSICAL SETTING	
1A	1B *	1C*	2A	2B	3	4			5	5A	6	7	8A	8B	9	10		11	12
FEATURE ID	LATITUDE	LONGITUDE	FEATURE TYPE	POINTS	FORMATION	DIMENSIONS (FEET)			TREND (DEGREES)	DOM	DENSITY (NO/FT)	APERTURE (FEET)	INFILL	RELATIVE INFILTRATION RATE	TOTAL	SENSITIVITY		CATCHMENT AREA (ACRES)	TOPOGRAPHY
						X	Y	Z		10						<40	>40	<1.6	>1.6	
ONSITE																			
MB-1	29.899591	-97.918577	MB (well)	30	Kgr	unk	unk	unk					X	<5	<35	X			hillside
MB-2	N/A	N/A	MB	30	Kgr	unk	unk	unk					X	<5	<35	X			hillside
OFFSITE																			
MB-3	N/A	N/A	MB	30	Kgr	unk	unk	unk					X	<5	<35	X			hillside
MB-4	N/A	N/A	MB	30	Kgr	unk	unk	unk					X	<5	<35	X			hillside

* DATUM:_____

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

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

12 TOPOGRAPHY

Cliff, Hilltop, Hillside, Drainage, Floodplain, Streambed



I have read, I understood, and I have followed the Texas Commission on Environmental Quality's Instructions to Geologists. The information presented here complies with that document and is a true representation of the conditions observed in the field.

My signature certifies that I am qualified as a geologist as defined by 30 TAC Chapter 213.

_____ Date: September 4, 2017

Sheet 1 of 1

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

ATTACHMENT B

STRATIGRAPHIC COLUMN

SYSTEM	SERIES	GROUP	FORMATION	LITHOLOGY/ THICKNESS
QUATERNARY				TERRACE AND ALLUVIUM SAND, SILT, CLAY, AND GRAVEL THICKNESS NOT REPORTED
CRETACEOUS	UPPER CRETACEOUS (GULFIAN)	AUSTIN		CHALK, MARL, AND LIMESTONE 325–420 FEET THICK
		EAGLE FORD	EAGLE FORD	SHALE AND SILTY LIMESTONE TO CALCAREOUS SILTSTONE 25–65 FEET THICK
			BUDA	LIMESTONE UP TO 45 FEET THICK
	LOWER CRETACEOUS (COMANCHEAN)		DEL RIO	CLAY 40–70 FEET THICK
			GEORGETOWN	LIMESTONE AND MARL 30–80 FEET THICK
		FREDERICKSBURG	EDWARDS	LIMESTONE AND DOLOSTONE 60–350 FEET THICK
			COMANCHE PEAK	LIMESTONE AND MARL UP TO 80 FEET THICK
			WALNUT FORMATION	LIMESTONE AND MARL UP TO 130 FEET THICK
			PALUXY SAND	SAND UP TO 10 FEET THICK
		GLEN ROSE		LIMESTON, DOLOMITE AND MARL 380+ FEET THICK

Geologic unit that directly underlies the subject property



M. TROJAN & ASSOCIATES
Environmental Consultants
8244 Lime Creek Road
Leander, Texas 78641
(512) 258-6606

Scale: No Scale
Date: September 4, 2017
Project: TCEQ Geologic Assessment
MTA Project: ACEI-17-015

STRATIGRAPHIC COLUMN

166-ACRE UNDEVELOPED TRACT
E. HWY 290
DRIPPING SPRINGS, HAYS COUNTY, TEXAS 78620

ATTACHMENT C

SITE GEOLOGY

TOPOGRAPHY AND SURFACE WATER HYDROLOGY

The study area slopes in multiple directions; however, the primary topographic slopes are to the north (refer to Figure 3 of Attachment D). Topographic slopes vary from medium to very steep, with the steepest slopes along topographic slope breaks and along some segments of drainage features (refer to Figure 3 of Attachment D). Topographic elevations on the study area range between approximately 1,305 and 1,185 feet above mean sea level (msl), with the highest elevations located at the summits of the onsite hilltops and lowest elevations within drainage features at both the north and south property boundaries.

The tract exhibits several primary drainage ways and numerous secondary drainage features that convey stormwater runoff to the primary drainage ways (refer to Figure 3 of Attachment D and photographs in Attachment E). As is depicted on the figure, stormwater runoff generated within the study area boundaries flows generally toward the north or south, with majority of the tract conveying runoff toward the north and offsite to several feeder creeks to Barton Creek. The southern-most portion of the tract conveys runoff toward the south to tributaries that drain into Onion Creek. Barton Creek lies approximately 1.8 miles to the north of the tract while Onion Creek is located about 3.3 miles south of the property.

According to review of a FEMA Flood Insurance Rate Map, no portion of the tract lies within the 100-year floodplain.

SOILS

According to the *Soil Survey of Comal and Hays Counties, Texas*, the dominant soils that are reported to cover the study area are as follows (also refer to Figure 4 of Attachment D):

Soil Component Name:	Brackett-Rock outcrop-Comfort complex, undulating (BtD)
Soil Surface Texture:	Brackett soil: grayish-brown gravelly clay loam to approximately 6 inches, underlain by pale brown and pale yellow gravelly clay loam to about 17 inches Comfort soil: dark brown extremely stony clay to approximately 4 inches, underlain by dark reddish-brown extremely stony clay to about 11 inches
Hydrologic Group:	Permeability is moderately slow; very low available water capacity; runoff is medium
Soil Drainage Class:	Well drained

Soil Component Name:	Brackett-Rock outcrop-Real complex, steep (BtG)
Soil Surface Texture:	Brackett soil: grayish-brown gravelly clay loam to approximately 6 inches, underlain by light gray gravelly clay loam to about 14 inches
Hydrologic Group:	Permeability is moderately slow to slow; very low available water capacity; runoff is rapid
Soil Drainage Class:	Well drained

Based on the *Soil Survey* and as is depicted on Figure 4 of Attachment D, the Brackett/Comfort complex and Brackett/Real complex soils are reported to cover the entire study area. Shallow excavations were made at various locations across the property and soil characteristics were observed to be similar to those described in the *Soil Survey* (refer to photograph in Attachment E). The soils were found to be relatively thin to medium-thick. Some soil profiles within the primary drainage ways were determined to be up to approximately 4.0 feet thick. The site inspection observe only minor soil erosion, primarily within/around secondary drainage ways.

GEOLOGY

Based on the *Geologic Atlas of Texas, Llano Sheet,* and review of other available geologic/hydrologic publications, the outcropping (near surface) geologic formation at the subject property is the Glen Rose Formation (Kgr) (refer to Figures 5 and 6 of Attachment D, photographs in Attachment E and the stratigraphic column in Attachment B). The Glen Rose is reported to consist of limestone, dolomite and marl. The limestone is light gray to yellowish-gray, aphanitic to fine-grained, hard to soft and marly. The dolomite is yellow-brown, fine-grained and porous. The thickness of the Glen Rose is reported to be up to 380 feet.

Abundant rock outcrops of the Glen Rose were observed across the entire property. Outcrops were observed to be most prevalent along topographic slopes breaks and within drainage ways (refer to photographs in Appendix B).

The property is located over the Edwards Aquifer Contributing Zone.

Onsite Features

The field reconnaissance of the study area included search for and identification of sensitive karst and manmade features, as defined by TCEQ, and to note potential ground recharge points that may be associated with such features. The field reconnaissance entailed walking 25-foot spaced transects across the entire study area. The results of the reconnaissance are provided below.

Caves

Based on TCEQ criteria, a cave is a natural underground open (or filled) space formed by dissolution of limestone that is large enough for an average-sized person to enter. When a surface cave opening is encountered, then the subsurface extent of the cave is relevant in terms of subsurface recharge.

Based on observations made across the entire study area, no cave openings/caves were identified.

Solution Cavities

Based on TCEQ criteria, a solution cavity is a natural cavity or depression formed as a result of dissolution of limestone. This category is designed to capture features that are not large enough for a normal-sized person to enter but appear to be part of a system of interconnected voids that connect the surface with the subsurface. The size and geometry of the feature is defined by in-place bedrock. Solution cavities also include areas where dissolution has increased the opening size and permeability along bedding planes as well as fractures.

Based on observations made across the entire study area, no solution cavities were identified.

Solution-Enlarged Fractures

Based on TCEQ criteria, a solution-enlarged fracture is one that shows evidence of being locally enlarged by dissolution of limestone, recognized by measurable (larger than hairline) openings and miss-matched fracture surface shapes.

Based on observations made across the entire study area, no solution-enlarged fractures were identified.

Faults

Based on TCEQ criteria, a fault is defined as a fracture along which there has been displacement of one side of the fracture relative to the other side. Displaced geologic materials and/or an abrupt change in surface topography can both be indicative of the presence of a fault.

Based on observations made across the entire study area, no field evidence of the presence of faults was observed.

Manmade Features in Bedrock

Based on TCEQ criteria, manmade features in bedrock may include water wells, sanitary sewer lines, storm sewer lines, trenches, quarries, and other cultural features that intersect bedrock and can potentially increase the rate of recharge to the subsurface.

Based on observations made across the entire study area, the following manmade features in bedrock were identified:

Manmade Feature in Bedrock MB-1

Feature MB-1 represents a water well located on the southeast portion of the tract (refer to Figure 6 of Attachment D and photograph in Attachment E). The well was observed to be relatively new and not in use (i.e., not completed at ground surface with electrical hook-up, surface piping, etc.). Installation of the well is not documented in the Texas Water Development Board Submitted Drillers Reports (SDR) Database, and the well details/dimensions are unknown.

Regarding the well's relevance with respect to future development on the tract, the well is assessed not to be significant as the well is properly sealed from ground surface. Still, if the well is not intended for future use, then the structure should be properly plugged and abandoned per the appropriate State regulations.

Manmade Feature in Bedrock MB-2

Feature MB-2 represents a collection of underground infrastructure (wet and dry) along the onsite segment of Headwaters Blvd. (refer to Figure 6 of Attachment D). The infrastructure is likely floored in bedrock and exhibits numerous portals/manholes at ground surface; however, this *Geologic Assessment* does not provide any information regarding the installation details of the infrastructure. It is believed that the associated underground cuts in bedrock do not exhibit any significant potential of hydraulic interconnectedness between the feature and deeper subsurface layers. Therefore, this feature is not considered as being (geologically) significant in terms of future development on the study area.

Swallet or Swallow Holes

Based on TCEQ criteria, a swallet or swallow hole may include a focused recharge feature in an intermittent drainage or stream in karst terrain. Some swallow holes have a surface expression, for example, a cave opening or formation of a whirlpool in the stream at high flow. The general case is that fine soil and sediment as well as gravel are deposited over the bedrock feature during falling stages of flow, thereby intermittently or frequently obscuring the feature.

Based on observations made across the entire study area, no swallet or swallow holes were identified.

Sinkholes

Based on TCEQ criteria, a sinkhole represents a shallow, broad topographic depression formed in response to karst processes. Sinkholes are pragmatically defined as features greater than six (6) feet in diameter with more than six (6) inches of topographic relief. Sinkholes are usually circular in map view. In cross section they may be subtle swales or funnel-shaped pits and some have exposed rimrock at the perimeter. The presence of a sinkhole implies that processes including collapse, subsidence, and soil sapping over geologic time have caused the land surface to sink below the surrounding area.

Based on observations made across the entire study area, no sinkholes were identified.

Other Natural Bedrock Features

Based on TCEQ criteria, other natural bedrock features include vuggy rock and reef deposits that may contain large holes or vugs.

Based on observations made across the entire study area, no other natural bedrock features were identified.

Non-karst Closed Depressions

Based on TCEQ criteria, a non-karst closed depression is a natural or non-natural topographic depression that is not formed by karst processes and is not bedrock floored. A feature larger than six (6) feet in at least one direction and with six (6) inches or more of topographic relief should be considered as a feature.

Based on observations made across the entire study area, no non-karst closed depressions were identified.

Zones

Based on TCEQ criteria, a zone is an area in which any type of karst feature occurs along a trend or in a cluster. Clustered or aligned features are more likely to be an indicator of an integrated flow system at depth than isolated features. Alignment is expected in areas where conduit flow is strongly influenced by structurally controlled fractures.

Based on observations made across the entire study area, no zones were identified.

Offsite Features

The field reconnaissance also included inspection of neighboring properties a distance of approximately 200 feet (as practical) from all boundaries of the subject property for identification of offsite sensitive karst and manmade features that could be deemed as significant in terms of development on the study area. The inspection identified the following offsite features:

Manmade Feature in Bedrock MB-3

Feature MB-3 represents an offsite collection of underground infrastructure (wet and dry) along E. Hwy 290 (refer to Figure 6 of Attachment D). The infrastructure is likely floored in bedrock and exhibits several portals/manholes at ground surface; however, this *Geologic Assessment* does not provide any information regarding the installation details of the infrastructure. It is believed that the associated underground cuts in bedrock do not exhibit any significant potential of hydraulic interconnectedness between the feature and deeper subsurface layers. Therefore, this feature is not considered as being (geologically) significant in terms of future development on the study area.

Manmade Feature in Bedrock MB-4

Feature MB-4 represents an offsite collection of underground infrastructure (wet and dry) along the offsite segment of Headwaters Blvd. to the north-northwest of the tract (i.e. northward extension of onsite feature MB-2) (refer to Figure 6 of Attachment D). The infrastructure is likely floored in bedrock and exhibits several portals/manholes at ground surface; however, this *Geologic Assessment* does not provide any information regarding the installation details of the infrastructure. It is believed that the associated

underground cuts in bedrock do not exhibit any significant potential of hydraulic interconnectedness between the feature and deeper subsurface layers. Therefore, this feature is not considered as being (geologically) significant in terms of future development on the study area.

POTENTIAL FOR FLUID MOVEMENT TO THE SUBSURFACE

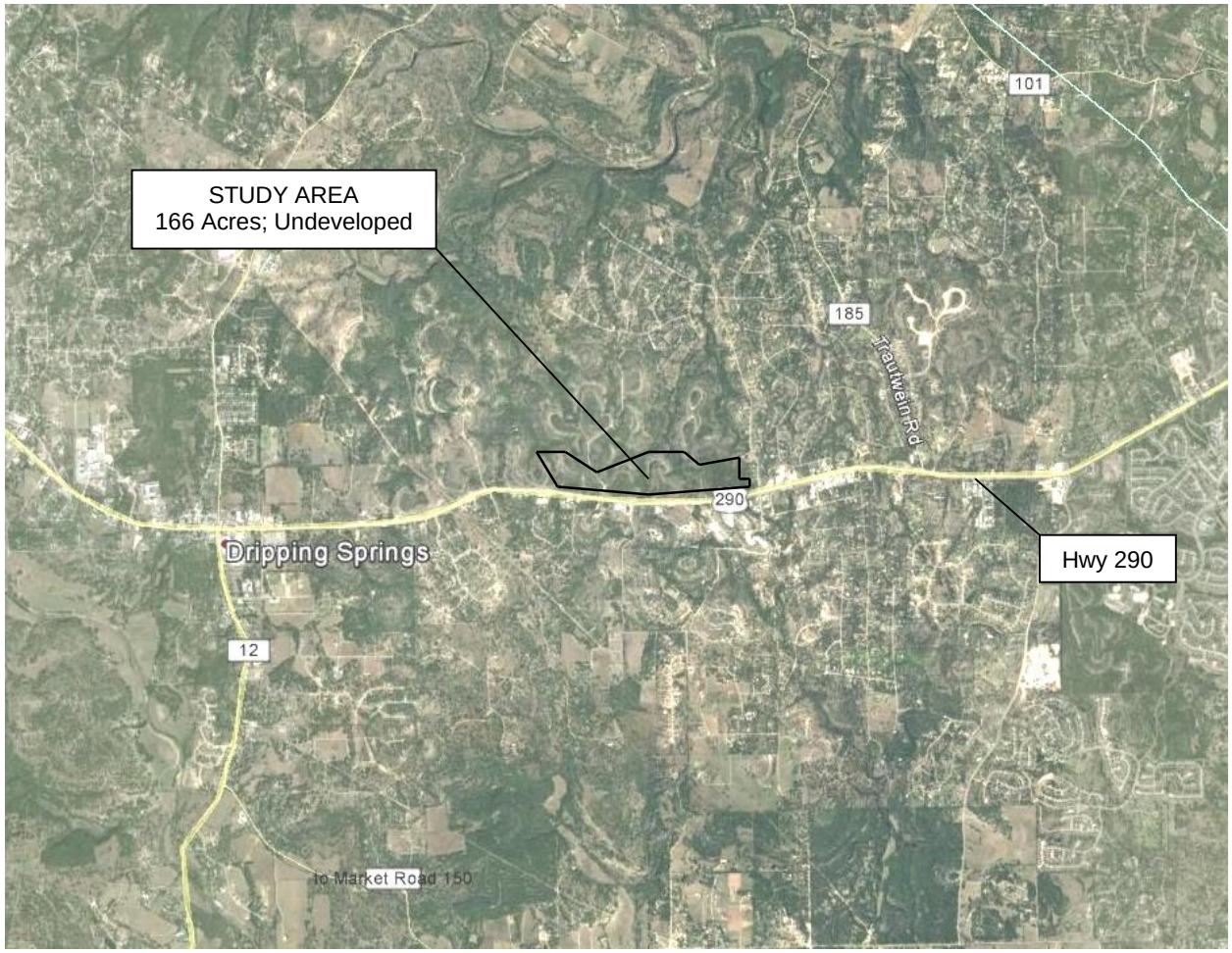
Based on review of available information and visual observations made during the field reconnaissance, this *Geologic Assessment* presents the following observations regarding the potential for recharge of the subsurface within the study area:

- Characteristics of soils that cover the study area are the primary factors that influence potential subsurface recharge on the property. Based on the *Soil Survey of Comal and Hays Counties*, the Brackett-Rock outcrop-Comfort complex and Brackett-Rock outcrop-Real complex is reported to cover the entire study area. These soils are relatively fine-grained, thin to medium-thick and exhibit moderately slow permeability. Thus, this *Geologic Assessment* assesses that percolation via soils to the subsurface is moderate to moderately slow.

- No significant, "defined" karst recharge points with focused recharge potential were observed to be located on the study area.

ATTACHMENT D

SITE GEOLOGIC MAPS



M. TROJAN & ASSOCIATES
Environmental Consultants

8244 Lime Creek Road
Leander, Texas 78641
(512) 258-6606

Scale: No Scale
Date: September 4, 2017
Project: TCEQ Geologic Assessment
MTA Project: ACEI-17-015

FIGURE 1

SITE LOCATION MAP

166-ACRE UNDEVELOPED TRACT
E. HWY 290
DRIPPING SPRINGS, HAYS COUNTY, TEXAS 78620



2017 Aerial Photograph

M. TROJAN & ASSOCIATES
Environmental Consultants

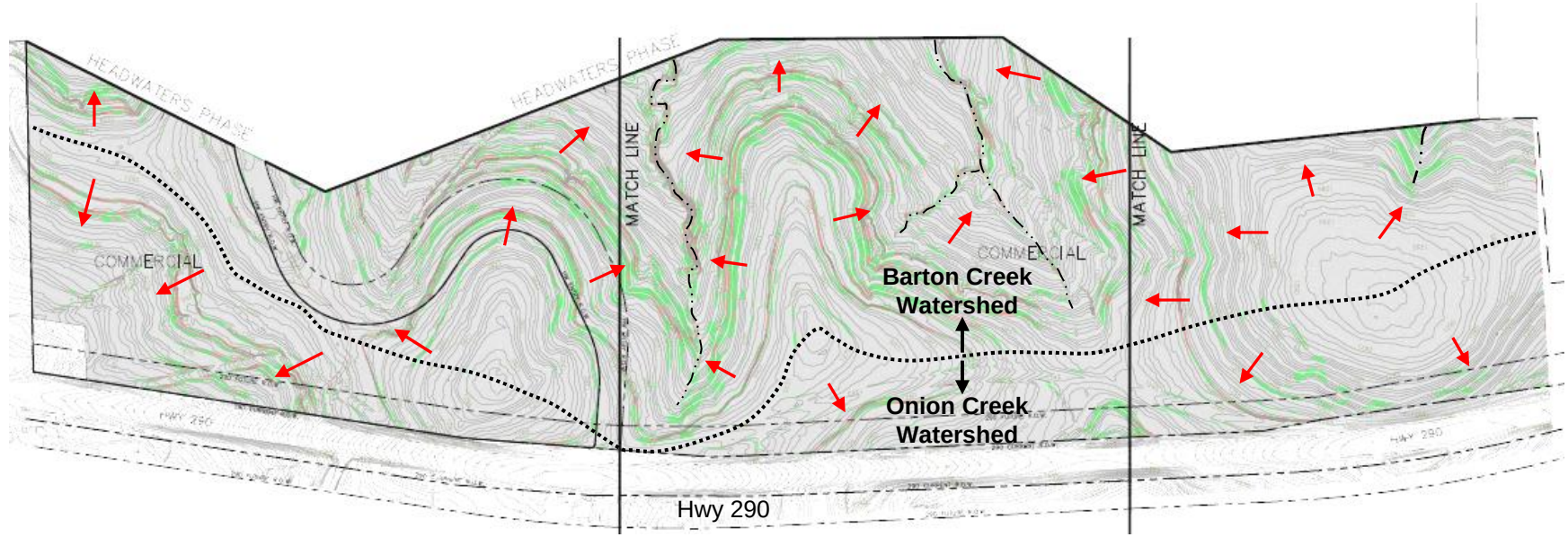
8244 Lime Creek Road
Leander, Texas 78641
(512) 258-6606

Scale:	1" = 920' (approx.)
Date:	September 4, 2017
Project:	TCEQ Geologic Assessment
MTA Project:	ACEI-17-015

FIGURE 2

SITE AERIAL PHOTOGRAPH

166-ACRE UNDEVELOPED TRACT
E. HWY 290
DRIPPING SPRINGS, HAYS COUNTY, TEXAS 78620



Source: Austin Civil Engineering, Inc. and Hays County

M. TROJAN & ASSOCIATES
Environmental Consultants

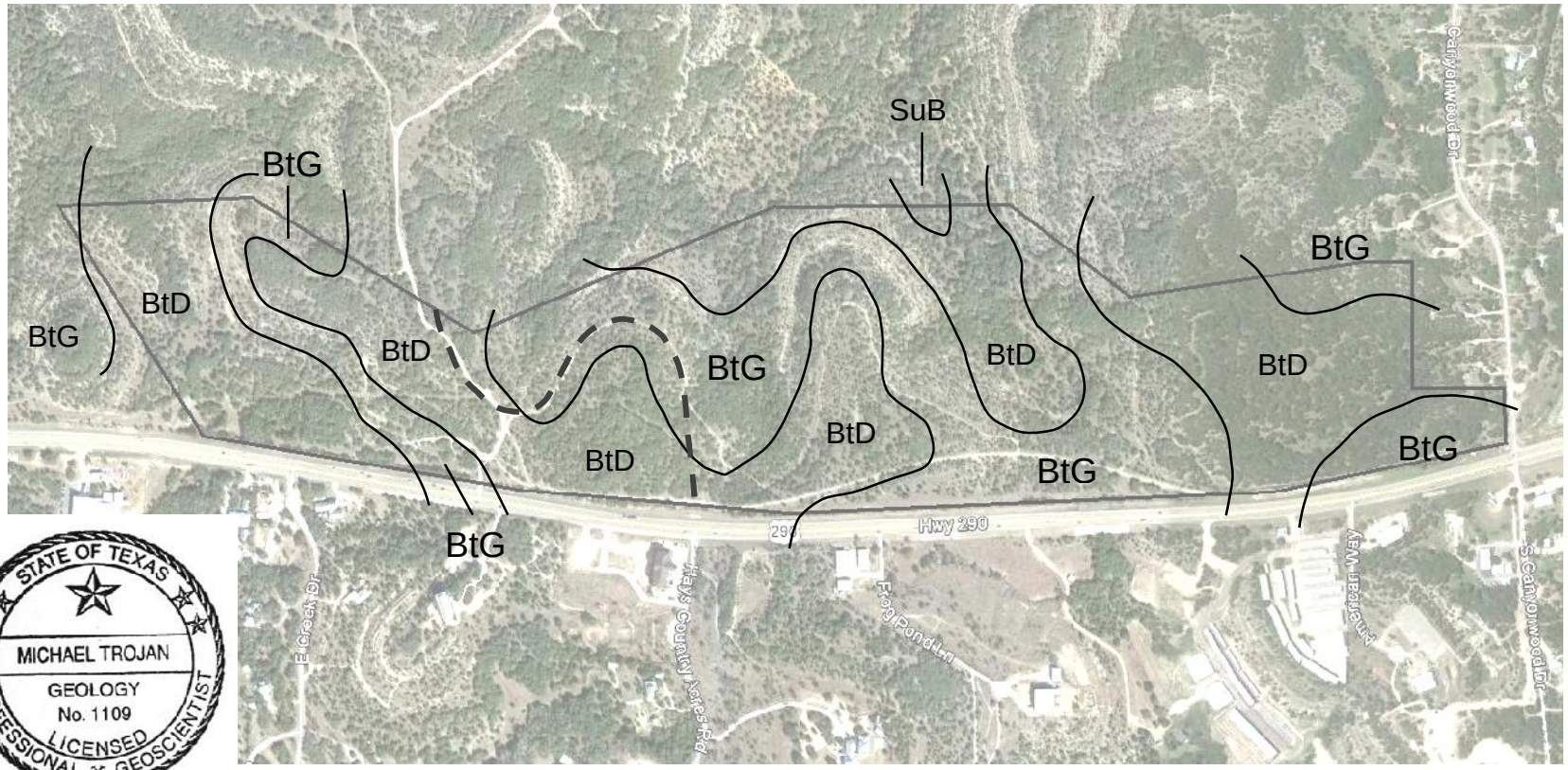
8244 Lime Creek Road
Leander, Texas 78641
(512) 258-6606

Scale:	No Scale
Date:	September 4, 2017
Project:	TCEQ Geologic Assessment
MTA Project:	ACEI-17-015

FIGURE 3

SURFACE WATER HYDROLOGY

166-ACRE UNDEVELOPED TRACT
E. HWY 290
DRIPPING SPRINGS, HAYS COUNTY, TEXAS 78620



STATE OF TEXAS
MICHAEL TROJAN
GEOLOGY
No. 1109
LICENSED
PROFESSIONAL GEOSCIENTIST

BtD – Brackett-Rock outcrop-Comfort complex, undulating / BtG – Brackett-Rock outcrop-Real complex, steep
SuB – Sunev clay loam, 1-3% slopes

M. TROJAN & ASSOCIATES
Environmental Consultants
8244 Lime Creek Road
Leander, Texas 78641
(512) 258-6606

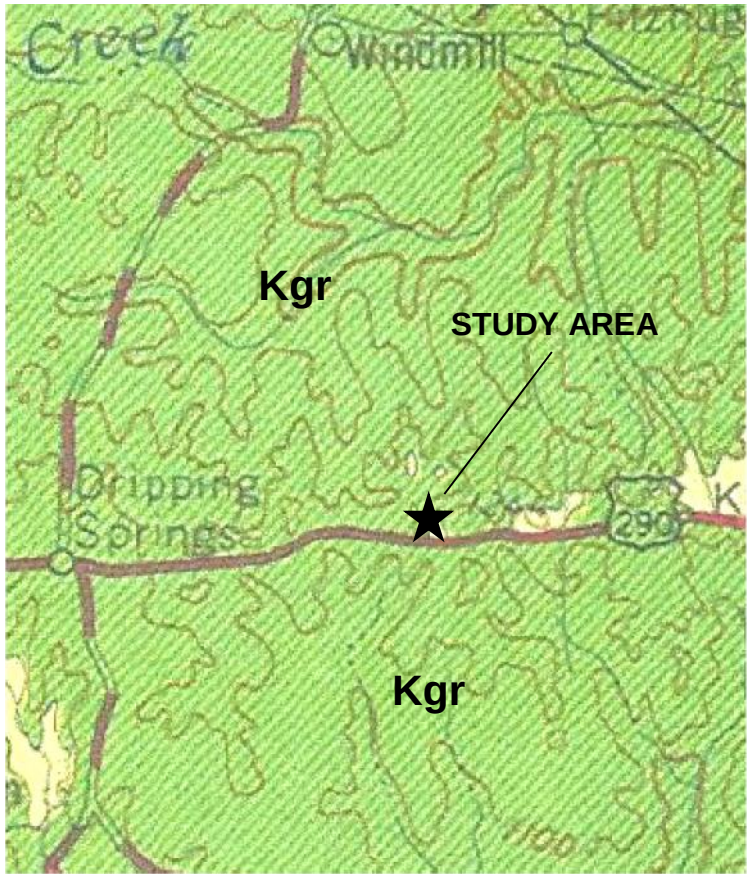
Scale: 1" = 920' (approx.)
Date: September 4, 2017
Project: TCEQ Geologic Assessment
MTA Project: ACEI-17-015

FIGURE 4

SITE SOILS MAP

166-ACRE UNDEVELOPED TRACT
E. HWY 290
DRIPPING SPRINGS, HAYS COUNTY, TEXAS 78620

STUDY AREA
The study area and all surrounding properties are underlain by the Glen Rose Formation (Kgr); property lies over the Edwards Aquifer Contributing Zone





Kgr – Glen Rose Formation

Source: (1) *Geologic Atlas of Texas, Llano Sheet*, Bureau of Economic Geology, dated 1986

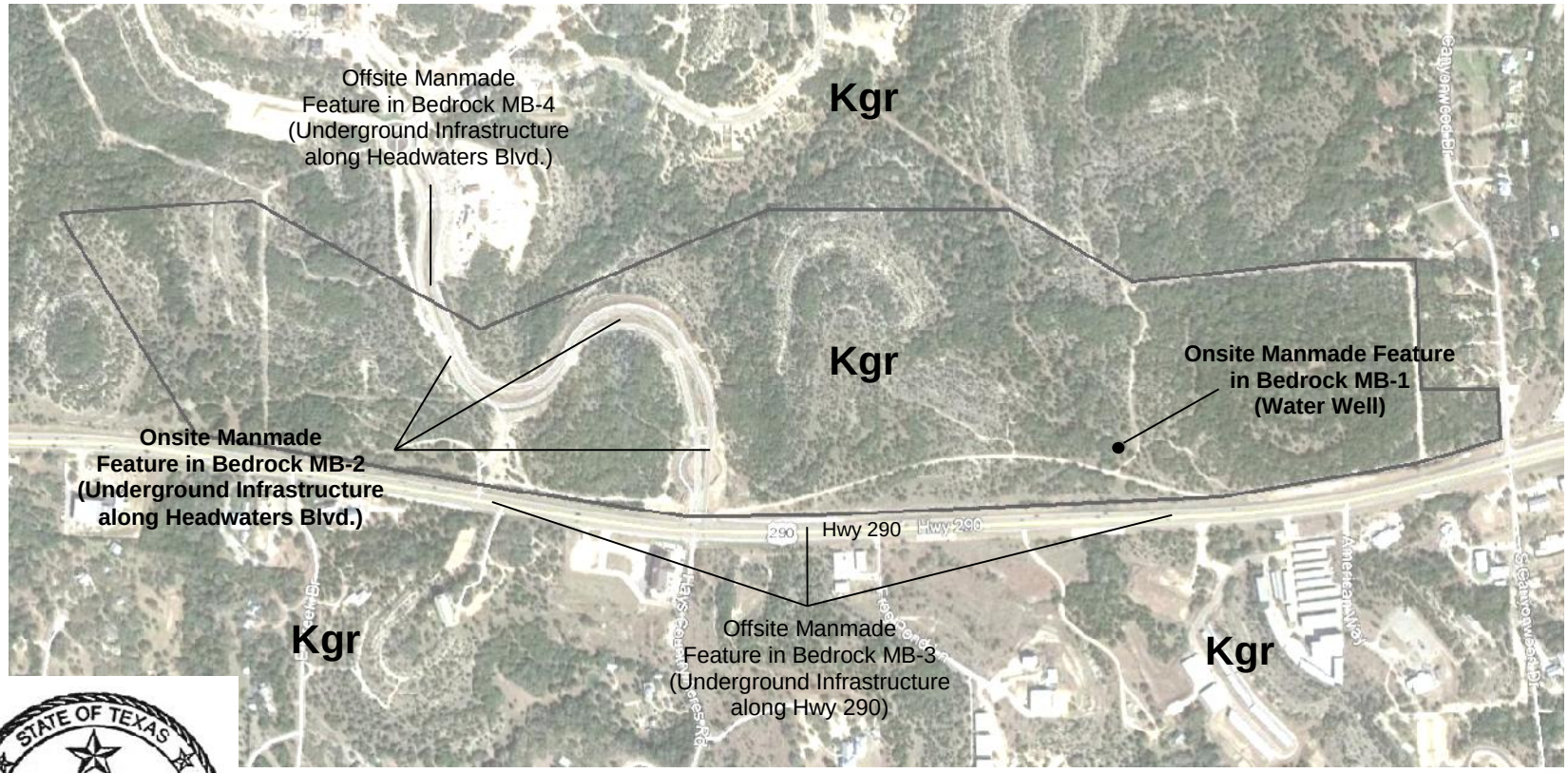
M. TROJAN & ASSOCIATES
Environmental Consultants
8244 Lime Creek Road
Leander, Texas 78641
(512) 258-6606

Scale: No Scale
Date: September 4, 2017
Project: TCEQ Geologic Assessment
MTA Project: ACEI-17-015

FIGURE 5

GENERAL GEOLOGIC MAP

166-ACRE UNDEVELOPED TRACT
E. HWY 290
DRIPPING SPRINGS, HAYS COUNTY, TEXAS 78620



STATE OF TEXAS
MICHAEL TROJAN
GEOLOGY
No. 1109
LICENSED
PROFESSIONAL GEOSCIENTIST

NO ONSITE SENSITIVE GEOLOGIC (KARST) FEATURES IDENTIFIED

The subject property is underlain by the Glen Rose Formation (Kgr) and the Edwards Aquifer Contributing Zone

N

M. TROJAN & ASSOCIATES
Environmental Consultants
8244 Lime Creek Road
Leander, Texas 78641
(512) 258-6606

Scale:	1" = 920' (approx.)
Date:	September 4, 2017
Project:	TCEQ Geologic Assessment
MTA Project	ACEI-17-015

FIGURE 6

SITE GEOLOGIC MAP

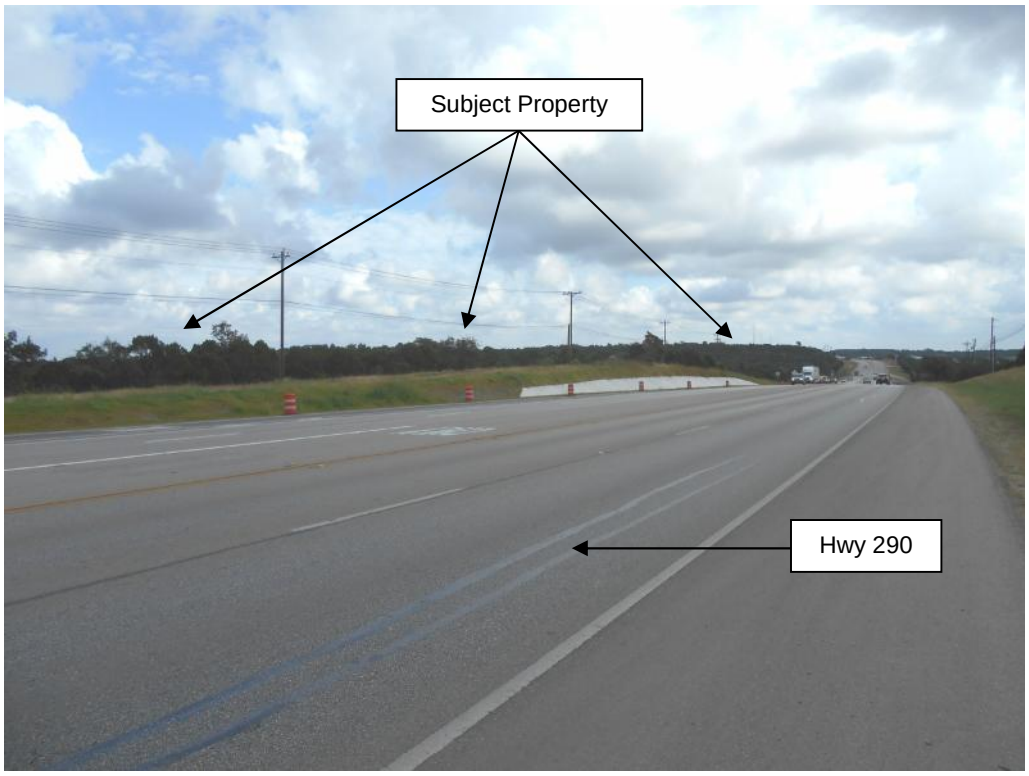
166-ACRE UNDEVELOPED TRACT
E. HWY 290
DRIPPING SPRINGS, HAYS COUNTY, TEXAS 78620

ATTACHMENT E

SITE PHOTOGRAPHS

PHOTOGRAPHIC REPORTING DATA SHEET

[PHOTOGRAPH 1]



Project: TCEQ Geologic Assessment
Site: 166-Acre Undeveloped Tract
Location: E. Hwy 290, Dripping Springs, Hays County, Texas 78620
Date Taken: October 19-21, 2016
Photographer: Michael Trojan, PG

Description: Typical view of the subject property from Hwy 290. Photograph taken from Hwy 290 facing east.

PHOTOGRAPHIC REPORTING DATA SHEET

[PHOTOGRAPH 2]



Project:	TCEQ Geologic Assessment
Site:	166-Acre Undeveloped Tract
Location:	E. Hwy 290, Dripping Springs, Hays County, Texas 78620
Date Taken:	October 19-21, 2016
Photographer:	Michael Trojan, PG
Description:	View of a segment of Headwaters Blvd. (existing) on the west-central portion of the tract.

PHOTOGRAPHIC REPORTING DATA SHEET

[PHOTOGRAPH 3]



Project: TCEQ Geologic Assessment
Site: 166-Acre Undeveloped Tract
Location: E. Hwy 290, Dripping Springs, Hays County, Texas 78620
Date Taken: October 19-21, 2016
Photographer: Michael Trojan, PG

Description: Typical view of the subject property from the eastern-most hilltop. Photograph taken from the eastern-most portion of the tract facing west.

PHOTOGRAPHIC REPORTING DATA SHEET

[PHOTOGRAPH 4]



Project:	TCEQ Geologic Assessment
Site:	166-Acre Undeveloped Tract
Location:	E. Hwy 290, Dripping Springs, Hays County, Texas 78620
Date Taken:	October 19-21, 2016
Photographer:	Michael Trojan, PG
Description:	Typical view of onsite landscape and large vegetation at low elevations on the tract.

PHOTOGRAPHIC REPORTING DATA SHEET

[PHOTOGRAPH 5]



Project: TCEQ Geologic Assessment
Site: 166-Acre Undeveloped Tract
Location: E. Hwy 290, Dripping Springs, Hays County, Texas 78620
Date Taken: October 19-21, 2016
Photographer: Michael Trojan, PG

Description: Typical view of onsite landscape and large vegetation at high elevations on the tract.

PHOTOGRAPHIC REPORTING DATA SHEET

[PHOTOGRAPH 6]



Project: TCEQ Geologic Assessment
Site: 166-Acre Undeveloped Tract
Location: E. Hwy 290, Dripping Springs, Hays County, Texas 78620
Date Taken: October 19-21, 2016
Photographer: Michael Trojan, PG

Description: View of a typical segment of a primary ephemeral drainage way on the tract.

PHOTOGRAPHIC REPORTING DATA SHEET

[PHOTOGRAPH 7]



Project: TCEQ Geologic Assessment
Site: 166-Acre Undeveloped Tract
Location: E. Hwy 290, Dripping Springs, Hays County, Texas 78620
Date Taken: October 19-21, 2016
Photographer: Michael Trojan, PG

Description: View of a typical segment of a secondary ephemeral drainage feature (feeder to a primary drainage way) on the tract.

PHOTOGRAPHIC REPORTING DATA SHEET

[PHOTOGRAPH 8]



Project: TCEQ Geologic Assessment
Site: 166-Acre Undeveloped Tract
Location: E. Hwy 290, Dripping Springs, Hays County, Texas 78620
Date Taken: October 19-21, 2016
Photographer: Michael Trojan, PG

Description: View of a typical soil profile on the tract.

PHOTOGRAPHIC REPORTING DATA SHEET

[PHOTOGRAPH 9]



Project: TCEQ Geologic Assessment
Site: 166-Acre Undeveloped Tract
Location: E. Hwy 290, Dripping Springs, Hays County, Texas 78620
Date Taken: October 19-21, 2016
Photographer: Michael Trojan, PG

Description: View of typical Glen Rose bedrock outcrops along topographic slopes breaks on the tract.

PHOTOGRAPHIC REPORTING DATA SHEET

[PHOTOGRAPH 10]



Project:	TCEQ Geologic Assessment
Site:	166-Acre Undeveloped Tract
Location:	E. Hwy 290, Dripping Springs, Hays County, Texas 78620
Date Taken:	October 19-21, 2016
Photographer:	Michael Trojan, PG
Description:	View of typical Glen Rose bedrock outcrops along short segments of drainage ways on the tract.

PHOTOGRAPHIC REPORTING DATA SHEET

[PHOTOGRAPH 11]



Project: TCEQ Geologic Assessment
Site: 166-Acre Undeveloped Tract
Location: E. Hwy 290, Dripping Springs, Hays County, Texas 78620
Date Taken: October 19-21, 2016
Photographer: Michael Trojan, PG

Description: View of onsite Manmade Feature in Bedrock MB-1 (water well); the well is not in use.

Hill Country Civil
Engineers • Consultants

Temporary Stormwater Section

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: Ross Corder, PE

Date: 08/15/2025

Signature of Customer/Agent:



Regulated Entity Name: Hays County Emergency Services District #6 FS No 72

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: Barton Creek

Temporary Best Management Practices (TBMPs)

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

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

☒ 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.

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Attachment A: Spill Response Actions

Attachment A: Spill Response Actions

Contractors working onsite with materials which could potentially cause pollution shall implement the following measures to prevent stormwater pollution.

Education of Employees or Subcontractors Who Handle Materials Which Can Cause Pollution

- Employees should know what a "significant spill" is for each material they use, and what is the appropriate response for "significant" and "insignificant" spills. Employees should also be aware of when a spill must be reported to the TCEQ. Information is available in 30 TAC 327.4 and 40 CFR 302.4.
- Educate employees and subcontractors on the potential dangers to humans and the environment from spills and leaks and provide training in spill prevention and cleanup. Hold regular meetings to discuss and reinforce appropriate disposal procedures (incorporate into regular safety meetings).
- Establish a continuing education program to indoctrinate new employees, who will use or handle potential pollutants.
- Provide for a superintendent or representative to oversee and enforce proper spill prevention and control measures.

General Measures

- To the extent that work can be accomplished safely, spills of oil, petroleum products, and substances listed under 40 CFR part 110,117, and 302, and sanitary and septic wastes should be contained and cleaned up immediately.
- Store hazardous materials and waste in covered containers and protect from vandalism.
- Place spill cleanup materials where it will be readily accessible.
- Spills should be covered and protected from stormwater runoff during rainfall to the extent that it doesn't compromise clean-up activities.
- Do not bury spills onsite.
- Store and dispose of used clean up materials, contaminated materials, and recovered spill material that is no longer suitable for the intended purpose in conformance with the provisions in applicable BMP"s.
- Do not allow water used for cleaning and decontamination to enter storm drains or watercourses. Collect and dispose of contaminated water in accordance with applicable regulations.
- Contain contaminated water overflow or minor water spillage and do not allow it to discharge into drainage facilities or watercourses.
- Place Material Safety Data Sheets (MSDS), as well as proper storage, cleanup, and spill reporting instructions for hazardous materials stored or used on the project site in an open, conspicuous, and accessible location.

- Keep waste storage areas clean, well-organized, and equipped with ample cleanup supplies as appropriate for the materials being stored. Perimeter controls, containment structures, covers, and liners should be repaired or replaced as needed to maintain proper function

Cleanup

- Clean up leaks and spills immediately, or as soon as it is safely practical.
- Use a rag for small spills on paved surfaces, a damp mop for general cleanup, and absorbent materials 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.
- Never hose down or bury dry material spills. Clean up as much of the material as possible and dispose of properly.

Minor Spills

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

Semi-Significant Spills

Semi-significant spills may also be controlled by the first responder along with the aid of other personnel such as labors and the foreman, etc. This response may require the cessation of all other activities.

Spills should be cleaned up immediately, or as soon as safely practical

- Contain spread of the spill.
- Notify the project foreman immediately.
- 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 absorbent materials and do not let the spill spread widely.
- If the spill occurs in dirt areas, immediately contain the spill by constructing an earthen dike. Dig up and properly dispose of contaminated soil.
- If the spill occurs during rain, cover spill with tarps or other materials to prevent contaminating runoff.

Significant/Hazardous Spills

- Notify the TCEQ by telephone as soon as possible and within 24 hours at 512-339-2929 (Austin) or 210-490-3096 (San Antonio) between 8 AM and 5 PM. After hours, contact the Environmental Release Hotline at 1-800-832-8224. It is the contractor's responsibility to have all emergency phone numbers at the construction site.
- For spills of federal reportable quantities, in conformance with the requirements in 40CFR parts 110, 119 and 302, the contractor should notify the National Response Center at (800) 424-8802.
- Notification should first be made by telephone and followed up with a written report. The services of a spill contractor or a Haz-Mat team should be obtained immediately. Construction personnel should not attempt to clean up until the appropriate and qualified staff have arrived at the job site.
- Other agencies which may need to be contacted include, but are not limited to, City, Police Department, County Sheriff Office, Fire Departments, etc.

Vehicle and Equipment Maintenance

- If maintenance must occur onsite, use a designated area and a secondary containment, located away from drainage courses, to prevent the runoff of stormwater and the runoff of spills.
- Regularly inspect onsite vehicles and equipment for leaks and repair immediately. Check incoming vehicles and equipment (including delivery trucks, and employee and subcontractor vehicles) for leaking oil and fluids. Do not allow leaking vehicles onsite.
- Always use secondary containment, such as drain pan or drop cloth, to catch spills or leaks when removing or changing fluids.
- Place drip pans or absorbent materials under paving equipment when not in use.
- Use absorbent materials on small spills rather than hosing down or burying the spill.
- Remove the absorbent materials promptly and dispose of properly.
- Promptly transfer used fluids to the proper waste or recycling drums. Don't leave full drip pans or other open containers lying around.
- Oil filters disposed of in trashcans or dumpsters can leak oil and pollute stormwater. Place the oil filter in a funnel over a waste oil recycled. As the oil supplier or recycler about recycling oil filters.
- Store cracked batteries in a non-leaking secondary container. Do this with all cracked batteries even if you think all the acid has drained out. If you drop a battery, treat as if it cracked. Put into the containment area until you are sure it is not leaking.
- If fueling must occur on site, used designated areas, located away from drainage courses, to prevent the runoff of stormwater and the runoff of spills.
- Discourage "topping off" on fuel tanks.
- Always use secondary containment, such as drain pan, when fueling to catch spill/leaks.

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Attachment B: Potential Sources of Contamination

Attachment B: Potential Sources of Contamination

Asphalt products used on this project

- Preventative measures
    - After placement of asphalt, emulsion or coatings, the contractor will be responsible for immediate cleanup should an unexpected rain occur. For the duration of the asphalt product curing time, the contractor will maintain standby personnel and equipment to contain any asphalt wash-off should an unexpected rain occur. The contractor will be instructed not to place asphalt products on the ground within 48 hours of forecasted rain.

Oil, grease fuel and hydrocarbon fluid contamination from construction equipment and vehicle drippings.

- Preventative measures
    - Vehicle maintenance, when possible, will be performed within the construction staging area.
    - Construction vehicles and equipment shall be checked regularly for leaks and repaired immediately.

Accidental leaks or spills of oil, petroleum products and substances listed under 40 CFR parts 110, 117, and 302 used or stored temporarily on site.

- Preventative measures
    - Contractor to incorporate regular safety meetings, a discussion of spill prevention and appropriate disposal procedures.
    - Contractor's superintendent or representative overseer shall enforce proper spill prevention and control measures.
    - Hazardous material and waste shall be stored in covered containers and protected from vandalism.
    - A stockpile of spill cleanup materials shall be stored on site where it will be readily available.

Miscellaneous trash and litter from construction workers and material wrappings.

- Preventative measures
    - Trash containers will be placed throughout the site to encourage proper trash disposal.

Construction Debris

- Preventative measures
    - Construction debris will be monitored daily by the site contractor. Debris will be collected weekly and placed in disposal bins. Situations requiring immediate attention will be addressed on a case-by-case basis.

Spills/Overflow of waste from portable toilets

- Preventative measures
    - Portable toilets will be placed away from high traffic vehicular areas and storm drain inlets.
    - Portable toilets will be placed on a level ground surface.
    - Portable toilets will be inspected regularly for leaks and will be serviced and sanitized at time intervals that will maintain sanitary conditions.

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Attachment C: Sequence of Major Activities

Attachment C: Sequence of Major Construction Activities

The sequence of major construction activities that will disturb earth/soil of the proposed site will be completed in two stages. Initially, the limits of construction of the site will cleared and grubbed of existing vegetation and demolish of a portion of the existing driveway prepare for the proposed site plan. This stage will include installation of temporary erosion controls. Temporary controls include temporary construction entrance, silt fence, inlet protection, and concrete washout pit. The second stage will include the construction of buildings, parking, drives, utilities, landscaping, and site cleanup. Once the site is fully stabilized with vegetation back in place, the temporary erosion controls may be removed. Both stages will disturb approximately 1.43 acres of land.

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Attachment D: Temporary Best Management Practices and Measures

Attachment D: Temporary Best Management Practices and Measures

7a 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.

There are no upgradient flows therefore, there are no proposed BMPs are planned specifically for upgradient flows. The proposed existing offsite batch detention pond was sized to treat all onsite flows and impervious cover.

7b 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.

Site preparations will disturb the largest amount of soil. Therefore, before any of this work can begin, the clearing and grading contractor will be responsible for the installation of all on-site control measures. The methodology for pollution prevention of on-site stormwater will include:

- Erection of silt fence along downgradient boundary of construction activities for temporary erosion and sedimentation controls.
- Installation of stabilized construction entrance/exits to reduce the dispersion of sediment from the site.
- Installation of concrete truck washout.
- Installation of inlet protection barrier.
- Installation of construction staging areas.

7c A description of how BMPs and measures will prevent pollutants from entering surface streams, sensitive features, or the aquifer.

Temporary measures are intended to provide a method of controlling and slowing the flow of runoff from the construction site. By utilizing silt fence staged down gradient and along flow paths, will allow sediment and suspended solids to settle out of stormwater flows and be captured onsite. By containing the sediment and suspended solids within the site, they will not enter the aquifer, surface streams and/or sensitive features that may exist downstream of the site.

7d 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

BMP measures utilized in this plan are intended to allow stormwater to continue downstream after passing through the BMPs. The BMPs are providing settlement of suspended solids and containment onsite, but stormwater flows will continue on their natural drainage path. Features discovered during construction will be reported and assessed in accordance with applicable regulations.

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Attachment E: Request to Temporarily Seal a Feature *(NOT APPLICABLE)*

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Attachment F: Structural Practices

Attachment F: Structural Practices

The structural practices listed below are shown on the Erosion Control Plans and are listed on Attachment D of the Temporary Controls Section of the CZP.

- A stabilized construction entrance with washout pit will be constructed at all locations where vehicular traffic enters and leaves the site. This will reduce sediments which leave the site and are tracked or fall onto adjacent roadways. Currently there are one proposed stabilized construction entrance locations.

- A concrete truck washout will be located next to the stabilized construction entrance to prevent pollutants to stormwater from concrete waste.

- Silt fencing will be installed adjacent to any drainage way which receives sheet flow from upgradient-disturbed areas and along the side slope perimeter of disturbed areas.

- Sandbags filled with washed pea gravel will be used at storm drainage inlets prior to stabilization of the drainage areas.

- Inlet protection will be used at storm drainage inlets prior to stabilization of the drainage areas.

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Attachment G: Drainage Area Map

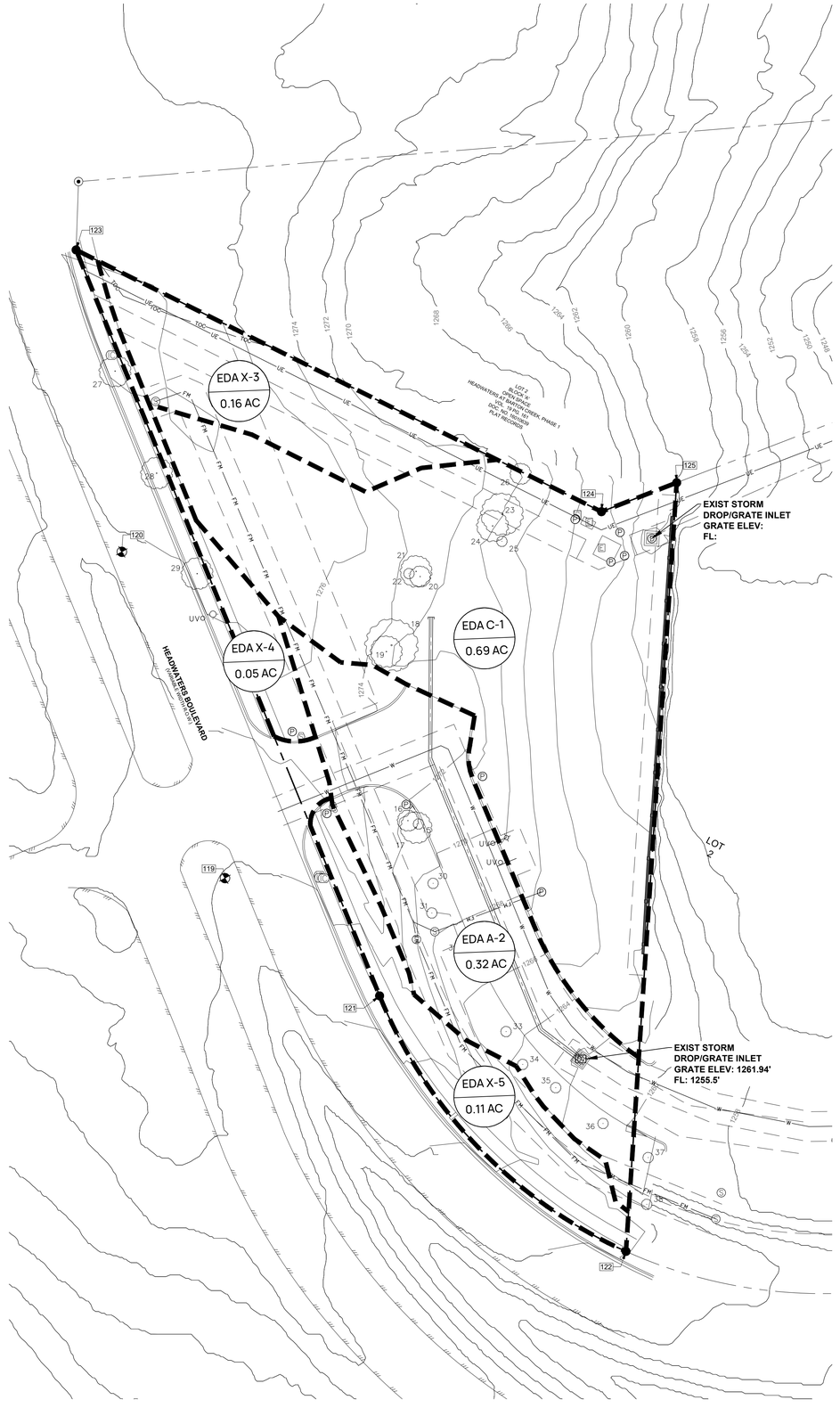
SURVEY NOTE

Survey Prepared by:
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TBPLS Firm No. 10194135

LEGAL DESCRIPTION

HEADWATERS COMMERCIAL EAST PH 1, BLOCK A, LOT 1, ACRES 1.426

REFERENCE SHEET 17 FOR EXISTING DRAINAGE CALCULATIONS



N

0 5 10
SCALE: 1"=30'

LEGEND

- PROPERTY BOUNDARY
- LOT LINE
- SETBACK LINE
- LANDSCAPE BUFFER LINE
- EASEMENT LINE
- SITE BENCHMARK
- PROPERTY CORNER
- GAS LINE
- OVERHEAD ELECTRIC LINE
- FENCE LINE
- EXISTING TREE
- SIGN
- POWER POLE
- FIRE LANE
- 101 EXISTING MINOR CONTOUR
- 100 EXISTING MAJOR CONTOUR
- TOC TIME OF CONCENTRATION
- DRAINAGE AREA BOUNDARY
- DA # / ACRES DRAINAGE AREA LABEL

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08/18/2025

No.	Date	Revisions	App.

HEADWATERS FIRE STATION
DRIPPING SPRINGS, TEXAS
HCC JOB No.:013-10 DRAWN BY:.RTC

EXISTING DRAINAGE AREA MAP

SHEET No.
15
OF 24

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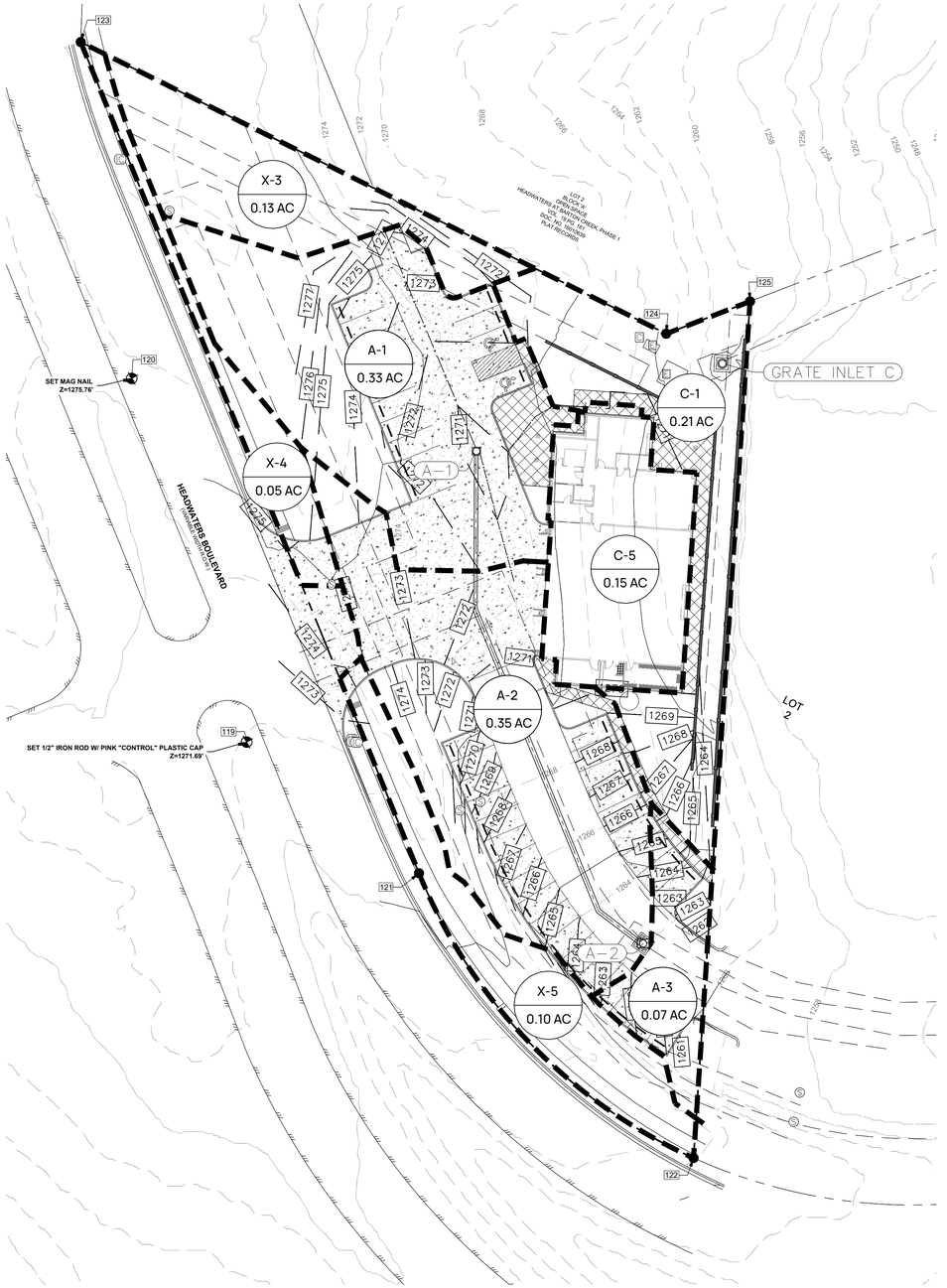
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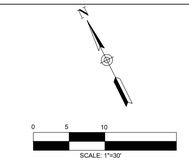
HEADWATERS COMMERCIAL EAST PH 1, BLOCK A, LOT 1, ACRES 1.426

Headwaters Fire Station - Inlet Flow Comparison Table 100 YR			
	Inlet A-1	Inlet A-2	Inlet C
Previous Analysis Flow Rate	3.31	9.53	8.06
Proposed Analysis Flow Rate	3.31	5.42	5.53
Proposed IP Less Than or Equal To Ultimate Designed?	**YES**	**YES**	**YES**
Headwaters Fire Station - Inlet Flow Comparison Table 25 YR			
	Inlet A-1	Inlet A-2	Inlet C
Previous Analysis Flow Rate	2.23	6.45	5.02
Proposed Analysis Flow Rate	2.22	3.66	3.72
Proposed IP Less Than or Equal To Ultimate Designed?	**YES**	**YES**	**YES**

Headwaters Fire Station - Impervious Cover Comparison Table			
	Site Acerage	Site IP AC	I.C. %
Ultimate Design IP (AC)	1.426	0.850	60%
Proposed Improvements (AC)	1.426	0.840	59%
Proposed IP Less Than Ultimate Designed IP?			YES

Headwaters Fire Station Analysis Inlet Contributing Flow Rate		
Drainage Area	25 yr	100 yr
Q to Analyze Inelt A-1	2.22	3.31
Q to Analyze Inelt A-2	3.66	5.42
Q to Analyze Inlet C	3.72	5.53





LEGEND

- PROPERTY BOUNDARY
- LOT LINE
- SETBACK LINE
- LANDSCAPE BUFFER LINE
- EASEMENT LINE
- SITE BENCHMARK
- PROPERTY CORNER
- GAS LINE
- OVERHEAD ELECTRIC LINE
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08/18/2025

No.	Date	Revisions	App.

HEADWATERS FIRE STATION
DRIPPING SPRINGS, TEXAS
HCC JOB No.:013-10 DRAWN BY:-RTC

PROPOSED DRAINAGE AREA MAP

SHEET No.
16
OF 24

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LEGAL DESCRIPTION

HEADWATERS COMMERCIAL EAST PH 1, BLOCK A, LOT 1, ACRES 1.426



LEGEND

- PROPERTY BOUNDARY
- PROP. DRAINAGE AREA
- TIME OF CONCENTRATION
- PROP. FLOW DIRECTION
- DA-1 / 1.00 ACRES — PROP. DRAINAGE AREA ID / DRAINAGE AREA ACREAGE
- PROP. GRATE INLET
- PROP. STORM SEWER
- EXISTING CURB INLET
- (950) — PROP. GRADING LABEL
- 950 — EXIST. GRADING LABEL

PROPOSED OVERALL DETAILED DRAINAGE AREAS

DRAIN. AREA NO.	AREA (acres)	IMPERVIOUS AREA (acres)	Q25 (cfs)	Q100 (cfs)	DRAIN. AREA NO.
A-1	0.31	0.17	2.23	3.31	A-1
A-2	0.38	0.24	2.79	4.14	A-2
A-3	0.29	0.19	2.11	3.12	A-3
A-4	0.53	0.35	3.88	5.74	A-4
B-1	0.45	0.00	2.42	4.02	B-1
C-1	0.17	0.02	1.13	1.74	C-1
C-2	0.75	0.13	4.72	7.27	C-2
C-3	0.50	0.38	3.70	5.45	C-3
C-4	0.32	0.32	2.40	3.51	C-4
C-5	0.19	0.19	1.43	2.08	C-5
TOTAL	3.89		26.81	40.38	TOTAL

AREA INLET for DRNG AREA B-1
4-SIDED AREA INLET (B-1)

HEAD (FT)	LENGTH OF OPENING (FT)	CAPACITY (CFS)
0.23	16	**4.1**

AREA INLET for DRNG AREA C-1
4-SIDED AREA INLET (C-1)

HEAD (FT)	LENGTH OF OPENING (FT)	CAPACITY (CFS)
0.3	16	**6.0**

AREA INLET for DRNG AREA C-2
4-SIDED AREA INLET (C-2)

HEAD (FT)	LENGTH OF OPENING (FT)	CAPACITY (CFS)
0.34	16	**7.3**

GRATE INLET ON GRADE (100 YR) HEC-22

Inlet	Inlet Size (SF)	Q_{100} (CFS)	Q_{addl} (CFS)	Q_{total} (CFS)	Channel Slope (%)	Cross Slope (%)	W (LF)	T (LF)	Eo	Qw (CFS)	Q_{bypass} (CFS)
A-2	4'X4'	4.14	0	4.14	7.4	1.5	4	15.43	0.55	2.28	1.86
A-3	4'X4'	3.12	1.86	4.98	4.1	1.5	4	18.42	0.48	1.50	1.62
A-4	4'X4'	5.74	1.62	7.36	N/A	N/A	N/A	N/A	N/A	N/A	N/A

*Flows for inlets 2 & 3 represent the total flow in the ultimate buildout condition
*See sag inlet calculation for inlet A-4

GRATE INLET ON GRADE (25 YR) HEC-22

Inlet	Inlet Size (SF)	Q_{25} (CFS)	Q_{addl} (CFS)	Q_{total} (CFS)	Channel Slope (%)	Cross Slope (%)	W (LF)	T (LF)	Eo	Qw (CFS)	Q_{bypass} (CFS)
A-2	4'X4'	2.79	0	2.79	7.4	1.5	4	13.27	0.62	1.72	1.07
A-3	4'X4'	2.11	1.07	3.18	4.1	1.5	4	15.62	0.55	1.15	0.96
A-4	4'X4'	3.88	0.96	4.84	N/A	N/A	N/A	N/A	N/A	N/A	N/A

*Flows for inlets 2 & 3 represent the total flow in the ultimate buildout condition
*See sag inlet calculation for inlet A-4

GRATE INLET IN SUMP CALCULATIONS FOR 100 YR STORM (WITH 50% CLOGGING FACTOR)

Drainage Area #	Q_{100} (CFS)	Flow Area (Sq. In.)	Inlet Size (SF)	Weir Calculation: PERIMETER, P (LF)	Weir Calculation: P x 50% Clogging Factor (LF)	Weir Calculation: WEIR DEPTH, d (FT)	Orifice Calculation: A (SF)	Orifice Calculation: A x 50% Clogging Factor (SF)	Orifice Calculation: H (FT)	WEIR OR ORRICE	OPERATING DEPTH, (d or H) (FT)	D_{allow} H_{allow} (FT)
A-4	7.36	1728	4'x4'	16.00	8.00	0.45	12.00	6.00	0.05	WEIR	0.45	0.50

NOTE: FLOW TO INLET A-4 INCLUDES BYPASS FLOWS FROM INLETS A-2 & A-3. REFERENCE GRATE INLET ON GRADE CALCULATIONS.

GRATE INLET IN SUMP CALCULATIONS FOR 25 YR STORM (WITH 50% CLOGGING FACTOR)

Drainage Area #	Q_{25} (CFS)	Flow Area (Sq. In.)	Inlet Size (SF)	Weir Calculation: PERIMETER, P (LF)	Weir Calculation: P x 50% Clogging Factor (LF)	Weir Calculation: WEIR DEPTH, d (FT)	Orifice Calculation: A (SF)	Orifice Calculation: A x 50% Clogging Factor (SF)	Orifice Calculation: H (FT)	WEIR OR ORRICE	OPERATING DEPTH, (d or H) (FT)	D_{allow} H_{allow} (FT)
A-4	4.84	1728	4'x4'	16.00	8.00	0.34	12.00	6.00	0.02	WEIR	0.34	0.50

NOTE: FLOW TO INLET A-4 INCLUDES BYPASS FLOWS FROM INLETS A-2 & A-3. REFERENCE GRATE INLET ON GRADE CALCULATIONS.

F:\HEADWATERS\PROJECTS\20-010-A\05 HEADWATERS COMMERCIAL EAST Ph 1\DRAWINGS\PLANSET\08 EXISTING DRAINAGE AREA MAP.DWG, 5/17/2023, LANDON.MCCLELLAN

BY	DATE	REVISION
LAM	5/17/2023	UPDATE TO POND GRADING AND DRAINAGE TABLES

HEADWATERS COMMERCIAL EAST PHASE 1
DRIPPING SPRINGS, TEXAS

PROPOSED OVERALL DETAILED DRAINAGE AREA MAP

MALONE★WHEELER INC.
CIVIL ENGINEERING ★ DEVELOPMENT CONSULTING ★ PROJECT MANAGEMENT
5113 Southwest Pkwy, Suite 250
Austin, Texas 78735
Phone: (512) 394-9545 Fax: (512) 899-0655
Firm Registration No.: F-786

LANDON H. MCCLELLAN
142710
LICENSED
PROFESSIONAL ENGINEER
05/17/23

DESIGN BY : TD, JRM
CHECKED BY : LM
APPROVED BY : LM
DATE : 5/17/2023

SHEET 08
OF 39

Hill Country Civil
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Texas Firm Registration # 20281
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ROSS T. CORDER
125401
LICENSED
PROFESSIONAL ENGINEER
05/18/2025

App.

No.	Date	Revisions

HEADWATERS FIRE STATION
DRIPPING SPRINGS, TEXAS

HCC JOB No.: 013-10 DRAWN BY:.RTC

PHASE 1 EXISTING WATER QUALITY AND DETENTION

SHEET No.
17
OF 24

MALONE WHEELER EXISTING COMMERCIAL EAST PHASE 1 WATER QUALITY AND DETENTION POND DESIGN SHEET

NOTE: SHEET IS PROVIDED FOR REFERENCE ONLY TO AID DURING PERMIT REVIEW AND NOT INTENDED FOR CONSTRUCTION

C:\HCCOneDrive - Hill Country Civil\Projects\013 Martinez Architects\10 Headwaters Fire Station Design\1 - CAD\2 - Sheets\013-10 PDA.dwg

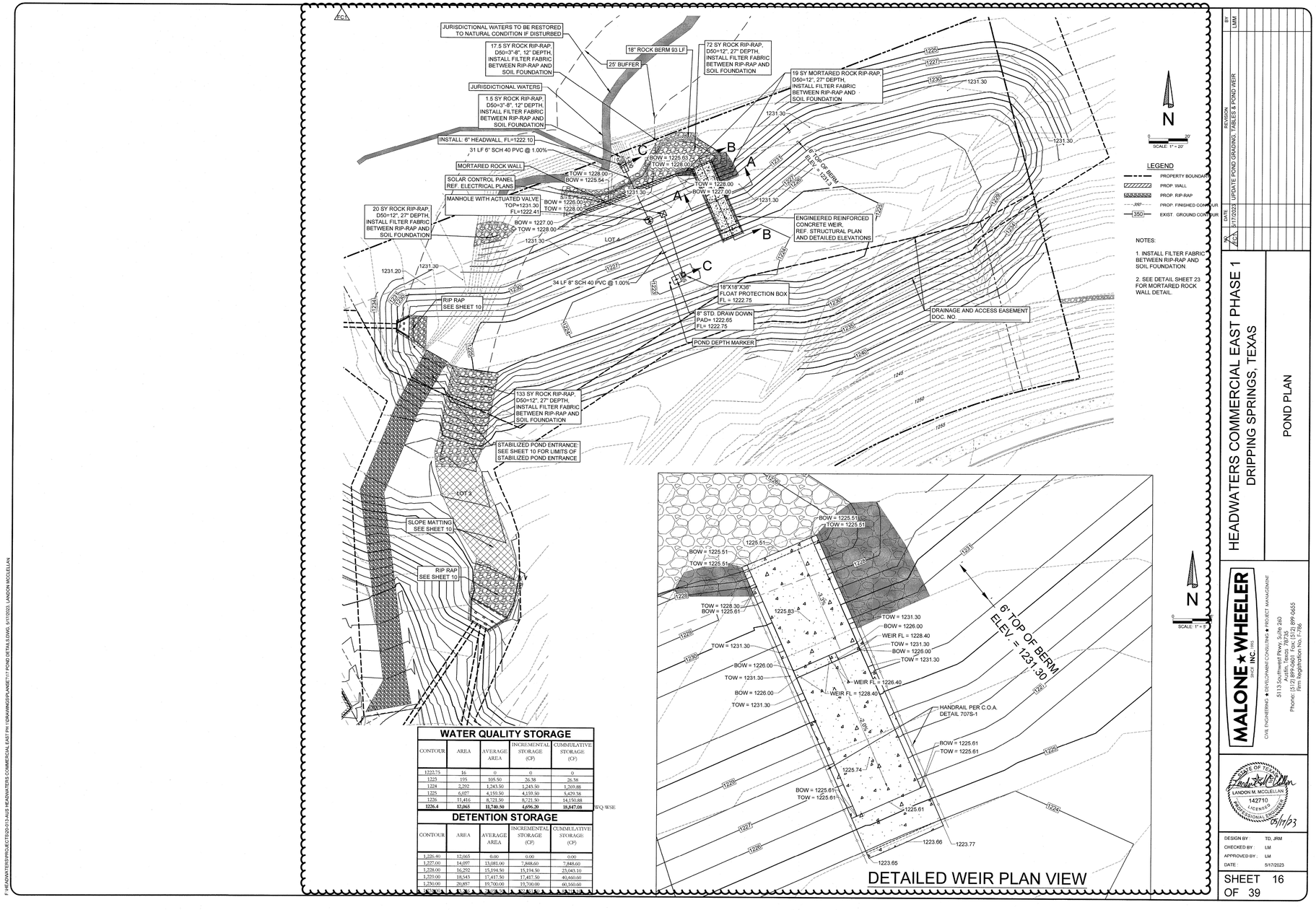
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SURVEY NOTE

Survey Prepared by:
WCR LAND SURVEYING
P.O. BOX 481
1003 MAIN ST.
BLANCO, TX 78606
PHONE: (830) 833-3010
TBPLS Firm No. 10194135

LEGAL DESCRIPTION

HEADWATERS COMMERCIAL EAST PH 1, BLOCK A, LOT 1, ACRES 1.426



WATER QUALITY STORAGE

CONTOUR	AREA	AVERAGE AREA	INCREMENTAL STORAGE (CF)	CUMMULATIVE STORAGE (CF)
1223.75	16	0	0	0
1223	195	105.50	26.38	26.38
1224	2,292	1,243.50	1,243.50	1,269.88
1225	6,027	4,159.50	4,159.50	5,429.38
1226	11,416	8,721.50	8,721.50	14,150.88
1226.4	**12,065**	**11,740.50**	**4,696.20**	**18,847.08**

WQ-WSE

DETENTION STORAGE

CONTOUR	AREA	AVERAGE AREA	INCREMENTAL STORAGE (CF)	CUMMULATIVE STORAGE (CF)
1,226.40	12,065	0.00	0.00	0.00
1,227.00	14,097	13,081.00	7,848.60	7,848.60
1,228.00	16,292	15,194.50	15,194.50	23,043.10
1,229.00	18,543	17,417.50	17,417.50	40,460.60
1,230.00	20,857	19,700.00	19,700.00	60,160.60

NO.	DATE	BY	REVISION
1	6/17/2025	LMM	UPDATE POND GRADING, TABLES & POND WEIR

HEADWATERS COMMERCIAL EAST PHASE 1
DRIPPING SPRINGS, TEXAS

POND PLAN

MALONE★WHEELER INC.
CIVIL ENGINEERING ★ DEVELOPMENT CONSULTING ★ PROJECT MANAGEMENT
5113 Southwest Pkwy, Suite 260
Austin, Texas 78735
Phone: (512) 899-3400 Fax: (512) 899-3455
Firm Registration No. F-786

LANDON M. MCCLELLAN 142710 LICENSED PROFESSIONAL ENGINEER 05/11/23

DESIGN BY : TD, JRM
CHECKED BY : LM
APPROVED BY : LM
DATE : 5/17/2023

SHEET 16 OF 39

F:\HEADWATERS\PROJECTS\2025-01-AUG HEADWATERS COMMERCIAL\EAST PH 1\DRAWINGS\PLANSET\17 POND DETAILS.DWG, 9/17/2025, LANDON MCCLELLAN

MALONE WHEELER EXISTING COMMERCIAL EAST PHASE 1
WATER QUALITY AND DETENTION POND DESIGN SHEET

NOTE: SHEET IS PROVIDED FOR REFERENCE ONLY TO AID DURING PERMIT REVIEW AND NOT INTENDED FOR CONSTRUCTION

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ROSS T. CORDER 125401 LICENSED PROFESSIONAL ENGINEER 08/18/2025

No.	Date	Revisions	App.

HEADWATERS FIRE STATION
DRIPPING SPRINGS, TEXAS

HCC JOB No.:013-10 DRAWN BY:RTC

PHASE 1 EXISTING WATER QUALITY AND DETENTION

SHEET No. 18 OF 24

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SURVEY NOTE

Survey Prepared by:
WCR LAND SURVEYING
P.O. BOX 481
1003 MAIN ST.
BLANCO, TX 78606
PHONE: (830) 833-3010
TBPLS Firm No. 10194135

LEGAL DESCRIPTION

HEADWATERS COMMERCIAL EAST PH 1, BLOCK A, LOT 1, ACRES 1.426

TCEQ CALCULATIONS: FULLY DEVELOPED

Texas Commission on Environmental Quality

TSS Removal Calculations 04-20-2009
Modified for OEM per RG-348a

Project Name: Headwaters at Barton Creek, COMMERCIAL EAST PH 1
Date Prepared: 5/16/2023 FULLY DEVELOPED CONDITION

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

1. The Required Load Reduction for the total project: Calculations from RG-348a Page 21

Page 21 Equation 4.3: $L_M = 27.7(A \times P)$

where:
$L_{M\ TOTAL\ PROJECT}$ = Required TSS removal (pounds)
A = Impervious Area (acres)
P = Average annual precipitation, inches

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

County =	Hays	
Total project area included in plan * =	5.82	acres
Predevelopment impervious area outside the limits of the plan (per watershed)* =	0.00	acres
Predevelopment impervious area within the limits of the plan * =	0.00	acres
Total post-development impervious area within the limits of the plan* =	2.78	acres
Total post-development impervious cover fraction * =	0.48	
P =	33	inches
$L_{M\ TOTAL\ PROJECT}$ =	2541	lbs.

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

L_M Calculation from RG-348a page 21

Number of drainage basins / outfalls areas leaving the plan area = 1 - FULLY DEVELOPED CONDITION

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

Drainage Basin/Outfall Area No. = 1

Total drainage basin/outfall area =	5.65	acres
Predevelopment impervious area within drainage basin/outfall area =	0.00	acres
Post-development impervious area within drainage basin/outfall area =	2.78	acres
Post-development impervious fraction within drainage basin/outfall area =	0.49	
$L_{M\ THIS\ BASIN}$ =	2541	lbs.

Based on onsite Net Impervious Cover regardless of Predeveloped Impervious Cover
L_M Calculation from RG-348a pages 21

3. Indicate the proposed BMP Code for this basin.

Proposed BMP = Batch Detention Basin
Removal efficiency = 91 percent

Aqualogic Cartridge Filter
Batch Detention Basin
Bioretention
Contech StormFilter
Constructed Wetland
Extended Detention
Grassy Swale
Retention / Irrigation
Sand Filter
Stormceptor
Vegetated Filter Strips
Vortechs
Wet Basin
Wet Vault

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

RG-348 Page 3-33 Equation 3.7: L_R = (BMP efficiency) x P x (A_I x 34.6 + A_P x 0.54)

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

A_C =	5.65	acres
A_I =	2.78	acres
A_P =	2.87	acres
L_R =	2935	lbs

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

Desired $L_{M\ THIS\ BASIN}$ = 2568 lbs.

F = 0.87

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

Calculations from RG-348 Pages 3-34 to 3-36 and RG-348a pages 22-23

Rainfall Depth =	1.55	inches
Post Development Runoff Coefficient =	0.47	
On-site Water Quality Volume =	14885	cubic feet

Calculations from RG-348 Pages 3-35 to 3-37

Off-site area draining to BMP =	7.29	acres
Off-site Impervious cover draining to BMP =	6.00	acres
Impervious fraction of off-site area =	0.00	
Off-site Runoff Coefficient =	0.02	
Off-site Water Quality Volume =	820	cubic feet
Storage for Sediment =	3141	
Total Capture Volume (required water quality volume(s) x 1.20) =	18846	cubic feet

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

8. Extended Detention Basin System Designed as Required in RG-348 Pages 3-46 to 3-51

Required Water Quality Volume for extended detention basin =	NA	cubic feet
Required Water Quality Volume for batch detention basin =	18846	**cubic feet**

TCEQ CALCULATIONS: INTERIM PHASE 1 CONDITION

Texas Commission on Environmental Quality

TSS Removal Calculations 04-20-2009
Modified for OEM per RG-348a

Project Name: Headwaters at Barton Creek, COMMERCIAL EAST PH 1
Date Prepared: 5/16/2023 INTERIM PHASE 1 CONDITION

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

1. The Required Load Reduction for the total project: Calculations from RG-348a Page 21

Page 21 Equation 4.3: $L_M = 27.7(A \times P)$

where:
$L_{M\ TOTAL\ PROJECT}$ = Required TSS removal (pounds)
A = Impervious Area (acres)
P = Average annual precipitation, inches

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

County =	Hays	
Total project area included in plan * =	5.82	acres
Predevelopment impervious area outside the limits of the plan (per watershed)* =	0.00	acres
Predevelopment impervious area within the limits of the plan * =	0.00	acres
Total post-development impervious area within the limits of the plan* =	1.30	acres
Total post-development impervious cover fraction * =	0.22	
P =	33	inches
$L_{M\ TOTAL\ PROJECT}$ =	1188	lbs.

1.30 ac of I.C. proposed with INTERIM PHASE 1 CONDITION

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

L_M Calculation from RG-348a page 21

Number of drainage basins / outfalls areas leaving the plan area = 1 - INTERIM PHASE 1 CONDITION

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

Drainage Basin/Outfall Area No. = 1

Total drainage basin/outfall area =	5.65	acres
Predevelopment impervious area within drainage basin/outfall area =	0.00	acres
Post-development impervious area within drainage basin/outfall area =	1.30	acres
Post-development impervious fraction within drainage basin/outfall area =	0.23	
$L_{M\ THIS\ BASIN}$ =	1188	lbs.

Based on onsite Net Impervious Cover regardless of Predeveloped Impervious Cover
L_M Calculation from RG-348a pages 21

3. Indicate the proposed BMP Code for this basin.

Proposed BMP = Batch Detention Basin
Removal efficiency = 91 percent

Aqualogic Cartridge Filter
Batch Detention Basin
Bioretention
Contech StormFilter
Constructed Wetland
Extended Detention
Grassy Swale
Retention / Irrigation
Sand Filter
Stormceptor
Vegetated Filter Strips
Vortechs
Wet Basin
Wet Vault

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

RG-348 Page 3-33 Equation 3.7: L_R = (BMP efficiency) x P x (A_I x 34.6 + A_P x 0.54)

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

A_C =	5.65	acres
A_I =	1.30	acres
A_P =	4.35	acres
L_R =	1421	lbs

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

Desired $L_{M\ THIS\ BASIN}$ = 1188 lbs.

F = 0.84

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

Calculations from RG-348 Pages 3-34 to 3-36 and RG-348a pages 22-23

Rainfall Depth =	1.28	inches
Post Development Runoff Coefficient =	0.25	
On-site Water Quality Volume =	6447	cubic feet

Calculations from RG-348 Pages 3-35 to 3-37

Off-site area draining to BMP =	7.29	acres
Off-site Impervious cover draining to BMP =	0.00	acres
Impervious fraction of off-site area =	0.00	
Off-site Runoff Coefficient =	0.02	
Off-site Water Quality Volume =	677	cubic feet
Storage for Sediment =	1425	
Total Capture Volume (required water quality volume(s) x 1.20) =	8549	cubic feet

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

8. Extended Detention Basin System Designed as Required in RG-348 Pages 3-46 to 3-51

Required Water Quality Volume for extended detention basin =	NA	cubic feet
Required Water Quality Volume for batch detention basin =	8549	**cubic feet**

F:\HEADWATERS\PROJECTS\20-013-AUS HEADWATERS COMMERCIAL EAST PH 1\DRAWINGS\PLANSET\17 POND DETAILS.DWG, 5/17/2023, LANDON.MCCLELLAN

REVISION

NO.	DATE	BY
1	8/7/2025	LMM

UPDATE TO WATER QUALITY CALCULATIONS

HEADWATERS COMMERCIAL EAST PHASE 1
DRIPPING SPRINGS, TEXAS

WATER QUALITY CALCULATIONS

MALONE★WHEELER INC.
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5113 Southwest Pkwy, Suite 250
Austin, Texas 78735
Phone: (512) 899-0050 Fax: (512) 899-0455
Firm Registration No. F-786

STATE OF TEXAS
LANDON M. MCCLELLAN
142710
LICENSED
PROFESSIONAL ENGINEER
05/17/23

DESIGN BY : TD, JRM
CHECKED BY : LM
APPROVED BY : LM
DATE : 5/17/2023

SHEET 16A
OF 39

MALONE WHEELER EXISTING COMMERCIAL EAST PHASE 1 WATER QUALITY AND DETENTION POND DESIGN SHEET

NOTE: SHEET IS PROVIDED FOR REFERENCE ONLY TO AID DURING PERMIT REVIEW AND NOT INTENDED FOR CONSTRUCTION

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Ross T. Corder
STATE OF TEXAS
ROSS T. CORDER
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PROFESSIONAL ENGINEER
08/18/2025

App.

No.	Date	Revisions

HEADWATERS FIRE STATION
DRIPPING SPRINGS, TEXAS

HCC JOB No.:013-10 DRAWN BY:.RTC

PHASE 1 EXISTING
WATER QUALITY AND
DETENTION

SHEET No.
19
OF 24

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Attachment H: Temporary Sediment Pond(s) Plans and Calculations
(NOT APPLICABLE)

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Attachment I: Inspection and Maintenance for BMPs

Attachment I: Inspection and Maintenance for BMPs

The following list of items outlines and dictates Inspection and Maintenance for BMPs practices. Inspection and maintenance guidelines come from TCEQ RG-348.

In addition to these measures the contractor will be subject to the provisions of the TCEQ General Permit Number TXR 150000 relating to discharges from construction activities.

Temporary Construction Entrance/Exit

1. The entrance should be maintained in a condition which will prevent tracking or flowing of sediment onto public rights-of-way. This may require periodic top dressing with additional stone as conditions demand and repairs and/or cleanout of any measures used to trap sediment.
2. All sediment spilled, dropped, washed, or tracked onto public rights-of-way should be removed immediately by contractor.
3. When necessary, wheels should be cleaned to remove sediment prior to entrance on to public right-of-way.
4. When washing is required, it should be done on an area stabilized with crushed stone that drains into an approved sediment trap or sediment basin
5. All sediment should be prevented from entering any storm drain, ditch, or water course by using approved methods.

Silt Fence

1. Inspect all fencing weekly, and after any rainfall.
2. Remove sediment when buildup reaches 6 inches.
3. Replace any torn fabric or install a second line of fencing parallel to the torn section.
4. Replace or repair any sections crushed or collapsed during construction activity. If a section of fence is obstructing vehicular access, consider relocating it to a spot to where it will provide equal protection, but will not obstruct vehicles. A triangular filter dike may be preferable to a silt fence at common vehicle access points.
5. When construction is complete, the sediment should be disposed of in a manner that will not cause additional siltation and the prior location of the silt fence should be revegetated. The fence itself should be disposed of in an approved landfill.

Inlet Protection Barrier

1. Inspections should be made weekly and after each rainfall. Repair or replacement should be made promptly as needed by the contractor.
2. Remove sediment when buildup reaches a depth of 3 inches. Removed sediment should be deposited in a suitable area and in such a manner that it will not erode.
3. Check placement of devices to prevent gaps between device and curb.
4. Inspect filter fabric and patch or replace if torn or missing.
5. Structures should be removed, and the area stabilized only after the remaining drainage area has been properly stabilized.

Concrete Washout

1. Concrete washout facilities should be inspected daily and after heavy rains to check for leaks, identify if any plastic linings and sidewalls have been damaged by construction activities, and determine whether they have been filled to over 75 percent capacity. When the washout container is filled to over 75 percent of its capacity, the washwater should be vacuumed off or

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Engineers • Consultants

Attachment J: Schedule of Interim and Permanent Soil Stabilization Practices

Attachment J: Schedule of Interim and Permanent Soil Stabilization Practices

Onsite construction activities shall be conducted in accordance with the Erosion Control Plan for the project which includes the provisions of the TPDES General Permit TXR150000.

Interim on-site stabilization measures will include minimizing soil disturbances by exposing the smallest practical area of land required for the shortest duration and maximizing the use of natural vegetation. All disturbed soil will be stabilized as per project specifications in accordance with TCEQ Technical Guidance Manual RG-348 (2005).

Stabilization measures shall be initiated as soon as practicable in portions of the site where construction activities have temporarily or permanently ceased, but in no case more than 14 days after the construction activity in that portion of the site has temporarily or permanently ceased. Where the initiation of stabilization measures by the 14th day after construction activity temporarily or permanently cease is precluded by weather conditions, stabilization measures shall be initiated as soon as practicable. Where construction activity on a portion of the site has temporarily ceased, and earth disturbing activities will be resumed within 21 days, temporary stabilization measures do not have to be initiated on that portion of the site. In areas experiencing droughts where the initiation of stabilization measures by the 14th day after construction activity has temporarily or permanently ceased is preclude by seasonal arid conditions, stabilization measures shall be initiated as soon as practicable.

Interim Stabilization Measures will include one or more of the following methods.

1. Temporary Vegetation
2. Installation of blankets or matting material
3. Hydraulic Mulch
4. Sod

The interim and permanent stabilization will be installed in accordance with the standard specifications for the county or city having jurisdiction over the project, whichever is more stringent. If the governing entity does not have specifications for these items, the work shall be completed in compliance with the procedures and specifications outlined in the current Technical Guidance Manual published by the TCEQ.

Permanent Stabilization measures will include one or more of the following methods.

1. Permanent Vegetation including landscape planting with trees, shrubs, or ground cover.
2. Installation of blankets or matting material
3. Hydromulch
4. Grass Sodding
5. Rock or concrete riprap

A copy of the Erosion Control Plan is attached.

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Copy of NOI

TCEQ Office Use Only
Permit No:
CN:
RN:

Notice of Intent (NOI) for an Authorization for Stormwater Discharges Associated with Construction Activity under TPDES General Permit TXR150000

IMPORTANT INFORMATION

Please read and use the General Information and Instructions prior to filling out each question in the NOI form.

Use the NOI Checklist to ensure all required information is completed correctly. **Incomplete applications delay approval or result in automatic denial.**

Once processed your permit authorization can be viewed by entering the following link into your internet browser: http://www2.tceq.texas.gov/wq_dpa/index.cfm or you can contact TCEQ Stormwater Processing Center at 512-239-3700.

ePERMITS

Effective September 1, 2018, this paper form must be submitted to TCEQ with a completed electronic reporting waiver form (TCEQ-20754).

To submit an NOI electronically, enter the following web address into your internet browser and follow the instructions: https://www3.tceq.texas.gov/steers/index.cfm

APPLICATION FEE AND PAYMENT

The application fee for submitting a paper NOI is $325. The application fee for electronic submittal of a NOI through the TCEQ ePermits system (STEERS) is $225.

Payment of the application fee can be submitted by mail or through the TCEQ ePay system. The payment and the NOI must be mailed to separate addresses. To access the TCEQ ePay system enter the following web address into your internet browser: http://www.tceq.texas.gov/epay.

Provide your payment information for verification of payment:

- If payment was mailed to TCEQ, provide the following:
  - Check/Money Order Number: Click here to enter text
  - Name printed on Check: Click here to enter text
- If payment was made via ePay, provide the following:
  - Voucher Number: Click here to enter text
  - A copy of the payment voucher is attached to this paper NOI form.

RENEWAL (This portion of the NOI is not applicable after June 3, 2018)

Is this NOI for a renewal of an existing authorization? ☒ Yes ☐ No

If Yes, provide the authorization number here: TXR15 Click here to enter text

NOTE: If an authorization number is not provided, a new number will be assigned.

SECTION 1. OPERATOR (APPLICANT)

a) If the applicant is currently a customer with TCEQ, what is the Customer Number (CN) issued to this entity? CN Click here to enter text

(Refer to Section 1.a) of the Instructions)

b) What is the Legal Name of the entity (applicant) applying for this permit? (The legal name must be spelled exactly as filed with the Texas Secretary of State, County, or in the legal document forming the entity.)

Click here to enter text

c) What is the contact information for the Operator (Responsible Authority)?

Prefix (Mr. Ms. Miss): Mr.

First and Last Name: Scott Collard Suffix: Click here to enter text

Title: Fire Chief Credentials: Click here to enter text

Phone Number: 512-894-0705 Fax Number: Click here to enter text

E-mail: scollard@northhaysfire.com

Mailing Address: 400 Sportsplex Drive

City, State, and Zip Code: Dripping Springs, TX 78620

Mailing Information if outside USA:

Territory: Click here to enter text

Country Code: Click here to enter text Postal Code: Click here to enter text

d) Indicate the type of customer:

☐ Individual	☐ Federal Government
☐ Limited Partnership	☒ County Government
☐ General Partnership	☐ State Government
☐ Trust	☐ City Government
☐ Sole Proprietorship (D.B.A.)	☐ Other Government
☐ Corporation	☐ Other: Click here to enter text
☐ Estate	

e) Is the applicant an independent operator? ☐ Yes ☒ No

(If a governmental entity, a subsidiary, or part of a larger corporation, check No.)

f) Number of Employees. Select the range applicable to your company.

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

g) Customer Business Tax and Filing Numbers: (**Required** for Corporations and Limited Partnerships. **Not Required** for Individuals, Government, or Sole Proprietors.)

State Franchise Tax ID Number: 32064063798

Federal Tax ID: 74-2448169

Texas Secretary of State Charter (filing) Number: 92483102

DUNS Number (if known): Click here to enter text.

SECTION 2. APPLICATION CONTACT

Is the application contact the same as the applicant identified above?

☒ Yes, go to Section 3

☐ No, complete this section

Prefix (Mr. Ms. Miss): Mr.

First and Last Name: Scott Collard Suffix: Click here to enter text.

Title: Fire Chief Credential: Click here to enter text.

Organization Name: Hays County Emergency District #6

Phone Number: 512-894-0705 Fax Number: Click here to enter text.

E-mail: scollard@northhaysfire.com

Mailing Address: 404 Headwaters Blvd

Internal Routing (Mail Code, Etc.): Click here to enter text.

City, State, and Zip Code: Dripping Springs, TX 78620

Mailing information if outside USA:

Territory: Click here to enter text.

Country Code: Click here to enter text. Postal Code: Click here to enter text.

SECTION 3. REGULATED ENTITY (RE) INFORMATION ON PROJECT OR SITE

a) If this is an existing permitted site, what is the Regulated Entity Number (RN) issued to this site? RN Click here to enter text.

(Refer to Section 3.a) of the Instructions)

b) Name of project or site (the name known by the community where it's located): Hays County Emergency District #6 FS No 6

c) In your own words, briefly describe the type of construction occurring at the regulated site (residential, industrial, commercial, or other): Commercial

d) County or Counties (if located in more than one): Click here to enter text

e) Latitude: 30.196847 Longitude: -98.047039

f) Site Address/Location

If the site has a physical address such as 12100 Park 35 Circle, Austin, TX 78753, complete *Section A*.

If the site does not have a physical address, provide a location description in *Section B*. Example: located on the north side of FM 123, 2 miles west of the intersection of FM 123 and Highway 1.

Section A:

Street Number and Name: 404 Headwaters Blvd

City, State, and Zip Code: Dripping Springs, TX 78620

Section B:

Location Description: Click here to enter text

City (or city nearest to) where the site is located: Click here to enter text

Zip Code where the site is located: Click here to enter text

SECTION 4. GENERAL CHARACTERISTICS

a) Is the project or site located on Indian Country Lands?

☐ Yes, do not submit this form. You must obtain authorization through EPA Region 6.

☒ No

b) Is your construction activity associated with a facility that, when completed, would be associated with the exploration, development, or production of oil or gas or geothermal resources?

☐ Yes. Note: The construction stormwater runoff may be under jurisdiction of the Railroad Commission of Texas and may need to obtain authorization through EPA Region 6.

☒ No

c) What is the Primary Standard Industrial Classification (SIC) Code that best describes the construction activity being conducted at the site? 9224

d) What is the Secondary SIC Code(s), if applicable? Click here to enter text

e) What is the total number of acres to be disturbed? 1.43 ac.

f) Is the project part of a larger common plan of development or sale?

☐ Yes

☒ No. The total number of acres disturbed, provided in e) above, must be 5 or more. If the total number of acres disturbed is less than 5, do not submit this form. See the requirements in the general permit for small construction sites.

g) What is the estimated start date of the project? Click here to enter text.

h) What is the estimated end date of the project? Click here to enter text.

i) Will concrete truck washout be performed at the site? ☒ Yes ☐ No

j) What is the name of the first water body(ies) to receive the stormwater runoff or potential runoff from the site? Onion Creek

k) What is the segment number(s) of the classified water body(ies) that the discharge will eventually reach? 1427

l) Is the discharge into a Municipal Separate Storm Sewer System (MS4)?

☒ Yes ☐ No

If Yes, provide the name of the MS4 operator: Hays County Environmental Health

Note: The general permit requires you to send a copy of this NOI form to the MS4 operator.

m) Is the discharge or potential discharge from the site within the Recharge Zone, Contributing Zone, or Contributing Zone within the Transition Zone of the Edwards Aquifer, as defined in 30 TAC Chapter 213?

☒ Yes, complete the certification below.

☐ No, go to Section 5

I certify that the copy of the TCEQ-approved Plan required by the Edwards Aquifer Rule (30 TAC Chapter 213) that is included or referenced in the Stormwater Pollution Prevention Plan will be implemented. ☒ Yes

SECTION 5. NOI CERTIFICATION

a) I certify that I have obtained a copy and understand the terms and conditions of the Construction General Permit (TXR150000). ☒ Yes

b) I certify that the full legal name of the entity applying for this permit has been provided and is legally authorized to do business in Texas. ☒ Yes

c) I understand that a Notice of Termination (NOT) must be submitted when this authorization is no longer needed. ☒ Yes

d) I certify that a Stormwater Pollution Prevention Plan has been developed, will be implemented prior to construction and to the best of my knowledge and belief is compliant with any applicable local sediment and erosion control plans, as required in the Construction General Permit (TXR150000). ☒ Yes

Note: For multiple operators who prepare a shared SWP3, the confirmation of an operator may be limited to its obligations under the SWP3, provided all obligations are confirmed by at least one operator.

SECTION 6. APPLICANT CERTIFICATION SIGNATURE

Operator Signatory Name: Scott Collard

Operator Signatory Title: Fire Chief

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

I further certify that I am authorized under 30 Texas Administrative Code §305.44 to sign and submit this document, and can provide documentation in proof of such authorization upon request.

Signature (use blue ink): _____Date: _____

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Agent Authorization

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

I Scott Collard,
Print Name

Fire Chief,
Title - Owner/President/Other

of Hays County Emergency Services District #6,
Corporation/Partnership/Entity Name

have authorized Ross Corder, PE,
Print Name of Agent/Engineer

of Hill Country Civil,
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:

Scott Collard
Applicant's Signature

August 5, 2025
Date

THE STATE OF Texas §

County of Hays §

BEFORE ME, the undersigned authority, on this day personally appeared Scott Collard 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 5th day of August, 2025.

Anna Hughes
NOTARY PUBLIC

ANNA L. HUGHES
Notary ID #129564274
My Commission Expires
October 31, 2028

Anna Hughes
Typed or Printed Name of Notary

MY COMMISSION EXPIRES: 10/31/2028

Hill Country Civil
Engineers • Consultants

Application Fee Form

Application Fee Form

Texas Commission on Environmental Quality

Name of Proposed Regulated Entity: Hays County Emergency Services District #6 FS No. 72
Regulated Entity Location: 404 Headwaters Blvd, Dripping Springs, TX 78620
Name of Customer: Hays County Emergency Services District #6
Contact Person: Scott Collard Phone: (512) 894-0704
Customer Reference Number (if issued):CN CN 605665900
Regulated Entity Reference Number (if issued):RN _____

Austin Regional Office (3373)

☒ Hays ☐ Travis ☐ Williamson

San Antonio Regional Office (3362)

☐ Bexar ☐ Medina ☐ Uvalde
☐ Comal ☐ Kinney

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

☒ Austin Regional Office
☒ Mailed to: TCEQ - Cashier
Revenues Section
Mail Code 214
P.O. Box 13088
Austin, TX 78711-3088

☐ San Antonio Regional Office
☐ Overnight Delivery to: TCEQ - Cashier
12100 Park 35 Circle
Building A, 3rd Floor
Austin, TX 78753
(512)239-0357

Site Location (Check All That Apply):

☐ Recharge Zone ☒ Contributing Zone ☐ Transition Zone

Type of Plan	*Size*	*Fee Due*
Water Pollution Abatement Plan, Contributing Zone Plan: One Single Family Residential Dwelling	Acres	$
Water Pollution Abatement Plan, Contributing Zone Plan: Multiple Single Family Residential and Parks	Acres	$
Water Pollution Abatement Plan, Contributing Zone Plan: Non-residential	1.43 Acres	$ 4,000
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: _____ Date: 08/06/2025

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

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

Organized Sewage Collection Systems and Modifications

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

Underground and Aboveground Storage Tank System Facility Plans and Modifications

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

Exception Requests

Project	*Fee*
Exception Request	$500

Extension of Time Requests

Project	*Fee*
Extension of Time Request	$150

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Core Data Form

TCEQ Use Only

TCEQ Core Data Form

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

SECTION I: General Information

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

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

[ ] Renewal *(Core Data Form should be submitted with the renewal form)*

[ ] Other [x] **Modification**

2. Customer Reference Number *(if issued)*	Follow this link to search for CN or RN numbers in Central Registry**	**3. Regulated Entity Reference Number** *(if issued)*
CN 605665900		RN

SECTION II: Customer Information

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

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

The Customer Name submitted here may be updated automatically based on what is current and active with the Texas Secretary of State (SOS) or Texas Comptroller of Public Accounts (CPA).

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

Hays County Emergency Services District #6

7. TX SOS/CPA Filing Number	**8. TX State Tax ID** (11 digits)	**9. Federal Tax ID** (9 digits)	**10. DUNS Number** *(if applicable)*
92483102	32064063798	74-2448169	083391339

11. Type of Customer: [ ] Corporation [ ] Individual Partnership: [ ] General [ ] Limited

Government: [ ] City [ ] County [ ] Federal [ ] Local [ ] State [X] Other [ ] Sole Proprietorship [ ] Other: Special Purpose District

12. Number of Employees

[ ] 0-20 [x] 21-100 [ ] 101-250 [ ] 251-500 [ ] 501 and higher

13. Independently Owned and Operated?

[ ] **Yes** [x] **No**

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

[ ] Owner [ ] Operator [ ] Owner & Operator [ ] Other:
[ ] Occupational Licensee [x] Responsible Party [ ] VCP/BSA Applicant

15. Mailing Address:	400 Sportsplex Drive						
	City	Dripping Springs	**State**	TX	**ZIP**	78620	**ZIP + 4**

16. Country Mailing Information *(if outside USA)*	**17. E-Mail Address** *(if applicable)*
	scollard@northhaysfire.com

18. Telephone Number	19. Extension or Code	20. Fax Number *(if applicable)*
(512) 894-0704		(512) - 894-0705

SECTION III: Regulated Entity Information

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

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

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

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

Hays County Emergency Services District #6 FS No. 7

23. Street Address of the Regulated Entity: *(No PO Boxes)*	404 Headwaters BLVD							
	City	Dripping Springs	**State**	TX	**ZIP**	78620	**ZIP + 4**	
24. County	Hays							

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

25. Description to Physical Location:	404 Headwaters BLVD				
26. Nearest City			**State**	**Nearest ZIP Code**	
Dripping Springs			TX	78620	

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

27. Latitude (N) In Decimal:	30.196847		**28. Longitude (W) In Decimal:**	-98.047039	
Degrees	Minutes	Seconds	Degrees	Minutes	Seconds
30	11	48.6492	98	2	49.3398

29. Primary SIC Code (4 digits)	**30. Secondary SIC Code** (4 digits)	**31. Primary NAICS Code** (5 or 6 digits)	**32. Secondary NAICS Code** (5 or 6 digits)
9224		922160	

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

Emergency services and living corridors

34. Mailing Address:	400 Sportsplex Dr							
	City	Dripping Springs	**State**	TX	**ZIP**	78620	**ZIP + 4**	
35. E-Mail Address:								

36. Telephone Number	**37. Extension or Code**	**38. Fax Number** *(if applicable)*
(512) 894-0704		( ) -

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

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

SECTION IV: Preparer Information

40. Name:	Caitlynn Tate	41. Title:	Project Engineer

42. Telephone Number	43. Ext./Code	44. Fax Number	45. E-Mail Address
(830) 310-9920		( ) -	caitlynn@hillcountrycivil.com

SECTION V: Authorized Signature

46. By my signature below, I certify, to the best of my knowledge, that the information provided in this form is true and complete, and that I have signature authority to submit this form on behalf of the entity specified in Section II, Field 6 and/or as required for the updates to the ID numbers identified in field 39.

Company:	HAYS COUNTY EMERGENCY SERVICES DISTRICT #6	Job Title:	Authorized Agent	
Name *(In Print)*:	SCOTT COUARD	Phone:	( ) - 512-894-0704	
Signature:	Scott Coll	Date:	08/06/2025	