MATKINHOOVER
ENGINEERING & SURVEYING
BOERNE | GEORGETOWN
CONTACT@MATKINHOOVER.COM
OFFICE: 830.249.0600 FAX:830.249.0099
MATKINHOOVER.COM

Willhaus at Georgetown

Georgetown, Texas

Water Pollution Abatement Plan

February 2025

TBPE # F-4512 MHE

3459.00

MATKINHOOVER
ENGINEERING
& SURVEYING

December 16, 2024

Edwards Aquifer Protection Program
Texas Commission on Environmental Quality
Austin Regional Office
12100 Park 35 Circle
Austin, Texas 78753

Re: Willhaus at Georgetown
Georgetown, Texas
Water Pollution Abatement Plan

Please find attached a digital copy of the Willhaus at Georgetown Water Pollution Abatement Plan (WPAP). This WPAP has been prepared in accordance with the Texas Commission on Environmental Quality (30 TAC 313) and current policies for development over the Edwards Aquifer Recharge Zone.

This WPAP applies to a 5.13-acre tract located in Williamson County, Texas just 2.85 miles south of the intersection of HWY 195 and Shell Road and an address of 226 Logan Ranch Road, Georgetown, TX 77079.

Please review the attached WPAP information for the items it is intended to address, and if acceptable, provide a written approval of the plan in order that construction may begin at the earliest opportunity.

Appropriate review fees ($5,000.00) and fee application are included. If you have any questions regarding this information, please call our office.

Respectfully Submitted,
Matkin Hoover Engineering & Surveying
TBPE Firm No. #F-4512

Garrett Keller, P.E.
President

Water Pollution Abatement Plan Checklist

- **Edwards Aquifer Application Cover Page (TCEQ-20705)**
- **General Information Form (TCEQ-0587)**

  Attachment A - Road Map
  Attachment B - USGS / Edwards Recharge Zone Map
  Attachment C - Project Description

- **Geologic Assessment Form (TCEQ-0585)**

  Attachment A - Geologic Assessment Table (TCEQ-0585-Table)
  Attachment B - Stratigraphic Column
  Attachment C - Site Geology
  Attachment D - Site Geologic Map(s)

- **Water Pollution Abatement Plan Application Form (TCEQ-0584)**

  Attachment A - Factors Affecting Surface Water Quality
  Attachment B - Volume and Character of Stormwater
  Attachment C - Suitability Letter from Authorized Agent (if OSSF is proposed)
  Attachment D - Exception to the Required Geologic Assessment (if requested)
  Site Plan

- **Temporary Stormwater Section (TCEQ-0602)**

  Attachment A - Spill Response Actions
  Attachment B - Potential Sources of Contamination
  Attachment C - Sequence of Major Activities
  Attachment D - Temporary Best Management Practices and Measures
  Attachment E - Request to Temporarily Seal a Feature (if requested)
  Attachment F - Structural Practices
  Attachment G - Drainage Area Map
  Attachment H - Temporary Sediment Pond(s) Plans and Calculations
  Attachment I - Inspection and Maintenance for BMPs
  Attachment J - Schedule of Interim and Permanent Soil Stabilization Practices

- **Permanent Stormwater Section (TCEQ-0600)**

  Attachment A - 20% or Less Impervious Cover Waiver (if requested for multi-family, school, or small business site)
  Attachment B - BMPs for Upgradient Stormwater
  Attachment C - BMPs for On-site Stormwater
  Attachment D - BMPs for Surface Streams
  Attachment E - Request to Seal Features (if sealing a feature)
  Attachment F - Construction Plans
  Attachment G - Inspection, Maintenance, Repair and Retrofit Plan
  Attachment H - Pilot-Scale Field Testing Plan (if proposed)
  Attachment I -Measures for Minimizing Surface Stream Contamination

- **Agent Authorization Form (TCEQ-0599), if application submitted by agent**
- **Application Fee Form (TCEQ-0574)**
- **Check Payable to the "Texas Commission on Environmental Quality"**
- **Core Data Form (TCEQ-10400)**

Willhaus at Georgetown

WPAP

Section I

Edwards Aquifer Application Cover

MATKIN HOOVER ENGINEERING & SURVEYING – 8 SPENCER ROAD, SUITE 100 - BOERNE, TEXAS 78006 – OFFICE (830) 249-0600 – FAX (830) 249-0099 – www.matkinhoover.com

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: Willhaus at Georgetown						**2. Regulated Entity No.:**			
3. Customer Name:						**4. Customer No.:**			
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):**			5.13
9. Application Fee:	$5,000		**10. Permanent BMP(s):**			Vegetative Filter Strip			
11. SCS (Linear Ft.):	N/A		**12. AST/UST (No. Tanks):**			N/A			
13. County:	Willamson		**14. Watershed:**			Berry Creek			

Application Distribution

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

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

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

Austin Region			
County:	**Hays**	**Travis**	**Williamson**
Original (1 req.)	___	___	___
Region (1 req.)	___	___	___
County(ies)	___	___	___
Groundwater Conservation District(s)	___Edwards Aquifer Authority ___Barton Springs/ Edwards Aquifer ___Hays Trinity ___Plum Creek	___Barton Springs/ Edwards Aquifer	NA
City(ies) Jurisdiction	___Austin ___Buda ___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 ___Liberty Hill ___Pflugerville ___Round Rock

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

I certify that to the best of my knowledge, that the application is complete and accurate. This application is hereby submitted to TCEQ for administrative review and technical review.
Garrett Keller Print Name of Customer/Authorized Agent
Signature of Customer/Authorized Agent 3/7/25 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):	

MATKINHOOVER
ENGINEERING & SURVEYING
BOERNE | GEORGETOWN
CONTACT@MATKINHOOVER.COM
OFFICE: 830.249.0600 FAX:830.249.0099

Willhaus at Georgetown

WPAP

Section II

General Information

General Information Form

Texas Commission on Environmental Quality

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

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

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

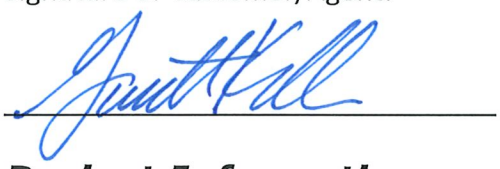
Signature

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

Print Name of Customer/Agent: Garrett Keller, P.E.

Date: 3/7/25

Signature of Customer/Agent:



Project Information

1. Regulated Entity Name: Willhaus at Georgetown
2. County: Williamson
3. Stream Basin: Berry Creek
4. Groundwater Conservation District (If applicable): N/A
5. Edwards Aquifer Zone:

   ☒ Recharge Zone
   ☐ Transition Zone

6. Plan Type:

   ☒ WPAP
   ☐ SCS
   ☐ Modification
   ☐ AST
   ☐ UST
   ☐ Exception Request

7. Customer (Applicant):

   Contact Person: Frank W. Hauser Jr.
   Entity: _____
   Mailing Address: 143538 Bramblewood Dr.
   City, State: Houston, TX Zip: 77079
   Telephone: 512-426-1102 FAX: N/A
   Email Address: fhauser@willhausllc.com

8. Agent/Representative (If any):

   Contact Person: Garrett Keller
   Entity: MatkinHoover Engineering & Surveying
   Mailing Address: 8 Spencer Road, Suite 100
   City, State: Boerne, TX Zip: 78006
   Telephone: 830-249-0600 FAX: 830-249-0099
   Email Address: gkeller@matkinhoover.com

9. Project Location:

   ☐ The project site is located inside the city limits of _____.
   ☐ The project site is located outside the city limits but inside the ETJ (extra-territorial jurisdiction) of _____.
   ☒ The project site is not located within any city's limits or ETJ.

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

    Near the City of Georgetown, TX, Approximately 2.85 miles Southwest of the intersection of Hwy 195 and Shell Road at the corner of Logan Ranch Road and Lovie Lane.

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

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

    ☒ Project site boundaries.
    ☒ USGS Quadrangle Name(s).
    ☒ Boundaries of the Recharge Zone (and Transition Zone, if applicable).
    ☒ Drainage path from the project site to the boundary of the Recharge Zone.

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

☐ Survey staking will be completed by this date: _____

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

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

15. Existing project site conditions are noted below:

☐ Existing commercial site
☐ Existing industrial site
☒ Existing residential site
☐ Existing paved and/or unpaved roads
☐ Undeveloped (Cleared)
☐ Undeveloped (Undisturbed/Uncleared)
☐ Other: _____

Prohibited Activities

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

(1) Waste disposal wells regulated under 30 TAC Chapter 331 of this title (relating to Underground Injection Control);

(2) New feedlot/concentrated animal feeding operations, as defined in 30 TAC §213.3;

(3) Land disposal of Class I wastes, as defined in 30 TAC §335.1;

(4) The use of sewage holding tanks as parts of organized collection systems; and

(5) New municipal solid waste landfill facilities required to meet and comply with Type I standards which are defined in §330.41(b), (c), and (d) of this title (relating to Types of Municipal Solid Waste Facilities).

(6) New municipal and industrial wastewater discharges into or adjacent to water in the state that would create additional pollutant loading.

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

(1) Waste disposal wells regulated under 30 TAC Chapter 331 (relating to Underground Injection Control);

(2) Land disposal of Class I wastes, as defined in 30 TAC §335.1; and

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

Administrative Information

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

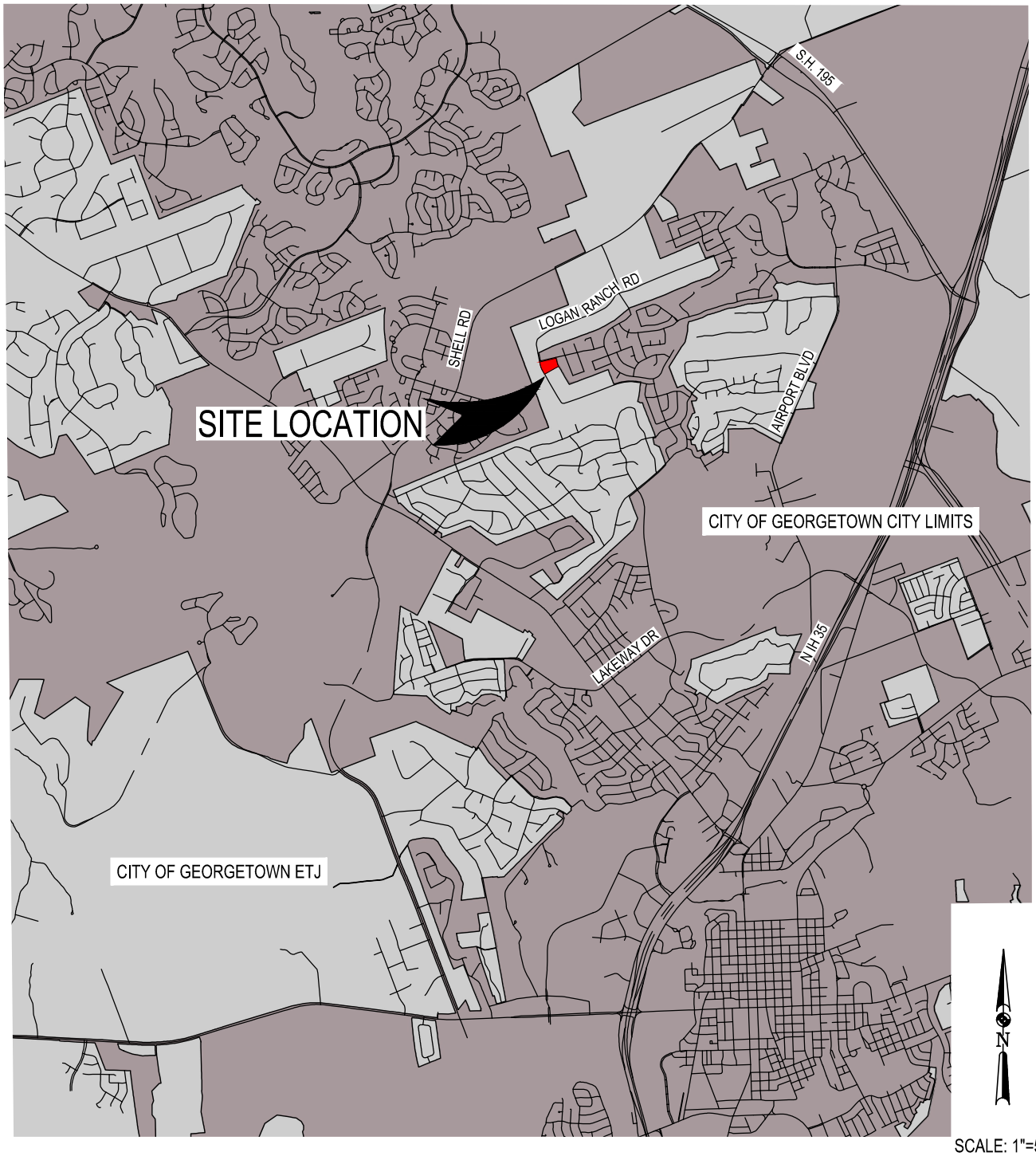
☒ For a Water Pollution Abatement Plan or Modification, the total acreage of the site where regulated activities will occur.
☐ For an Organized Sewage Collection System Plan or Modification, the total linear footage of all collection system lines.
☐ For a UST Facility Plan or Modification or an AST Facility Plan or Modification, the total number of tanks or piping systems.
☐ A request for an exception to any substantive portion of the regulations related to the protection of water quality.
☐ A request for an extension to a previously approved plan.

19. ☒ Application fees are due and payable at the time the application is filed. If the correct fee is not submitted, the TCEQ is not required to consider the application until the correct fee is submitted. Both the fee and the Edwards Aquifer Fee Form have been sent to the Commission's:

☐ TCEQ cashier
☒ Austin Regional Office (for projects in Hays, Travis, and Williamson Counties)
☐ San Antonio Regional Office (for projects in Bexar, Comal, Kinney, Medina, and Uvalde Counties)

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

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



SCALE: 1"=5000'

0 2500' 5000'

MATKINHOOVER
ENGINEERING & SURVEYING
P.O. BOX 54
8 SPENCER ROAD SUITE 100
BOERNE, TEXAS 78006
OFFICE: 830.249.0600 FAX:830.249.0099
TEXAS REGISTERED ENGINEERING FIRM F-004512
CIVIL ENGINEERS SURVEYORS LAND PLANNERS CONSTRUCTION MANAGERS CONSULTANTS

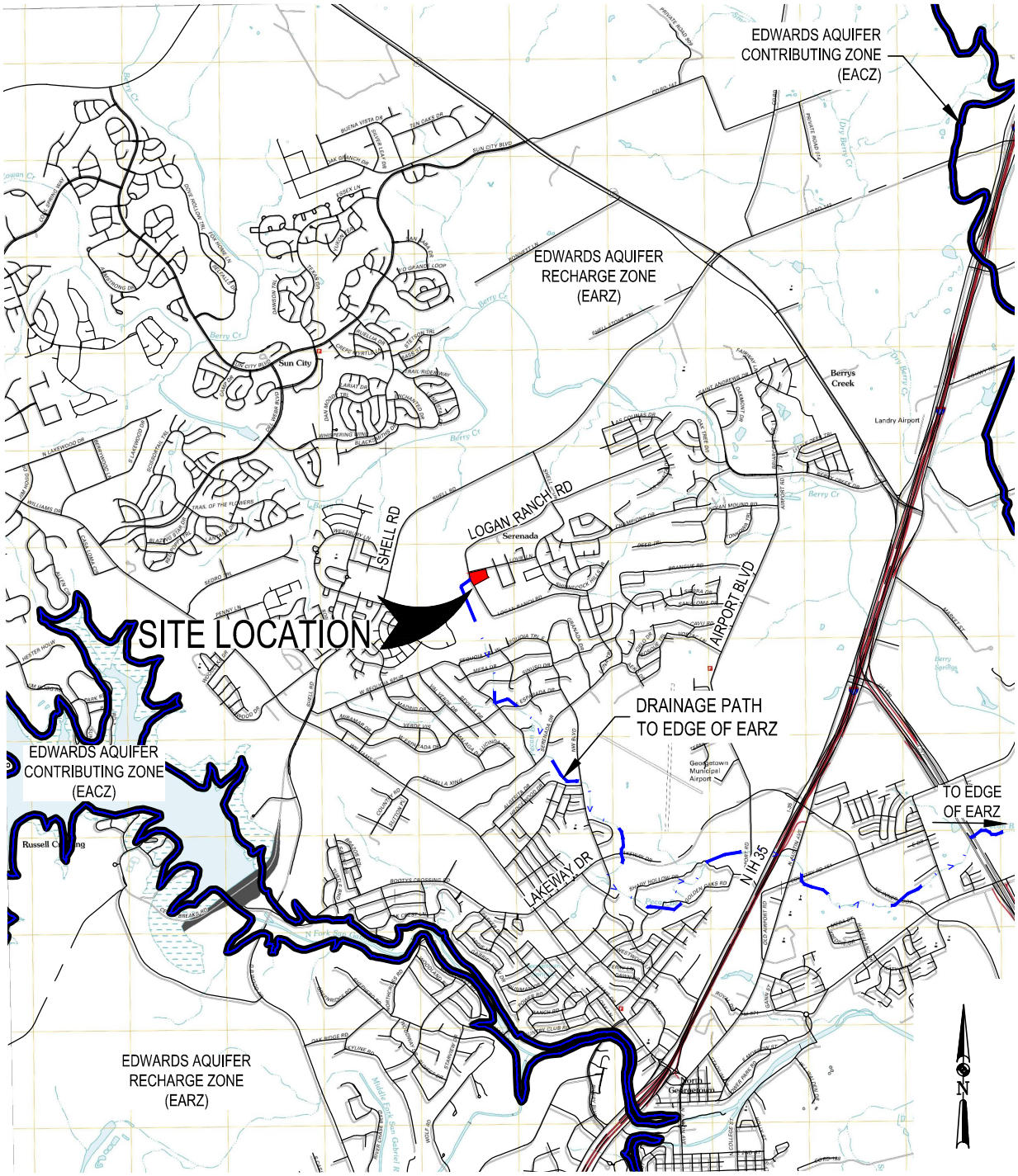
ROAD MAP

FOR
WILLHAUS AT GEORGETOWN
226 LOGAN RANCH RD.
GEORGETOWN, TX 78633

ATTACHMENT A

PROJECT NO.:	3459.00
DATE:	NOV 2024
DESIGNED:	MTA
CHECKED:	CLM
SHEET:	ATTACH. A

SHEET SIZE: 8.5" x 11"



SCALE: 1"= 5000'

0 2500' 5000'

QUADRANGLE: JARRELL

MATKINHOOVER
ENGINEERING
& SURVEYING
P.O. BOX 54
8 SPENCER ROAD SUITE 100
BOERNE, TEXAS 78006
OFFICE: 830.249.0600 FAX:830.249.0099
TEXAS REGISTERED ENGINEERING FIRM F-004512
CIVIL ENGINEERS SURVEYORS LAND PLANNERS CONSTRUCTION MANAGERS CONSULTANTS

USGS QUADRANGLE MAP

FOR
WILLHAUS AT GEORGETOWN
LOGAN RANCH RD.
GEORGETOWN, TX 78633

ATTACHMENT B

PROJECT NO.:	3459.00
DATE:	NOV 2024
DESIGNED:	MTA
CHECKED:	CLM
SHEET:	ATTACH. B

SHEET SIZE: 8.5" x 11"

WILLHAUS AT GEORGETOWN
PROJECT DESCRIPTION

---

1. Area of the Site

The project area is an existing 5.13-acre plated lot in the Logan Ranch subdivision that was disannexed from the City of Georgetown ETJ in December of 2023. Existing on-site is a residential building, several outbuildings, driveway, pool, and sidewalk paving. This site is located within the Edwards Aquifer Recharge Zone and drains to the San Gabriel River. The subject property is not encroached by FEMA-mapped floodplain with a Zone X classification as scaled from and identified by the U.S. Federal Emergency Management Agency boundary map 48491C0280E for Williamson County dated effective September 26, 2008. The subject property is located 2.85 miles Southwest of the intersection of Hwy 195 and Shell Road at the corner of Logan Ranch Road and Lovie Lane and having an address of 226 Logan Ranch Road, Georgetown, Texas 78628.

2. Offsite Area

The property is sided by existing 1-acre residential lots to the South and East and the public right of way of Logan Ranch Road and Lovie Lane to the North and West. A small portion of the off-site 1-acre residential tracts East drain onto the site.

3. Impervious cover

The existing on-site impervious cover is comprised of structures/rooftops, paving, pool and sidewalks and is approximately 12,146 square feet or 0.28 acres (5.45%). The total developed area of impervious cover including ultimate development will include pavement, driveways, sidewalks, and structures/rooftops with a total developed amount of impervious cover of 30,975 square feet or 0.71 acres (13.86%). The net increase in impervious cover for the site is 18,829 square feet or 0.43 acres (8.43%).

4. Permanent BMPs

BMPs being proposed consist of Natural and Engineered Vegetative Filter Strips located throughout the site.

5. Proposed site use

Willhaus at Georgetown is proposing to develop the 5.13-acre site as an assisted living/ retirement community and will expand the existing building, parking, and driveways to meet the requirements for the assisted living care center.

6. Site history and previous development

According to topographic maps and satellite imagery, the site has been a plated residential lot in the Logan Ranch subdivision since 1981 with existing improvements

located on the property since it was initially developed. The surrounding area consists of low-density residential land.

7. Area to be demolished

There is an existing pool that will be filled in and driveway that will be demolished and rebuilt as part of this development.

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BOERNE | GEORGETOWN
CONTACT@MATKINHOOVER.COM
OFFICE: 830.249.0600 FAX:830.249.0099

Willhaus at Georgetown

WPAP

Section III

Geological Assessment

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: D Bryan Pairsh Telephone: 512-535-4368

Date: 07/09/2024 Fax: 512-535-4451

Representing: Capitol Environmental, Inc TBPG Firm Registration #50389 (Name of Company and TBPG or TBPE registration number)

Signature of Geologist:

07/09/2024

Regulated Entity Name: 226 Logan Ranch Rd

Project Information

1. Date(s) Geologic Assessment was performed: June 24, 2024
2. Type of Project:
   - ☒ WPAP
   - ☐ SCS
   - ☐ AST
   - ☐ UST
3. Location of Project:
   - ☒ Recharge Zone
   - ☐ Transition Zone
   - ☐ Contributing Zone within the Transition Zone

4. ☒ **Attachment A - Geologic Assessment Table**. Completed Geologic Assessment Table (Form TCEQ-0585-Table) is attached.

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

Table 1 - Soil Units, Infiltration Characteristics and Thickness

Soil Name	Group*	Thickness(feet)

Soil Name	Group*	Thickness(feet)
Eckrant stony clay (EeB), 0-3 % slope	D	1-10'
Eckrant-Rock outcrop (ErE), rolling	D	1-10'

** Soil Group Definitions (Abbreviated)*

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

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

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

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

6. ☒ **Attachment B – Stratigraphic Column**. A stratigraphic column showing formations, members, and thicknesses is attached. The outcropping unit, if present, should be at the top of the stratigraphic column. Otherwise, the uppermost unit should be at the top of the stratigraphic column.

7. ☒ **Attachment C – Site Geology**. A narrative description of the site specific geology including any features identified in the Geologic Assessment Table, a discussion of the potential for fluid movement to the Edwards Aquifer, stratigraphy, structure(s), and karst characteristics is attached.

8. ☒ **Attachment D – Site Geologic Map(s)**. The Site Geologic Map must be the same scale as the applicant's Site Plan. The minimum scale is 1": 400'

   Applicant's Site Plan Scale: 1" = 100'
   Site Geologic Map Scale: 1" = 100'
   Site Soils Map Scale (if more than 1 soil type): 1" = 100'

9. Method of collecting positional data:

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

10. ☒ The project site and boundaries are clearly shown and labeled on the Site Geologic Map.

11. ☒ Surface geologic units are shown and labeled on the Site Geologic Map.

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

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

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

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

    ☒ There are 2 (#) wells present on the project site and the locations are shown and labeled. (Check all of the following that apply.)
    - ☐ The wells are not in use and have been properly abandoned.
    - ☐ The wells are not in use and will be properly abandoned.
    - ☒ The wells are in use and comply with 16 TAC Chapter 76.

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

Administrative Information

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

Attachment A – Geologic Table

GEOLOGIC ASSESSMENT TABLE

PROJECT NAME: LOGAN RANCH ROAD 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	
F-1	30.695472	-97.698750	O	5	Ked	0.5	2	1.5					O	15	20	X		X		HILLTOP
F-2	30.696362	-97.698451	MB	30	Ked	waterwell							X	5	35	X		X		HILLTOP
F-3	30.695848	-97.698724	MB	30	Ked	waterwell							X	5	35	X		X		HILLTOP

***DATUM**: NAD 83 StatePlane Texas Central

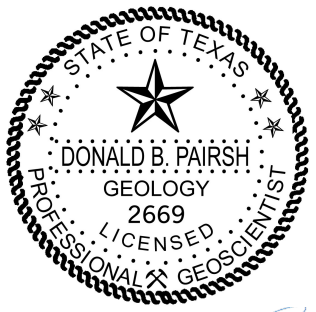
2A TYPE	TYPE	2B POINTS
C	Cave	30
SC	Solution cavity	20
SF	Solution-enlarged fracture(s)	20
F	Fault	20
O	Other natural bedrock features	5
MB	Manmade feature in bedrock	30
SW	Swallow hole	30
SH	Sinkhole	20
CD	Non-karst closed depression	5
Z	Zone, clustered or aligned features	30

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: 07/09/2024



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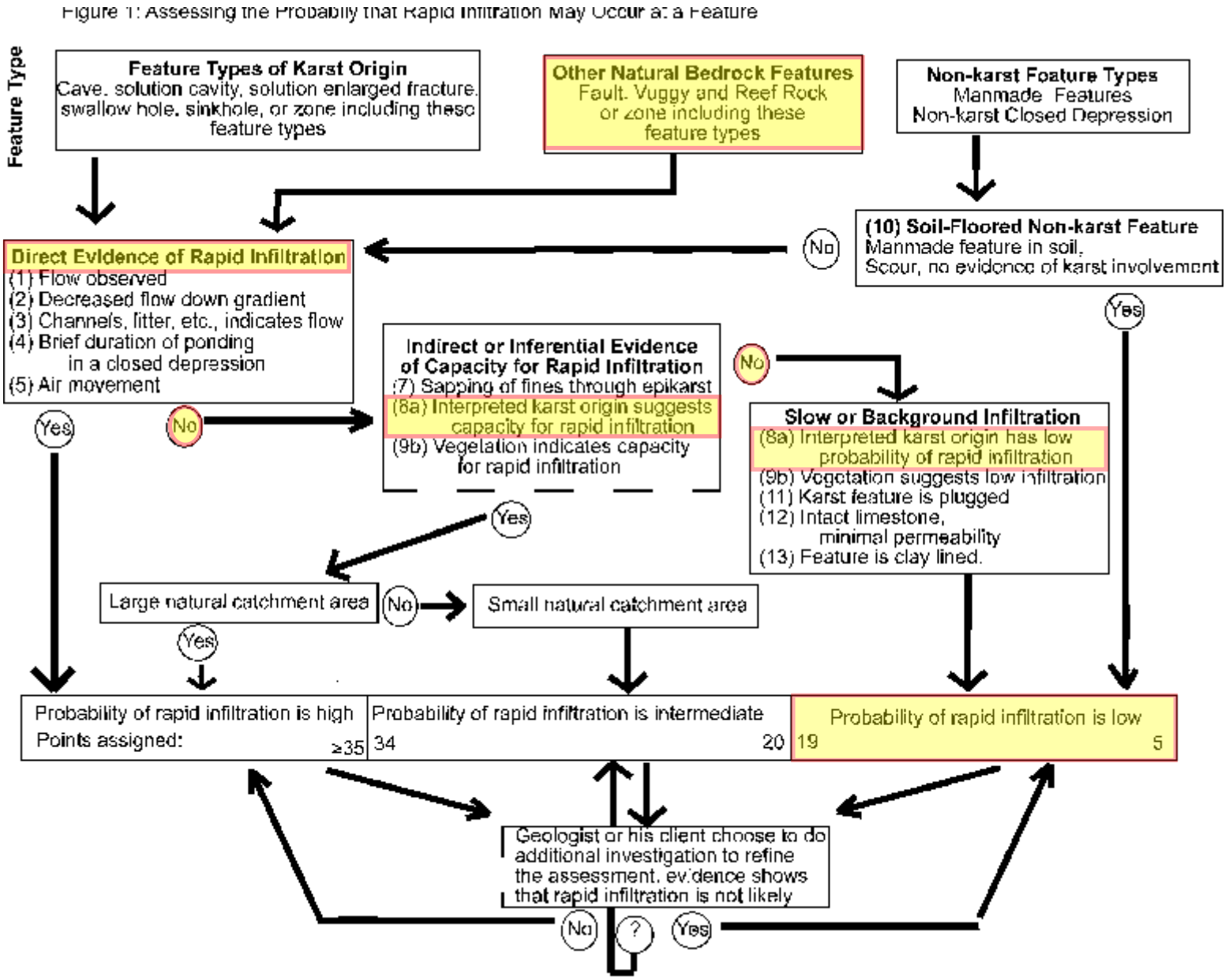
TCEQ-0585-Table (Rev. 10-01-04)

Sheet: 1 of 1

Feature F-1: Surface Outcrop



Feature F-2 & F-3: Water Wells

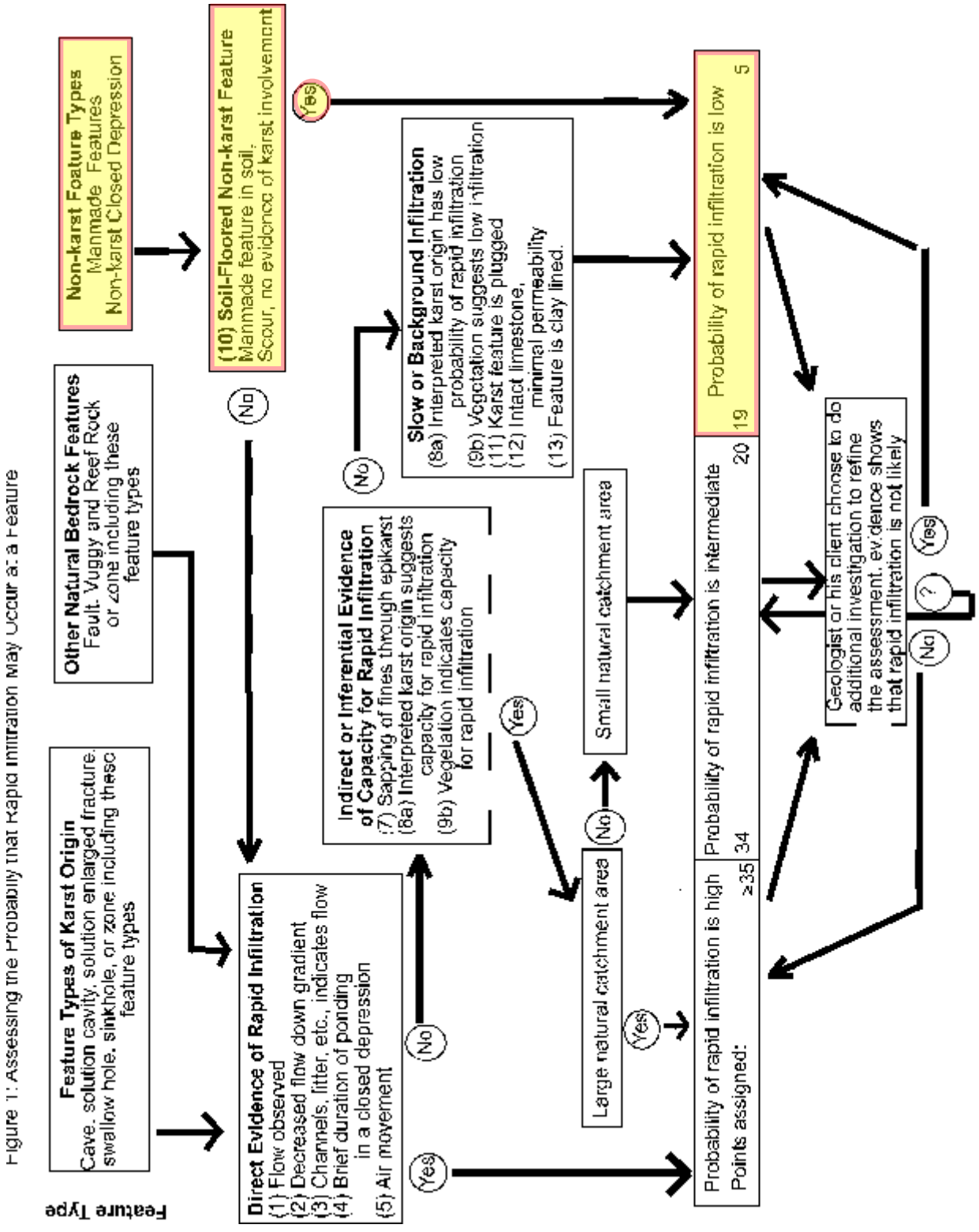
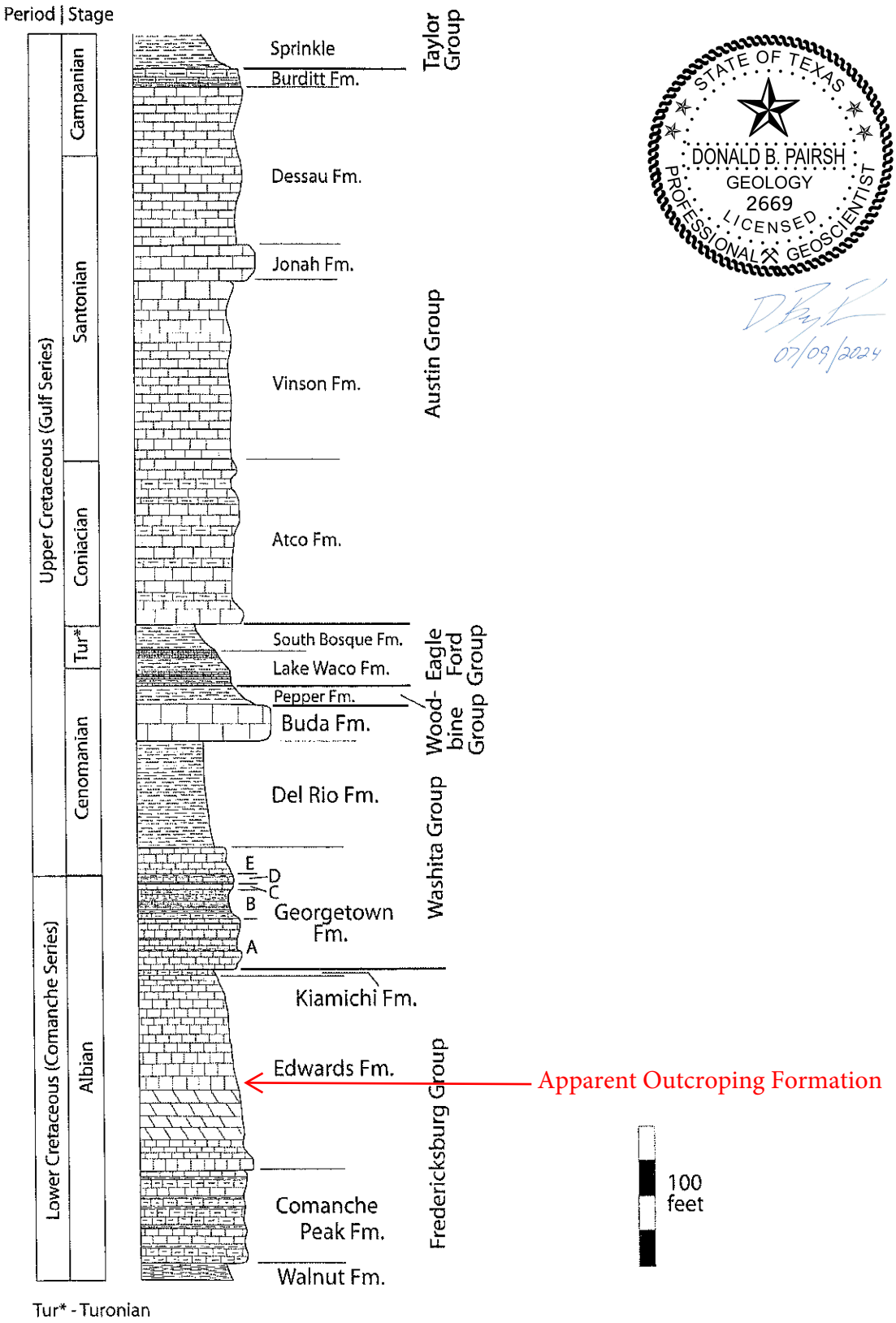


Figure 1: Assessing the Probability that Rapid Infiltration May Occur at a Feature

Attachment B – Stratigraphic Column

Generalized Stratigraphic Column of the Round Rock Area



STATE OF TEXAS
DONALD B. PAIRSH
GEOLOGY
2669
LICENSED
PROFESSIONAL GEOSCIENTIST

07/09/2024

Source:
Bedrock Geology of Round Rock and Surrounding Areas, Williamson and Travis Counties, Texas
By: Todd B. Housh

Attachment C – Site Geology

NARRATIVE DESCRIPTION OF SITE SPECIFIC GEOLOGY
LOGAN RANCH RD. TRACT
5.13 ACRE TRACT
GEORGETOWN, WILLIAMSON COUNTY, TEXAS
06/24/2024

LOCATION

The subject site is an approximate 5.13 acres, more or less, tract of land located at 226 Logan Ranch Rd. in Georgetown, Williamson County, Texasat approximately 30.695988° North Latitude and approximately -97.699041° West Longitude. This location lies within the designated Edwards Aquifer Recharge Zone. Therefore, future intended development of the site must conform to criteria in accordance with the Texas Commission on Environmental Quality (TCEQ) Edwards Aquifer Protection Program Rules in accordance with Title 30 of the Texas Administrative Code, Section 213 (30 TAC§ 213).

EXPLANATION OF ASSESSMENT

This assessment follows general guidelines contained in Texas Commission on Environmental Quality (TCEQ) "*Instruction for Geologist for Geologic Assessments on the Edwards Aquifer Recharge/Transition Zones"* (TCEQ Guidance 0585). The site is located on an area of the recharge zone that may contain karst features formed by selective solutioning of limestone minerals by water. Karst features may be expressed as surface features but more commonly tend to persist with depth. This assessment documents the presence or absence of site conditions that were present at the time the site visit that was performed on 06/24/2024. The site visit consisted of a walk through survey that consisted of a non-intrusive visual observation or survey of readily accessible, easily visible surface property conditions that were present on the subject property at the time of the site visit. Intrusive subsurface testing such as excavation, cave mapping, infiltrometer test, geophysical studies or tracer studies are not required for the geologic assessment of any feature in accordance with this practice.

A sensitive geologic or manmade feature, for the purpose of this practice is a feature on the recharge zone or transition zone of the Edwards Aquifer with a superficial appearance that suggest a potential for hydraulic interconnectedness between the surface and the Edwards Aquifer and that has the apparent potential for rapid infiltration into the subsurface.

PHYSICAL DESCRIPTION OF SITE

The subject site is currently a partially wooded residential tract.

SURFACE DRAINAGE

After reviewing the project site topographic survey, storm water runoff appears to flow toward the West.

SOIL DESCRIPTION

The site soil is composed of:

Eckrant extremely stony clay, 0 to 3 percent slopes (EeB), Hydrologic Group D

The Eckrant series consists of soils that are very shallow and shallow to indurated limestone bedrock and interbedded cryptocrystalline quartz, chert, marl, and chalk. These well drained soils formed in residuum derived from limestone. These nearly level to very steep soils are on summits, shoulders, and backslopes of ridges on dissected plateaus. Slope ranges from 1 to 60 percent. Mean annual air temperature is about 20 degrees C (68 degrees F), and the mean annual precipitation is about 668 mm (26 in). Well drained. Permeability is moderately slow. Runoff is very low on 1 to 3 percent slopes, low on 3 to 5 percent slopes, medium on 5 to 20 percent slopes, and high on 20 to 60 percent slopes.

Eckrant-Rock outcrop complex, rolling (ErE), Hydrologic Group D

The Eckrant series consists of soils that are very shallow and shallow to indurated limestone bedrock and interbedded cryptocrystalline quartz, chert, marl, and chalk. These well drained soils formed in residuum derived from limestone. These nearly level to very steep soils are on summits, shoulders, and backslopes of ridges on dissected plateaus. Slope ranges from 1 to 60 percent. Mean annual air temperature is about 20 degrees C (68 degrees F), and the mean annual precipitation is about 668 mm (26 in). Well drained. Permeability is moderately slow. Runoff is very low on 1 to 3 percent slopes, low on 3 to 5 percent slopes, medium on 5 to 20 percent slopes, and high on 20 to 60 percent slopes.

GEOLOGY

The site is located on the:

Edwards Limestone (Ked)

The Edwards Limestone consist of limestone, dolomite, and chert; limestone aphanitic to fine grained, massive to thin bedded, hard, brittle, in part rudistid biostromes, much miliolid biosparite; dolomite fine to very fine grained, porous, medium gray to grayish brown; chert, nodules and plates common, varies in amount from bed to bed, some intervals free of chert, mostly white to light gray; in zone of weathering considerably recrystallized, "honeycombed," and cavernous forming an aquifer; forms flat areas and plateaus bordered by scarps; thickness 60-350 feet, thins northward.

STRUCTURAL TREND and FEATURES:

The subject site is located on the Edwards Plateau within the Balcones / Ouachita structural province in central Texas. The Balcones / Ouachita structural province is an arcuate band of mostly down-to–the-coast normal faults that sub-parallels the Gulf of Mexico. In Williamson County, the regional structural trend of the Balcones / Ouachita province is generally southwest to northeast.

(Source: "*Lineament Analysis and Inference of Geologic Structure-Examples from the Balcones/Ouachita Trend of Texas.*" Curan, Woodfruff, Jr, and Thompson, 1982)

The site is not located in the vicinity of mapped regional faulting. No surface expressions of local structural features were observed during this assessment.

SITE SPECIFIC GEOLOGIC FEATURE DESCRIPTIONS
Identified 06/24/2024

To the extent that surface property features were readily accessible and observable at the time the site was evaluated on 06/24/2024 no geologic features were identified on the subject tract of land that has observed potential to affect recharge to the Edwards Aquifer except for the following:

F-1 O: **Other Natural Bedrock Feature - Surface Out Crop:** This feature appears to be a localized surface area of enhanced solutioning associated with fractured slabs or blocks of limestone in the weathering profile. Dis-solution of limestone in connection with this feature appears to have been controlled by localized bedding and shallow fracturing of exposed limestone bedrock located in a zone of apparent Epikarst. Epikarst is used herein to identify the zone of weathering at the upper surface of a limestone that includes the solutionally modified (karren) bedrock surface and associated regolith. The extent of weathering and dissolution diminishes with depth at this feature. This feature, as observed at the time of the assessment, is relatively shallow, soil floored with evidence of activity around opening indicative of an animal burrow.

Conditions observed in connection with this feature are not believed to persist in the subsurface at depth and do not appear to have a potential for hydraulic interconnectedness between the surface and the Edwards Aquifer. Therefore, this feature is not identified as a sensitive feature at this time.

F-2 MB: **Manmade Feature, Water Well:** Assuming that this water well will be properly completed in accordance with Texas Department of Licensing and Regulation Water Well Drillers and Pump Installers 16 TAC § 76 (TOC § 1901.253 Completing Water Wells), this feature should not have a potential for hydraulic interconnectedness between the surface and the Edwards Aquifer. Therefore, this feature is not identified as a sensitive feature at this time.

F-3 MB: **Manmade Feature, Water Well:** Assuming that this water well was properly completed in accordance with Texas Department of Licensing and Regulation Water Well Drillers and Pump Installers 16 TAC § 76 (TOC § 1901.253 Completing Water Wells), this feature should not have a potential for hydraulic interconnectedness between the surface and the Edwards Aquifer. Therefore, this feature is not identified as a sensitive feature at this time.

OBSERVATIONS

To the extent that surface property features were readily accessible and observable at the time the site was evaluated on 06/24/2024 no sensitive features were identified on the subject tract of land that has observed potential to affect recharge to the Edwards Aquifer.

CONCLUDING STATEMENTS

The Client understands that no non-intrusive visual observation or survey can wholly eliminate uncertainty regarding the possible presence of geologic conditions in connection with the subject

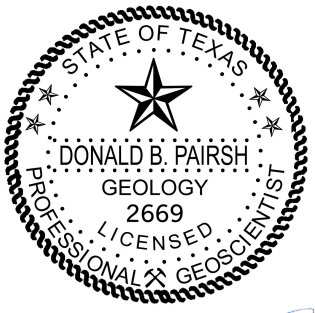
property. Due to the inherent limits in connection with the agreed Scope of Work, this report does not address uncertainty about site conditions across those portions of the subject property not specifically addressed in this report.

Development of the site is planned. Additional modification of site surface conditions can be expected as construction proceeds. Unsuspected solution enlarged fractures, caves and cavities may be discovered during construction operations.

This assessment does not address the possible presence of subsurface conditions that may be exposed during construction operations. Should solution features or conditions be exposed during construction operations that indicate a potential for hydraulic interconnectedness between the surface and the Edwards Aquifer, operations in the vicinity of the feature should be halted and the Texas Commission on Environmental Quality (TCEQ) Edwards Aquifer Protection Program should be contacted immediately in accordance with 30 TAC §213.5(f)(2).

Respectfully,

D Bryan Pairsh, P.G.
Project Geologist
Capitol Environmental, Inc
TBPG Firm Registration #50389
Austin, Texas



07/09/2024

DISCLAIMER:

Under standard geologic assessment practice, this assessment is an assessment of surface property conditions that were readily accessible and easily visible at the time of the assessment.

Services performed under this contract were conducted in a manner consistent with the level of care and skill ordinarily exercised by members of the profession currently practicing under similar conditions. Under standard geologic assessment practice, information developed in this report represents an assessment of environmental conditions observed as present or absent on portions of the surface of the subject property at the time of the assessment. The field observations, measurements and research reported in this report are considered sufficient in detail and scope to form a contained assessment of discrete portions of the subject property. Capitol warrants that the findings and conclusions contained in this report have been prepared in accordance with generally accepted methods normal for the subject site described in this report.

Not every property will warrant the same level of assessment. Consistent with good commercial and customary practice, the appropriate level of assessment will be guided by the type of property subject to assessment, the expertise and risk tolerance of the Client and information developed in the course of the inquiry. The Assessment has been developed to provide the Client with information regarding apparent indications of the presence of absence of geologic conditions relating to the surface of the subject site. The Geologic Assessment report is necessarily limited to the conditions observed and to the information available at the time the work was performed. Due to the limited nature of the work, there is a possibility that conditions may exist in connection with the subject site which could not be identified within the scope of this assessment practice or which were not easily visible or not disclosed at the time the report was prepared.

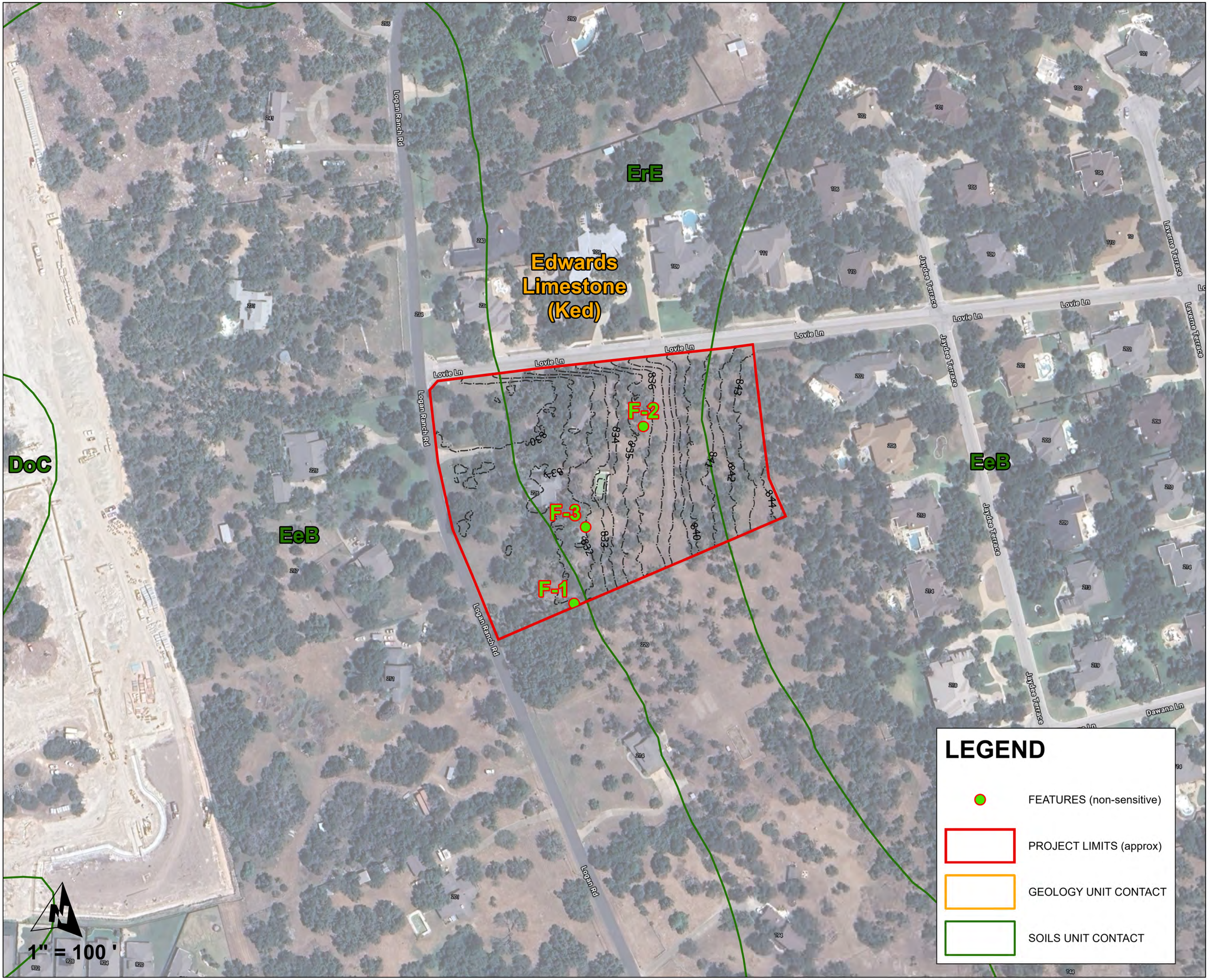
It is also possible that assessment methods employed at the time the report was prepared may be later superseded by more discrete assessment methods. The definition of a “sensitive geologic feature” and / or a “critical environmental feature” can also change statutorily over time. Capitol does not warrant the content or findings of this report in the event of changes in conditions in connection with the subject property; in the event of changes in assessment methods; or in the event of changes in statute that may apply to the subject property in the future.

In preparing this report, Capitol has relied on information derived from third party sources and personal interviews, as well as other investigative work. Except as set forth in this report, Capitol has made no independent investigation as to the accuracy or completeness of the information derived from third party sources.

This report does not address uncertainty about site conditions across those portions of the subject property not specifically assessed in this report. The Client understands that no surface assessment can wholly eliminate uncertainty regarding the possible presence of geologic conditions at depth in connection with the subject property. The Client should recognize that conditions elsewhere in the assessment area may differ from those at the study /sample locations, and that surface conditions described in the assessment practice herein may change at depth. This assessment should not to be used as a basis for engineering design.

This report was prepared for the Client, to identify the presence or absence of geologic conditions on surface portions of the subject property. Any use of this report for other purposes or any use of information presented in this report by other parties other than the Client is the Client’s responsibility.

Attachment D – Site Geologic Map & Site Soil Site Map



TBPG Firm Registration #50389

CAPITOL ENVIRONMENTAL

512.535.4368

www.capitolenvironmental.com

LOGAN RANCH ROAD TRACT

GEOLOGIC & SOILS SITE MAP

Prepared under the supervision of: D. Bryan Pairsh, P. G.

Date: 08/03/2022

STATE OF TEXAS
DONALD B. PAIRSH
GEOLOGY
2669
LICENSED
PROFESSIONAL GEOSCIENTIST

07/09/2024

Not For Construction or Building Purposes

Sheet No. 1 of 1

NARRATIVE DESCRIPTION OF ADDITIONAL INVESTIGATION
LOGAN RANCH RD. TRACT
5.13 ACRE TRACT
CITY OF GEORGETOWN
EDWARDS AQUIFER RECHARGE ZONE WATER QUALITY ORDINANCE
06/24/2024

PROJECT INFORMATION

The subject site is an approximate 5.13 acres, more or less, tract(s) of land located at 226 Logan Ranch Rd. in Georgetown, Williamson County, Texas at approximately 30.695988° North Latitude and approximately -97.699041° West Longitude. This proposed development project location lies within the designated Edwards Aquifer Recharge Zone and the mapped limits of the City of Georgetown.

The City of Georgetown recently adopted the Edwards Aquifer Recharge Zone Water Quality Ordinance (the Ordinance). The Ordinance applies to all property within the corporate limits of the City of Georgetown and the within the limit of its ETJ. The Ordinance adopted local regulations intended to protect water quality for spring and stream features in the Edwards Aquifer recharge zone and to identify and protect habitat of the Georgetown Salamander.

City of Georgetown Edwards Aquifer Recharge Zone Water Quality Ordinance:

Information found in this assessment addresses site conditions that were observed by Capitol Environmental on 06/24/2024. In accordance with the City of Georgetown Edwards Aquifer Recharge Zone Water Quality Ordinance (Ordinance), the following matters are respectfully addressed:

[a] Identify the presence or absence of all springs and streams on the subject property or; Certify that no springs or streams exist as “Springs” and “Streams” as these terms are defined in the Ordinance.

- Comment: No “Springs” or “Streams” are identified in connection with the subject property.

[b] Describe, if any, each spring and/or stream on a site as defined in the Ordinance, including determining the location of any spring outlet or stream.

- Comment: No “Springs” or “Streams” are identified in connection with the subject property.

[c] For Occupied Sites identified in Section 2 of the Ordinance, delineate the No-Disturbance Zone and the Minimal- Disturbance Zone as described in Section 4 of The Ordinance.

- Comment: The subject property is not located within an “Occupied Site” as defined in the Ordinance and as shown on Exhibit A, attached thereto.

- Comment: The subject property, therefore, is not located within a City of Georgetown mapped No-Disturbance Zone (Red Zone), therefore, the establishment of a City of Georgetown “Minimal-Distance Zone (Orange Zone) is not warranted.

[d] Spring Buffer and Stream Buffer Protection of Non-Occupied Sites. The subject property is identified as a "Non-Occupied Site" as defined in the Ordinance and as shown on Exhibit A, attached thereto.

- Comment: No "Springs" or "Streams" are identified in connection with the subject property. Therefore, a stream buffer coincidental with the FEMA 1% Floodplain to protect water quality for spring and stream features in the Edwards Aquifer Recharge Zone in accordance with the Ordinance is not warranted.

[e] All Red Zones, Orange Zones and spring and stream buffers as required in the Ordinance will be shown on all Plats, Site Plan and infrastructure Construction Plans.

- Comment: Based on the above conditions, no spring and / or stream buffers are required to be shown on Plats, Site Plan and infrastructure Construction Plans.

CONCLUDING STATEMENTS

This Letter Report is prepared in response to City of Georgetown Ordinance Number 2013-59. As such, it is necessarily a stand apart document that does not conform to, nor is it a required part of a Geologic Assessment as required by Title 30, Texas Administrative Code Chapter 213.5.

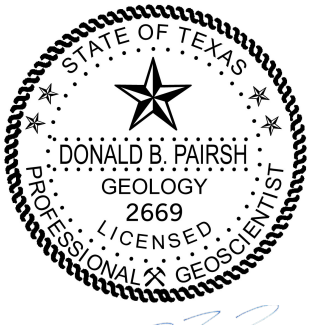
The Client understands that no survey can wholly eliminate uncertainty regarding the possible presence of geologic conditions in connection with the subject property. Due to the inherent limits in connection with the agreed Scope of Work, this report does not address uncertainty about site conditions across those portions of the subject property not specifically addressed in this report.

Development of the site is planned. Additional modification of site surface conditions can be expected as construction proceeds. Unsuspected solution enlarged fractures, caves and cavities may be discovered during construction operations.

This investigation does not address the possible presence of subsurface conditions that may be exposed during construction operations. Should solution features or conditions be exposed during construction operations that indicate a potential for hydraulic interconnectedness between the surface and the Edwards Aquifer, operations in the vicinity of the feature should be halted and the Texas Commission on Environmental Quality (TCEQ) Edwards Aquifer Protection Program should be contacted immediately in accordance with 30 TAC §213.5(f)(2).

Prepared by:

D Bryan Pairsh, P.G.
Project Geologist
Capitol Environmental, Inc.
TBPG Firm Registration #50389
Austin, Texas



07/09/2024

MATKINHOOVER
ENGINEERING & SURVEYING
BOERNE | GEORGETOWN
CONTACT@MATKINHOOVER.COM
OFFICE: 830.249.0600 FAX:830.249.0099

Willhaus at Georgetown

WPAP

Section IV

WPAP Application Form

Water Pollution Abatement Plan Application

Texas Commission on Environmental Quality

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

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

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

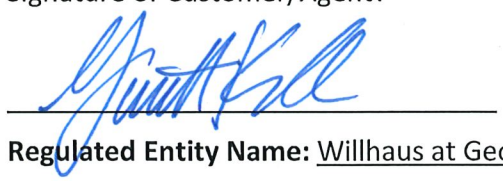
Signature

To the best of my knowledge, the responses to this form accurately reflect all information requested concerning the proposed regulated activities and methods to protect the Edwards Aquifer. This **Water Pollution Abatement Plan Application Form** is hereby submitted for TCEQ review and Executive Director approval. The form was prepared by:

Print Name of Customer/Agent: Garrett Keller

Date: 12/16/24

Signature of Customer/Agent:



Regulated Entity Name: Willhaus at Georgetown

Regulated Entity Information

1. The type of project is:

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

2. Total site acreage (size of property):5.13

3. Estimated projected population:32

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

Table 1 - Impervious Cover Table

Impervious Cover of Proposed Project	Sq. Ft.	Sq. Ft./Acre	Acres
Structures/Rooftops	14,049	÷ 43,560 =	0.32
Parking	10,795	÷ 43,560 =	0.25
Other paved surfaces	6,131	÷ 43,560 =	0.14
Total Impervious Cover	30,975	÷ 43,560 =	0.71

Total Impervious Cover 0.71 **÷ Total Acreage** 5.13 **X 100 =** 13.86**% Impervious Cover**

5. ☒ **Attachment A - Factors Affecting Surface Water Quality**. A detailed description of all factors that could affect surface water and groundwater quality that addresses ultimate land use is attached.

6. ☐ Only inert materials as defined by 30 TAC §330.2 will be used as fill material.

For Road Projects Only

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

7. Type of project:

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

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

   ☐ Concrete
   ☐ Asphaltic concrete pavement
   ☐ Other: _____

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

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

10. 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.

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

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

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

Stormwater to be generated by the Proposed Project

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

Wastewater to be generated by the Proposed Project

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

100% Domestic	2800 Gallons/day
_____% Industrial	_____Gallons/day
_____% Commingled	_____Gallons/day

TOTAL gallons/day 2800

15. Wastewater will be disposed of by:

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

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

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

☐ Sewage Collection System (Sewer Lines):

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

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

☐ The SCS was previously submitted on_____.

☐ The SCS was submitted with this application.

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

☐ The sewage collection system will convey the wastewater to the _____ (name) Treatment Plant. The treatment facility is:

☐ Existing.
☐ Proposed.

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

Site Plan Requirements

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

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

Site Plan Scale: 1" = 30'.

18. 100-year floodplain boundaries:

☐ Some part(s) of the project site is located within the 100-year floodplain. The floodplain is shown and labeled.
☒ No part of the project site is located within the 100-year floodplain.
The 100-year floodplain boundaries are based on the following specific (including date of material) sources(s): FEMA FIRM MAP 48491C0280E dated September 26, 2008

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

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

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

☒ There are 2 (#) wells present on the project site and the locations are shown and labeled. (Check all of the following that apply)

☐ The wells are not in use and have been properly abandoned.
☒ The wells are not in use and will be properly abandoned.
☐ The wells are in use and comply with 16 TAC §76.

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

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

☐ All sensitive geologic or manmade features identified in the Geologic Assessment are shown and labeled.
☒ No sensitive geologic or manmade features were identified in the Geologic Assessment.
☐ **Attachment D - Exception to the Required Geologic Assessment.** A request and justification for an exception to a portion of the Geologic Assessment is attached.

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

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

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

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

26. ☐ Surface waters (including wetlands).

    ☒ N/A

27. ☐ Locations where stormwater discharges to surface water or sensitive features are to occur.

    ☒ There will be no discharges to surface water or sensitive features.

28. ☒ Legal boundaries of the site are shown.

Administrative Information

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

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

Potential sources of pollution that may reasonably be expected to affect the quality of stormwater discharges from the site during construction include:

- Soil erosion due to the clearing of the site
- Oil, grease, fuel, and hydraulic fluid contamination from construction equipment and vehicle drippings
- Hydrocarbons from asphalt paving operations
- Miscellaneous trash and litter from construction operations and material wrappings

Potential sources of pollution that may reasonably be expected to affect the quality of stormwater discharges from the site after construction include:

- Oil, grease, fuel and hydraulic fluid contamination from vehicle drippings
- Dirt and dust that may fall off vehicles
- Miscellaneous trash and litter

The 5.13 acres of this development will consist of one building and the construction of driveways, parking area, utilities, and other appurtenances.

The SCS Curve Number method with a type III rainfall distribution was utilized for onsite watersheds (CP-1). Time of concentration values and the SCS curve numbers used for these calculations were established using the Williamson County Subdivision Regulations and City of Austing Drainage Criteria Manual. HEC-HMS was used to calculate the storm water runoff for the 100-year storm event for CP-1. Below is a summary of the pre-developed and post–developed runoff:

CP-1

Pre-Development Runoff:

	CN	Area (acres)	Runoff (cfs)
Q_{100}	82.4	6.53	**27.4**

Post-Development Runoff:

	CN	I.C. (%)	Area (acres)	Runoff (cfs)
Q_{100}	82.4	15.87	6.53	**27.3**

See Attached Letter on next page

Department of Infrastructure
County Engineer's Office
3151 SE Inner Loop, Ste B
Georgetown, TX 78626
T: 512.943.3330
F: 512.943.3335

J. Terron Evertson, PE, DR, CFM

WILLIAMSON COUNTY
1848

February 4, 2025

Frank Hauser
226 Logan Ranch Rd.
Georgetown, Texas 78628

RE: 226 Logan Ranch Rd., Georgetown, TX 78628
S4012 – Logan Ranch, Lot 62, ACRES 5.13

The above referenced property is located within the Edwards Aquifer Recharge Zone.

Based on the surrounding subdivisions and the soil survey for Williamson County and planning material received, this office is able to determine that the soil and site conditions of this lot is suitable to allow the use of on-site sewage facilities (OSSF). It should be noted that this office has not actually studied the physical properties of this site. Site specific conditions such as OSSF setbacks, recharge features, drainage, soil conditions, etc…, will need taken into account in planning any OSSF.

These OSSF's will have to be designed by a professional engineer or a registered sanitarian. An Edwards Aquifer protection plan shall be approved by the appropriate TCEQ regional office before an authorization to construct an OSSF may be issued. The owner will be required to inform each prospective buyer, lessee or renter of the following in writing:

- That an authorization to construct shall be required before an OSSF can be constructed in the subdivision;
- That a notice of approval shall be required for the operation of an OSSF;
- Whether an application for a water pollution abatement plan as defined in Chapter 213 has been made, whether it has been approved and if any restrictions or conditions have been placed on the approval.

If this office can be of further assistance, please do not hesitate to call.

Sincerely,

D. E. McPeters

Doug McPeters, OS 8626
Williamson County - OSSF

OS 8626

See Attachment F - Construction Plans in Permanent Stormwater Section

MATKINHOOVER
ENGINEERING & SURVEYING
BOERNE | GEORGETOWN
CONTACT@MATKINHOOVER.COM
OFFICE: 830.249.0600 FAX:830.249.0099

Willhaus at Georgetown

WPAP

Section V

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: Garrett Keller, P.E.

Date: 12/16/24

Signature of Customer/Agent:

Regulated Entity Name: Willhaus at Georgetown

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: Berry 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.

General Response Actions

1. All leaks and spills should be cleaned immediately.
2. Rags, mops, and absorbent material may all be used to cleanup a spill.
3. If these materials are used to clean a hazardous material, then they must be disposed of as hazardous waste.
4. Never hose down or bury dry material spills.

Minor Spills

If a minor spill occurs (typically small quantities of oil, gasoline, etc.) the following actions should be taken.

1. Contain the spread of the spill
2. Recover spilled materials
3. Clean the contaminated area and properly dispose of contaminated materials

Semi-Significant Spills

If a semi-significant spill occurs the following actions should be taken.

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

Significant/Hazardous Spills

If a significant or hazardous spill occurs in reportable quantities the following actions should be taken.

1. 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.
2. For spills of federal reportable quantities, in conformance with the requirements in 40 CFR parts 110, 119, and 302, the contactor should notify the National Response Center at 1-800-424-8802 or via the webpage at https://www.tceq.texas.gov/response/spills/spill_rq.html
3. Notification should first be made by telephone and followed up with a written report.
4. The services of a spills contractor or a Haz-Mat team should be obtained immediately. Construction personnel should not attempt to clean up until the appropriate and qualified staffs have arrived at the job site.
5. Other agencies which may need to be consulted include, but are not limited to, the City Police Department, County Sheriff Office, Fire Departments, etc.

WILLHAUS AT GEORGETOWN
POTENTIAL SOURCES OF CONTAMINATION

Potential sources of contamination that may occur are:

- Oil, grease, fuel, and hydraulic fluid from construction equipment and vehicle drippings
- Miscellaneous trash and litter from construction workers and material wrappings
- Construction debris
- Excess application of fertilizers, herbicides, and pesticides

Preventative measures that will be taken to reduce contamination are:

- Vehicle maintenance will be performed within the construction staging area
- Trash containers will be placed throughout the site to encourage proper trash disposal if necessary
- Construction debris will be monitored daily by the contractor. Debris will be collected weekly and placed in disposal bins. Situations requiring immediate attention will be addressed on a case by case basis
- Fertilizers, herbicides, and pesticides will be applied only when necessary and in accordance with manufacturer's directions

Building, Paving and Utility Construction

1. Mobilization of the contractor's equipment: (.5 acres disturbed)
2. Installation of temporary best management practices as described in attachment "D" of this section (Silt Fence, Construction Entrance, and Rock Berms).
3. Rough Site Grading. (3.43 acres disturbed)
4. Trenching and installation of utilities: (no additional disturbed area)
5. Building Construction: (no additional disturbed area)
6. Paving Construction: (no additional disturbed area)
7. Construction of permanent best management practices. (Vegetative Filter Strips. See Permanent Stormwater Section attachment "F")
8. Establishment of permanent soil stabilization: (no additional disturbed area)
9. Final Cleanup

a. All upgradient stormwater entering the site will be treated by the BMPs that will prevent pollution of surface water or groundwater that originates on-site or flows off site. See a list of these BMPs in section "b."

b. The BMPs that will prevent pollution of surface water or groundwater that originates on-site or flows off site are:

i. **Temporary Construction Entrance/Exit** – The installation of a stabilized construction entrance/exit will reduce the dispersion of sediment from the site. See Sheet 2 of the WPAP Site Plan which contains a copy of Section 1.4.2 from the Edwards Aquifer Rules: Technical Guidance on Best Management Practices for materials, installation, common trouble points, inspection and maintenance.

ii. **Silt Fence** – The erection of silt fence along the boundary of construction activities will provide temporary erosion and sedimentation control. See Sheet 2 of the WPAP Site Plan which contains a copy of Section 1.4.3 from the Edwards Aquifer Rules: Technical Guidance on Best Management Practices for materials, installation, common trouble points, inspection and maintenance.

iii. **Rock Berm** – The use of rock berms throughout the site will provide temporary erosion and sedimentation control. See Sheet 2 of the WPAP Site Plan which contains a copy of Section 1.4.5 from the Edwards Aquifer Rules: Technical Guidance on Best Management Practices for materials, installation, common trouble points, inspection and maintenance.

iv. **Inlet Protection –** The installation of inlet protection consisting of permeable barriers will provide removal of sediment prior to it entering storm drain inlets. Install protection at storm sewer inlets that are operable during construction. Inlet protection materials should be approved by local jurisdiction prior to installation and should ensure that flows are treated and able to enter the storm drain without causing local flooding.

v. **Construction Staging Area** – The construction staging area will provide on-site pollution prevention.

vi. **Concrete Truck Washout Pit** – A concrete truck washout pit aids in the final cleanup and prevents unnecessary discharge of concrete residue from contaminating the storm water runoff. See Sheet 2 of the WPAP Site Plan which contains a copy of Section 1.4.18 from the Edwards Aquifer Rules: Technical Guidance on Best Management Practices for materials, installation, common trouble points, inspection and maintenance.

c. Silt fence and rock berms (see section "b") will be used to prevent sediment-laden runoff from entering sensitive features on this site and surface streams off the site.

d. The flow to the natural sensitive features on this site, to a maximum practical extent, will not be disturbed. No clearing, excavation or grading will occur within the buffer zone of the sensitive feature. If another naturally occurring sensitive feature is identified during construction all activity will be stopped and the contractor should notify TCEQ.

Structural practices installed to prevent the runoff of pollutants from exposed areas of the site are:

- Silt fence
- Stabilized Construction Entrance/Exit
- Construction Staging Area
- Concrete Truck Washout Pit
- Rock Berm
- Inlet Protection

For the majority of the disturbed soil within the limits of this project, silt fence will capture and hold sediment laden runoff.

Since no part of this site is located within the floodplain, placement of these structure practices within the floodplain is avoided.

Date: Feb 13, 2025, 3:10pm User ID: tkulbeth

POST-DEVELOPMENT DRAINAGE CALCULATIONS (NRCS; SCS Curve Number Method) - Williamson County

Governing References:
City of Austin, Drainage Criteria Manual

Climatic Adjustment of NRCS Runoff Curve Number (TXDOT)

Manning's n: CoA DCM, Table 2-4 — P_2 YR = 3.94 — Travel Time: CoA DCM, eq. 2-3

Travel Time: CoA DCM, eq. 2-5 or 2-6

Travel Time: CoA DCM, eq. 2-8

$T_C = T_S + T_{SC} + T_{CH}$; $T_{lag} = 0.6(T_C)$

WATERSHEDS							SHEET FLOW				SHALLOW CONCENTRATED FLOW					CHANNEL / REACH				T_C	T_{lag}	Q(cfs)			
COMP. POINT	CONTRIB-UTING AREAS	AREA ACREAGE (Ac.)	SQUARE MILES (mi^2)	COMPOSITE CN	ADJUSTED CN	IMPERVIOUS COVER	n	L	s	T_S	PAVED	L	s	vel.	T_{SC}	L	s	vel.	T_{CH}			2	10	25	100
								(ft)	(%)	(Min)	(Y/N)	(ft)	(%)	(ft/s)	(Min)	(ft)	(%)	(ft/s)	(Min)	(Min)	(Min)				
	A1	3.60	0.005625	82.4	67.4	11.40%	0.40	100	3.5%	15.52	N	365	0.9%	1.5	4.0	0	0.0%	3.3	0.0	19.5	11.7	4.8	10.5	14.8	22.1
	A2	2.93	0.004578	82.4	67.4	0.22%	0.40	100	0.4%	36.84	N	363	2.7%	2.6	2.3	0	0.0%	6.0	0.0	39.1	23.5	2.4	6.0	8.8	13.6
CP-1	A1,A2	6.53	0.010203																			6.4	14.8	21.2	32.2

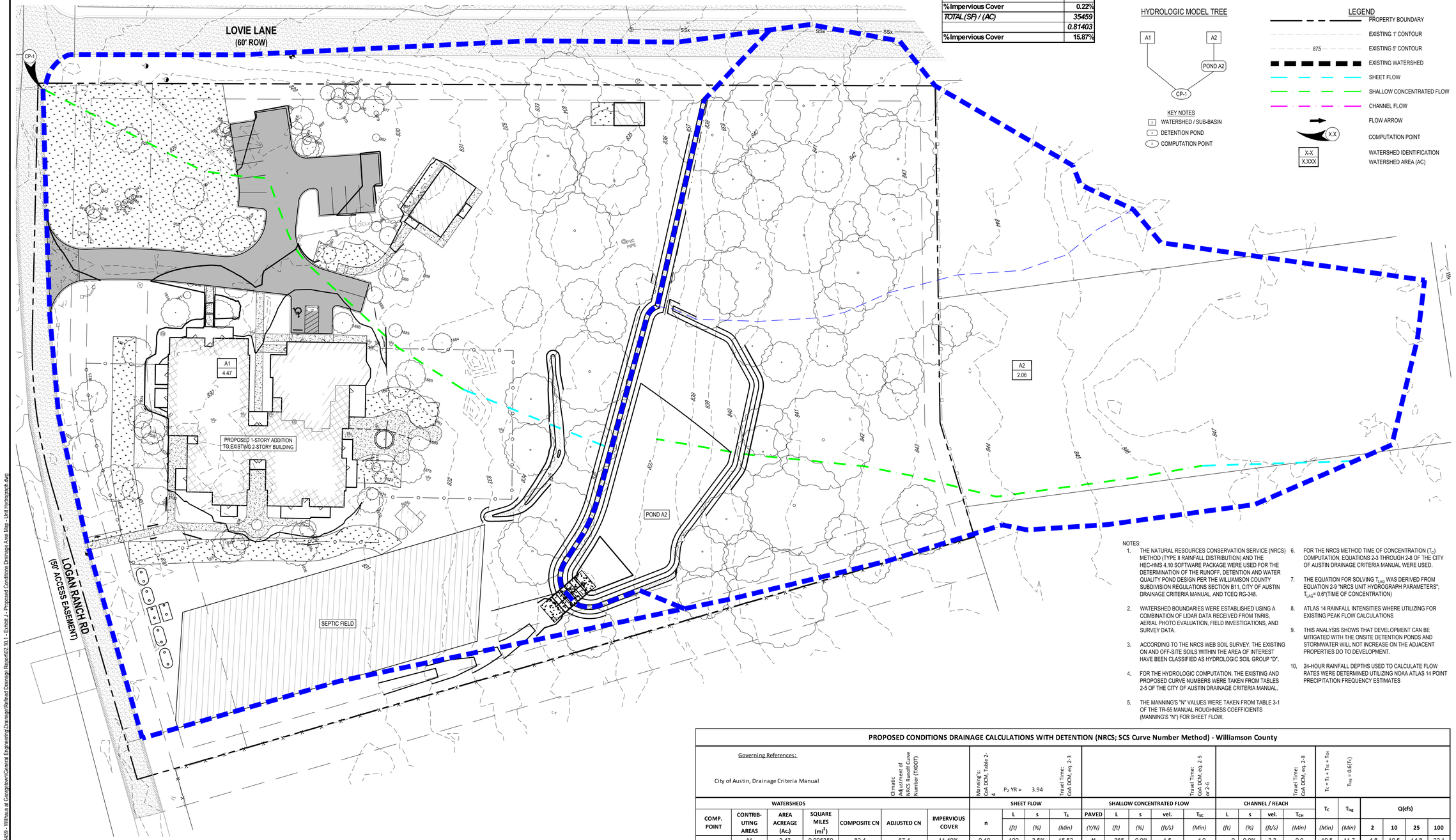
IMPERVIOUS COVER CALCULATIONS

EXISTING WATERSHED A	
BUILDING (SF)	3845
PAVEMENT (SF)	5183
PUBLIC ROADWAY (SF)	4933
MISC (SF)	3118
TOTAL (SF) / (AC)	**17079**
	0.39
% Impervious Cover	**7.64%**

PROPOSED IMPERVIOUS COVER	
WATERSHED A1	
TOTAL AREA (AC)	**3.6**
BUILDING (SF)	14283
PAVEMENT (SF)	10795
PUBLIC ROADWAY (SF)	4933
SIDEWALK (SF)	4448
MISCELLANEOUS (SF)	500
SUBTOTAL (SF)	**34959**
	0.80
% Impervious Cover (PRIC-EXIC) / Area	**11.40%**
WATERSHED A2	
TOTAL AREA (AC)	**2.93**
MISCELLANEOUS (SF)	500
SUBTOTAL (SF)	**500**
	0.01
% Impervious Cover	**0.22%**
TOTAL (SF) / (AC)	***35459***
	0.81403
% Impervious Cover	**15.87%**

EXISTING CONDITIONS V. PROPOSED CONDITIONS SUMMARY

		5-year (cfs)	10-year (cfs)	25-year (cfs)	100-year (cfs)
CP-1	Existing Conditions	4.9	12.2	17.7	27.4
	Proposed Conditions	6.4	14.8	21.2	32.2
	Proposed Conditions w/ Detention	4.9	10.7	14.9	27.3
	Difference	*0.0*	*1.5*	*2.8*	*0.1*
	Percent Change	0.0%	-12.3%	-15.6%	-0.4%



HYDROLOGIC MODEL TREE

KEY NOTES
- x — WATERSHED / SUB-BASIN
- x — DETENTION POND
- x — COMPUTATION POINT

LEGEND

- PROPERTY BOUNDARY
- EXISTING 1' CONTOUR
- 875 — EXISTING 5' CONTOUR
- EXISTING WATERSHED
- SHEET FLOW
- SHALLOW CONCENTRATED FLOW
- CHANNEL FLOW
- FLOW ARROW
- X.X — COMPUTATION POINT
- X-X / X.XXX — WATERSHED IDENTIFICATION / WATERSHED AREA (AC)

NOTES:
1. THE NATURAL RESOURCES CONSERVATION SERVICE (NRCS) METHOD (TYPE II RAINFALL DISTRIBUTION) AND THE HEC-HMS 4.10 SOFTWARE PACKAGE WERE USED FOR THE DETERMINATION OF THE RUNOFF, DETENTION AND WATER QUALITY POND DESIGN PER THE WILLIAMSON COUNTY SUBDIVISION REGULATIONS SECTION B11, CITY OF AUSTIN DRAINAGE CRITERIA MANUAL, AND TCEQ RG-348.
2. WATERSHED BOUNDARIES WERE ESTABLISHED USING A COMBINATION OF LIDAR DATA RECEIVED FROM TNRIS, AERIAL PHOTO EVALUATION, FIELD INVESTIGATIONS, AND SURVEY DATA.
3. ACCORDING TO THE NRCS WEB SOIL SURVEY, THE EXISTING ON AND OFF-SITE SOILS WITHIN THE AREA OF INTEREST HAVE BEEN CLASSIFIED AS HYDROLOGIC SOIL GROUP "D".
4. FOR THE HYDROLOGIC COMPUTATION, THE EXISTING AND PROPOSED CURVE NUMBERS WERE TAKEN FROM TABLES 2-5 OF THE CITY OF AUSTIN DRAINAGE CRITERIA MANUAL.
5. THE MANNING'S "N" VALUES WERE TAKEN FROM TABLE 3-1 OF THE TR-55 MANUAL ROUGHNESS COEFFICIENTS (MANNING'S 'N') FOR SHEET FLOW.
6. FOR THE NRCS METHOD TIME OF CONCENTRATION (T_C) COMPUTATION, EQUATIONS 2-3 THROUGH 2-8 OF THE CITY OF AUSTIN DRAINAGE CRITERIA MANUAL WERE USED.
7. THE EQUATION FOR SOLVING T_{LAG} WAS DERIVED FROM EQUATION 2-9 "NRCS UNIT HYDROGRAPH PARAMETERS"; $T_{LAG} = 0.6$*(TIME OF CONCENTRATION)
8. ATLAS 14 RAINFALL INTENSITIES WHERE UTILIZING FOR EXISTING PEAK FLOW CALCULATIONS
9. THIS ANALYSIS SHOWS THAT DEVELOPMENT CAN BE MITIGATED WITH THE ONSITE DETENTION PONDS AND STORMWATER WILL NOT INCREASE ON THE ADJACENT PROPERTIES DO TO DEVELOPMENT.
10. 24-HOUR RAINFALL DEPTHS USED TO CALCULATE FLOW RATES WERE DETERMINED UTILIZING NOAA ATLAS 14 POINT PRECIPITATION FREQUENCY ESTIMATES

PROPOSED CONDITIONS DRAINAGE CALCULATIONS WITH DETENTION (NRCS; SCS Curve Number Method) - Williamson County

Governing References:
City of Austin, Drainage Criteria Manual

Climatic Adjustment of NRCS Runoff Curve Number (TXDOT)

Manning's n: CoA DCM, Table 2-4 — P_2 YR = 3.94 — Travel Time: CoA DCM, eq. 2-3

Travel Time: CoA DCM, eq. 2-5 or 2-6

Travel Time: CoA DCM, eq. 2-8

$T_C = T_S + T_{SC} + T_{CH}$; $T_{lag} = 0.6(T_C)$

WATERSHEDS							SHEET FLOW				SHALLOW CONCENTRATED FLOW					CHANNEL / REACH				T_C	T_{lag}	Q(cfs)			
COMP. POINT	CONTRIB-UTING AREAS	AREA ACREAGE (Ac.)	SQUARE MILES (mi^2)	COMPOSITE CN	ADJUSTED CN	IMPERVIOUS COVER	n	L	s	T_S	PAVED	L	s	vel.	T_{SC}	L	s	vel.	T_{CH}			2	10	25	100
								(ft)	(%)	(Min)	(Y/N)	(ft)	(%)	(ft/s)	(Min)	(ft)	(%)	(ft/s)	(Min)	(Min)	(Min)				
	A1	3.43	0.005359	82.4	67.4	11.40%	0.40	100	3.5%	15.52	N	365	0.9%	1.5	4.0	0	0.0%	3.3	0.0	19.5	11.7	4.8	10.5	14.8	22.1
	A2	3.10	0.004844	82.4	67.4	0.22%	0.40	100	0.4%	36.84	N	363	2.7%	2.6	2.3	0	0.0%	6.0	0.0	39.1	23.5	2.4	6.0	8.8	13.6
																						0.2	3.6	7.0	12.3
CP-1	A1,A2	6.53	0.010203																			4.9	10.7	14.9	27.3

N

SCALE: 1"=30'
0 15' 30' 45' 60'

2/13/2025
STATE OF TEXAS
CODY LEE MORRIS
131472
LICENSED
PROFESSIONAL ENGINEER

REVISIONS:

MATKINHOOVER ENGINEERING & SURVEYING
8 SPENCER ROAD SUITE 100
BOERNE, TEXAS 78006
OFFICE: 830.249.0600
CONTACT@MATKINHOOVER.COM
TEXAS REGISTERED ENGINEERING FIRM F-19043 | SURVEYING FIRM F-10024900
3103 SHELL ROAD SUITE 1
GEORGETOWN, TX 78628
OFFICE: 512.868.2244

PROPOSED CONDITIONS DRAINAGE AREA MAP
HYDROGRAPH ROUTING METHOD
FOR
WILLHAUS AT GEORGETOWN
226 LOGAN RANCH ROAD, GEORGETOWN, TEXAS

EXHIBIT J

JOB NO.	3459.00
DESIGNED BY:	WK
DRAWN BY:	MA
CHECKED BY:	CK
SHEET #	

Z:\PROJECTS\3459 - Willhaus at Georgetown\General Engineering\Drainage\Refined Drainage Report\02.10.1 - Exhibit J - Proposed Conditions Drainage Area Map - Unit Hydrograph.dwg

Designated and qualified person(s) shall inspect Pollution Control Measures every seven days and within 24 hours after a storm event. An inspection report that summarized the scope of the inspection, names and qualifications of personnel conducting the inspection, date of inspection, major observations, and actions taken as a result of the inspection shall be recorded and maintained as part of the Storm Water T.P.D.E.S. Plan. A copy of the inspection report form is provided as page 2 of this attachment. Inspection and Maintenance Guidelines are as follows:

Construction Entrance:

(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 repair 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 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.

Inlet Protection:

(1) Inspection 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 device 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.

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 in the course of construction activity. 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 revegetated. The fence itself should be disposed of in an approved landfill.

Temporary/Permanent Vegetation:
(1) Permanent vegetation should be inspected weekly and after each rain event to locate and repair any erosion.
(2) Erosion from storms or other damage should be repaired as soon as practical by regrading the area and applying new seed.
(3) If the vegetated cover is less than 80%, the area should be reseeded.

Rock Berm:
(1) Inspection should be made weekly and after each rainfall by the responsible party. For installations in streambeds, additional daily inspections should be made.
(2) Remove sediment and other debris when buildup reaches 6 inches and dispose of the accumulated silt in an 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 removed.

Concrete Washout:
(1) The washout should be maintained in a condition, which will prevent leaking or spillage of concrete onto the site.
(2) All concrete spilled, dropped, washed or tracked onto public rights-of-way should be removed immediately by contractor
(3) Plastic lining should be inspected weekly for hole, tears or other defects that compromise the impermeability of the material.
(4) 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.

INSPECTION REPORT

Approved Inspection intervals:

i. Conducted once every 7 days AND within 24 hours after rainfall event greater than 0.5 inch

PROJECT NAME _____
REPORT # _____ DATE _____
INSPECTOR _____ TITLE _____
REASON FOR INSPECTION (CHECK ONE) Weekly ____ Or ½" Rain ____
DATE OF LAST RAINFALL _____ AMOUNT _____

SITE CONDITIONS:

EROSION AND SEDIMENTATION CONTROLS	IN CONFORMANCE		EFFECTIVE	
Concrete Washout Area		Yes/No/Na		Yes/No
Construction Entrance		Yes/No/Na		Yes/No
Permanent Vegetation		Yes/No/Na		Yes/No
Silt Fence		Yes/No/Na		Yes/No
Rock Berm		Yes/No/Na		Yes/No

RECOMMENDED REMEDIAL ACTIONS:

COMMENTS:

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision 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 responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment."

INSPECTOR: _____ DATE: _____

WILLHAUS AT GEORGETOWN
SCHEDULE OF INTERIM AND PERMANENT SOIL STABILIZATION PRACTICES

Soil stabilization practices will be used to reduce the amount of erosion from the site. Only the areas essential for immediate construction should be cleared. This will keep a buffer zone around the area of construction as these areas will remain undisturbed until construction begins there.

Interim soil stabilization areas are determined in the field. Temporary vegetation will be used as an aid to control erosion on critical sites during establishment period of protective vegetation when construction is temporarily ceased.

Permanent soil stabilization areas are indicated on the included Site Plan. Permanent seeding will take place in these areas when construction is permanently ceased.

Stabilization practices should be installed according to the following rules:

- Stabilization measures shall be initiated as soon as practical 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 ceased is precluded by weather conditions, stabilization measures shall be initiated as soon as practical.

- In areas experiencing droughts where the initiation of stabilization measure by the 14th day after construction activity has temporarily or permanently ceased is precluded by seasonal arid conditions, stabilization measures shall be initiated as soon as practical.

MATKINHOOVER
ENGINEERING & SURVEYING
BOERNE | GEORGETOWN
CONTACT@MATKINHOOVER.COM
OFFICE: 830.249.0600 FAX:830.249.0099

Willhaus @ Georgetown

WPAP

Section VI

Permanent Stormwater Section

Permanent Stormwater Section

Texas Commission on Environmental Quality

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

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

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

Signature

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

Print Name of Customer/Agent: Garrett Keller, P.E.

Date: 12/16/24

Signature of Customer/Agent

Regulated Entity Name: Willhaus at Georgetown

Permanent Best Management Practices (BMPs)

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

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

   ☐ N/A

2. ☒ These practices and measures have been designed, and will be constructed, operated, and maintained to insure that 80% of the incremental increase in the annual mass loading of total suspended solids (TSS) from the site caused by the regulated activity is removed. These quantities have been calculated in accordance with technical guidance prepared or accepted by the executive director.

   ☒ The TCEQ Technical Guidance Manual (TGM) was used to design permanent BMPs and measures for this site.

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

☐ N/A

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

   ☐ N/A

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

   ☐ The site will be used for low density single-family residential development and has 20% or less impervious cover.
   ☐ The site will be used for low density single-family residential development but has more than 20% impervious cover.
   ☒ The site will not be used for low density single-family residential development.

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

   ☐ **Attachment A - 20% or Less Impervious Cover Waiver**. The site will be used for multi-family residential developments, schools, or small business sites and has 20% or less impervious cover. A request to waive the requirements for other permanent BMPs and measures is attached.
   ☒ The site will be used for multi-family residential developments, schools, or small business sites but has more than 20% impervious cover.
   ☐ The site will not be used for multi-family residential developments, schools, or small business sites.

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

☒ A description of the BMPs and measures that will be used to prevent pollution of surface water, groundwater, or stormwater that originates upgradient from the site and flows across the site is attached.

☐ No surface water, groundwater or stormwater originates upgradient from the site and flows across the site, and an explanation is attached.

☐ Permanent BMPs or measures are not required to prevent pollution of surface water, groundwater, or stormwater that originates upgradient from the site and flows across the site, and an explanation is attached.

7. ☒ **Attachment C - BMPs for On-site Stormwater**.

   ☒ A description of the BMPs and measures that will be used to prevent pollution of surface water or groundwater that originates on-site or flows off the site, including pollution caused by contaminated stormwater runoff from the site is attached.

   ☐ Permanent BMPs or measures are not required to prevent pollution of surface water or groundwater that originates on-site or flows off the site, including pollution caused by contaminated stormwater runoff, and an explanation is attached.

8. ☒ **Attachment D - BMPs for Surface Streams**. A description of the BMPs and measures that prevent pollutants from entering surface streams, sensitive features, or the aquifer is attached. Each feature identified in the Geologic Assessment as sensitive has been addressed.

   ☐ N/A

9. ☒ The applicant understands that to the extent practicable, BMPs and measures must maintain flow to naturally occurring sensitive features identified in either the geologic assessment, executive director review, or during excavation, blasting, or construction.

   ☒ The permanent sealing of or diversion of flow from a naturally-occurring sensitive feature that accepts recharge to the Edwards Aquifer as a permanent pollution abatement measure has not been proposed.

   ☐ **Attachment E - Request to Seal Features**. A request to seal a naturally-occurring sensitive feature, that includes, for each feature, a justification as to why no reasonable and practicable alternative exists, is attached.

10. ☒ **Attachment F - Construction Plans**. All construction plans and design calculations for the proposed permanent BMP(s) and measures have been prepared by or under the direct supervision of a Texas Licensed Professional Engineer, and are signed, sealed, and dated. The plans are attached and, if applicable include:

    ☒ Design calculations (TSS removal calculations)
    ☒ TCEQ construction notes
    ☒ All geologic features
    ☒ All proposed structural BMP(s) plans and specifications

    ☐ N/A

11. ☒ **Attachment G - Inspection, Maintenance, Repair and Retrofit Plan**. A plan for the inspection, maintenance, repairs, and, if necessary, retrofit of the permanent BMPs and measures is attached. The plan includes all of the following:

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

    ☐ N/A

12. ☐ **Attachment H - Pilot-Scale Field Testing Plan**. Pilot studies for BMPs that are not recognized by the Executive Director require prior approval from the TCEQ. A plan for pilot-scale field testing is attached.

    ☒ N/A

13. ☒ **Attachment I -Measures for Minimizing Surface Stream Contamination**. A description of the measures that will be used to avoid or minimize surface stream contamination and changes in the way in which water enters a stream as a result of the construction and development is attached. The measures address increased stream flashing, the creation of stronger flows and in-stream velocities, and other in-stream effects caused by the regulated activity, which increase erosion that results in water quality degradation.

    ☐ N/A

Responsibility for Maintenance of Permanent BMP(s)

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

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

    ☐ N/A

15. ☒ A copy of the transfer of responsibility must be filed with the executive director at the appropriate regional office within 30 days of the transfer if the site is for use as a multiple single-family residential development, a multi-family residential development, or a non-residential development such as commercial, industrial, institutional, schools, and other sites where regulated activities occur.

    ☐ N/A

The proposed land use for this 5.13-acre site is for an assisted living facility. The runoff upgradient of the proposed development originates from adjacent developed lots just East of the property. All upgradient stormwater runoff flowing upgradient and near our site will be intercepted and routed through the site. Any upgradient stormwater will be treated by rock berms, silt fence, and vegetative filter strips by reducing the amount of sediment, organic matter, and harmful substances in the runoff and before the runoff enters the offsite surface water.

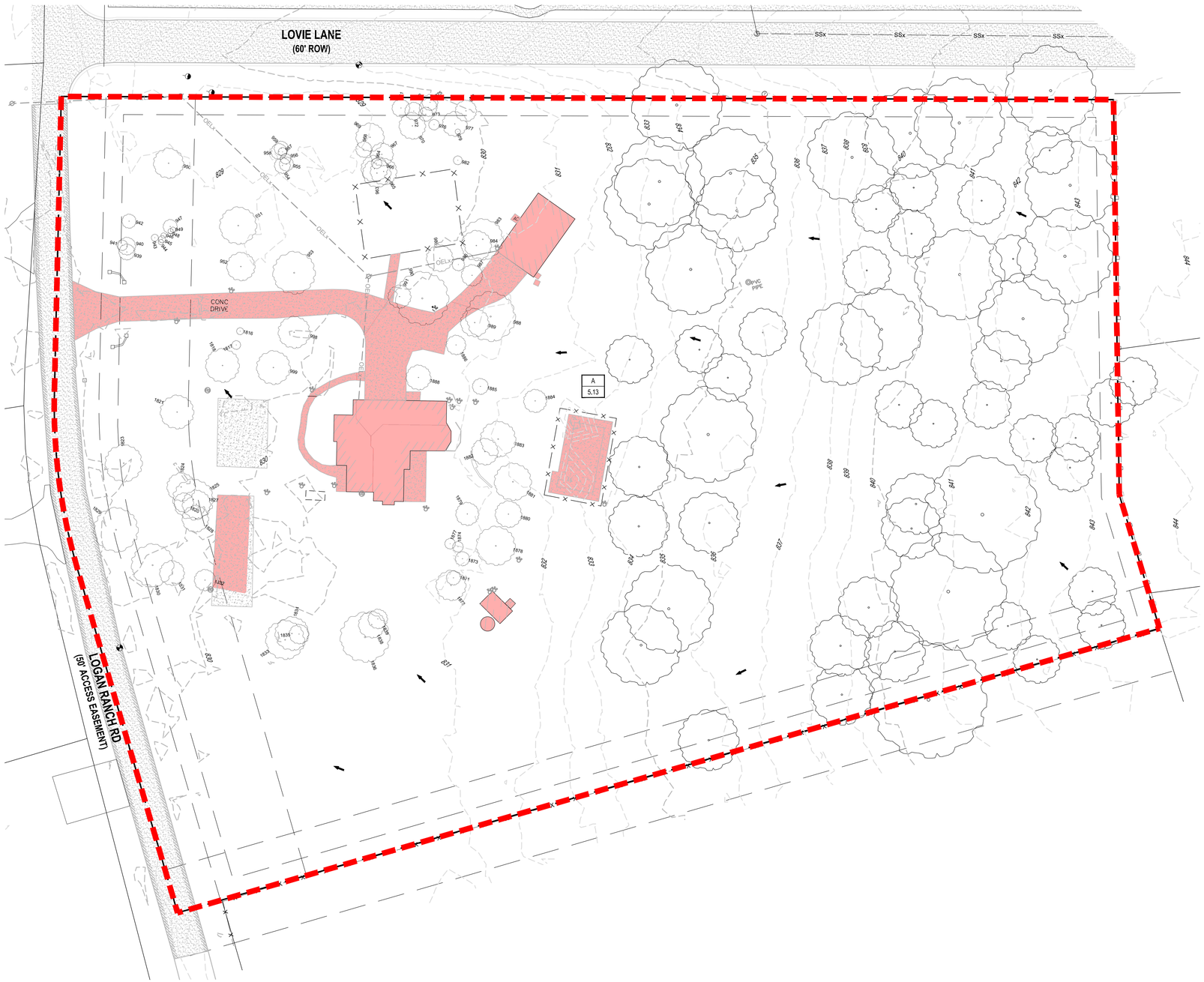
Two manmade sensitive features (wells) exist on the proposed 5.13-acre Willhaus development.

The proposed land use for this 5.13-acre site is for an assisted living facility. The on-site BMPs for this site will consist of rock berms, silt fence, and vegetative filter strips. The on-site runoff of the proposed development will be captured and routed through these proposed BMPs. These BMPs will provide water quality protection by reducing the amount of sediment, organic matter, and harmful substances in the runoff and before the runoff enters the offsite surface water. The proposed Vegetative Filter Strips are designed to remove more than 80% of the Total Suspended Solids (TSS) within the Willhaus development in accordance with TCEQ's Technical Guidance Manual RG-348.

The BMPs proposed for this site will consist of rock berms, silt fence and vegetative filter strips. These BMPs will provide water quality protection by reducing the amount of sediment, organic matter, and harmful substances in the runoff and before the runoff enters the offsite surface water.

See Construction Plans Attached.

Date: Feb 13, 2025, 3:14pm User ID: tkulbeth



LEGEND

- PROPERTY BOUNDARY
- EXISTING 1' CONTOUR
- 875 EXISTING 5' CONTOUR
- WATER QUALITY WATERSHED
- IMPERVIOUS COVER
- FLOW ARROW
- X-X / X.XXX WATERSHED IDENTIFICATION / WATERSHED AREA (AC)

IMPERVIOUS COVER CALCULATIONS

EXISTING IMPERVIOUS COVER (I.C.)	
STRUCTURES/ ROOFTOPS (SF)	3845
PARKING (SF)	5183
OTHER PAVED SURFACES (SF)	3118
TOTAL (SF)/ (AC)	**12146**
	0.28

N

SCALE: 1"=30'

0 15' 30' 45' 60'

2/13/2025

STATE OF TEXAS
CODY LEE MORRIS
131472
LICENSED
PROFESSIONAL ENGINEER

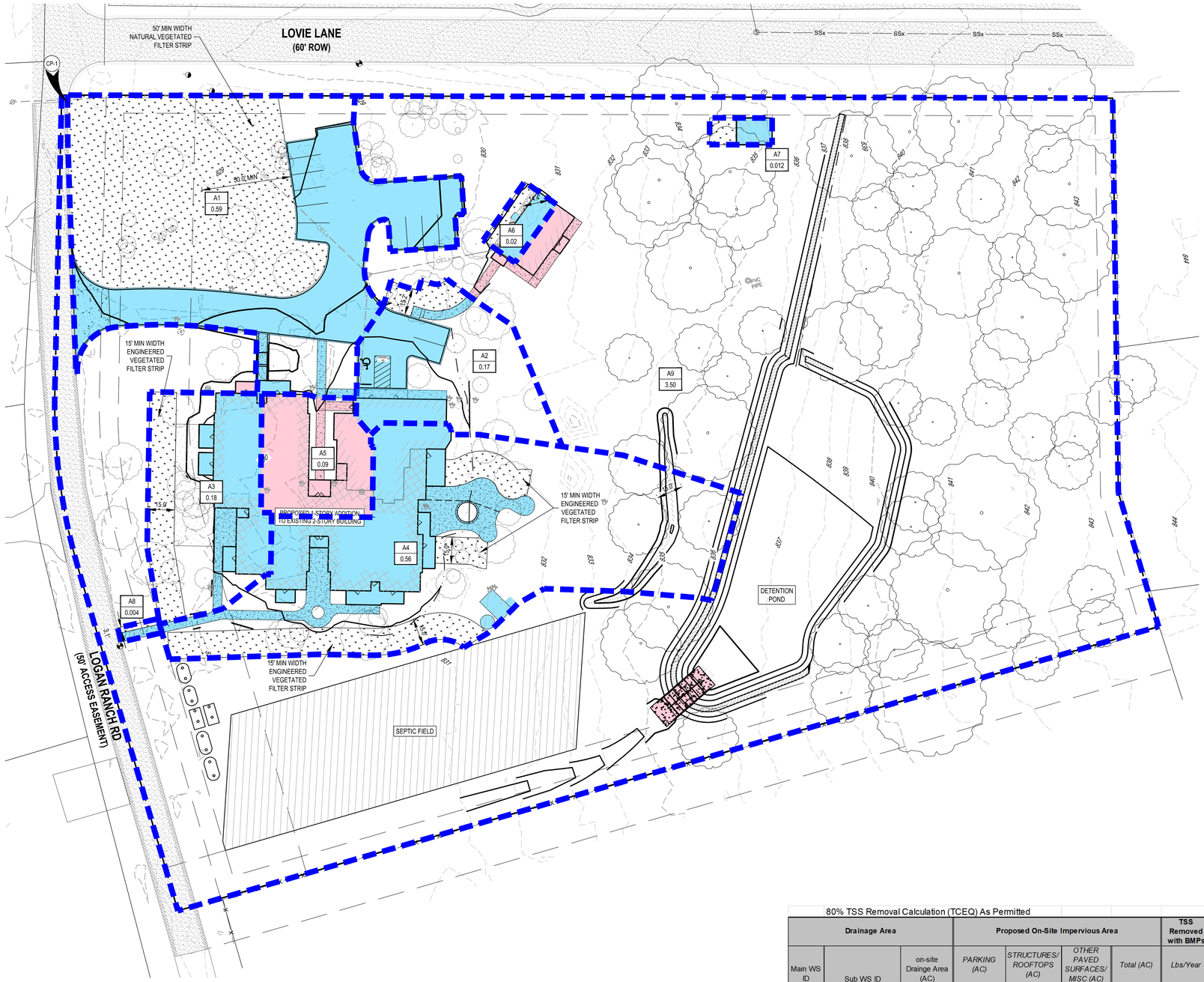
REVISIONS:

MATKINHOOVER ENGINEERING & SURVEYING
8 SPENCER ROAD SUITE 100
BOERNE, TEXAS 78006
OFFICE: 830.249.0600
CONTACT@MATKINHOOVER.COM
TEXAS REGISTERED ENGINEERING FIRM F-9045 | LS SURVEYING FIRM F-10024900
3103 SHELL ROAD SUITE 1
GEORGETOWN, TEXAS 78628
OFFICE: 512.868.2244

PRE-DEVELOPMENT
WATER QUALITY IMPERVIOUS COVER & WATERSHED MAP
FOR
WILLHAUS AT GEORGETOWN
226 LOGAN RANCH ROAD, GEORGETOWN, TEXAS

JOB NO.	3459.00
DESIGNED BY:	WK
DRAWN BY:	MA
CHECKED BY:	CK
SHEET #	

Z:\PROJECTS\3459 - Willhaus at Georgetown\Submittal Packages\TCEQ\WPAP\6 - Permanent Stormwater\6.6 - WQ Pre-development Impervious Cover Map.dwg



LEGEND

- PROPERTY BOUNDARY
- EXISTING 1' CONTOUR
- 875 EXISTING 5' CONTOUR
- WATER QUALITY WATERSHED
- VEGETATED FILTER STRIP
- TREATED IMPERVIOUS COVER
- UNTREATED IMPERVIOUS COVER
- FLOW ARROW
- X-X / X.XXX WATERSHED IDENTIFICATION / WATERSHED AREA (AC)

N

SCALE: 1"=30'

0 15' 30' 45' 60'

2/13/2025

STATE OF TEXAS
CODY LEE MORRIS
131472
LICENSED
PROFESSIONAL ENGINEER

REVISIONS:

MATKINHOOVER ENGINEERING & SURVEYING
8 SPENCER ROAD SUITE 100
BOERNE, TEXAS 78006
OFFICE: 830.249.0600
CONTACT@MATKINHOOVER.COM
TEXAS REGISTERED ENGINEERING FIRM F-9045 | SURVEYING FIRM F-10024900
3101 SHELL ROAD SUITE 1
GEORGETOWN, TX 78628
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PROPOSED IMPERVIOUS COVER (I.C.) by WQ BMP	
WATERSHED A1	
AREA (AC)	**0.59**
STRUCTURES/ROOFTOPS (SF)	137
PARKING (SF)	9184
OTHER PAVED SURFACES (SF)	429
SUBTOTAL (SF) / (AC)	**9750**
	0.22
WATERSHED A2	
AREA (AC)	**0.17**
STRUCTURES/ROOFTOPS (SF)	727
PARKING (SF)	1611
OTHER PAVED SURFACES (SF)	442
MISCELLANEOUS (SF)	200
SUBTOTAL (SF) / (AC)	**2980**
	0.07
WATERSHED A3	
AREA (AC)	**0.18**
STRUCTURES/ROOFTOPS (SF)	2724
OTHER PAVED SURFACES (SF)	448
MISCELLANEOUS (SF)	200
SUBTOTAL (SF) / (AC)	**3372**
	0.08
WATERSHED A4	
AREA (AC)	**0.55**
STRUCTURES/ROOFTOPS (SF)	5880
OTHER PAVED SURFACES (SF)	2308
MISCELLANEOUS (SF)	600
SUBTOTAL (SF) / (AC)	**8788**
	0.20
WATERSHED A5	
AREA (AC)	**0.09**
STRUCTURES/ROOFTOPS (SF)	3267
OTHER PAVED SURFACES (SF)	309
SUBTOTAL (SF) / (AC)	**3576**
	0.08
WATERSHED A6	
AREA (AC)	**0.02**
STRUCTURES/ROOFTOPS (SF)	510
OTHER PAVED SURFACES (SF)	16
SUBTOTAL (SF) / (AC)	**526**
	0.01
WATERSHED A7	
AREA (AC)	**0.012**
STRUCTURES/ROOFTOPS (SF)	300
SUBTOTAL (SF) / (AC)	**300**
	0.007
WATERSHED A8	
AREA (AC)	**0.004**
OTHER PAVED SURFACES (SF)	117
SUBTOTAL (SF) / (AC)	**117**
	0.003
WATERSHED A9	
AREA (AC)	**3.51**
STRUCTURES/ROOFTOPS (SF)	504
PARKING (SF)	0
OTHER PAVED SURFACES (SF)	1062
MISCELLANEOUS (SF)	0
SUBTOTAL (SF) / (AC)	**1566**
	0.04
TOTAL AREA (AC)	**5.13**
STRUCTURES/ROOFTOPS (SF)	14049
PARKING (SF)	10795
OTHER PAVED SURFACES (SF)	5131
MISCELLANEOUS (SF)	1000
TOTALI. C. (SF) / (AC)	***30975***
	0.71

80% TSS Removal Calculation (TCEQ) As Permitted

Drainage Area			Proposed On-Site Impervious Area				TSS Removed with BMPs	WQ Pond Required Volume	WQ Pond Required Volume
Main WS ID	Sub WS ID	on-site Drainge Area (AC)	*PARKING (AC)*	*STRUCTURES/ ROOFTOPS (AC)*	*OTHER PAVED SURFACES/ MISC (AC)*	*Total (AC)*	*Lbs/Year*	*Cubic Feet*	*Cubic Feet*
A1	A1 (NVFS)	0.59	0.211	0.003	0.010	0.22	212	N/A	N/A
A2	A2 (EVFS)	0.17	0.037	0.017	0.015	0.07	67	N/A	N/A
A3	A3 (EVFS)	0.18	0.000	0.063	0.015	0.08	77	N/A	N/A
A4	A4 (EVFS)	0.56	0.000	0.135	0.067	0.20	193	N/A	N/A
A5	A5 (Untreated)	0.09	0.000	0.075	0.007	0.08	-	N/A	N/A
A6	A6 (EVFS)	0.02	0.000	0.012	0.000	0.01	9	N/A	N/A
A7	A7 (EVFS)	0.012	0.000	0.007	0.000	0.007	6	N/A	N/A
A8	A8 (EVFS)	0.004	0.000	0.000	0.003	0.003	3	N/A	N/A
A9	A9(Untreated)	3.50	0.000	0.012	0.024	0.04	-	N/A	N/A
	Totals:	5.13	0.248	0.324	0.141	0.71	567	N/A	N/A
				TCEQ 80% Required Project TSS Removal		374	193 lbs/yr	over 80% removal	

POST DEVELOPMENT
WATER QUALITY IMPERVIOUS COVER & WATERSHED MAP
FOR
WILLHAUS AT GEORGETOWN
226 LOGAN RANCH ROAD, GEORGETOWN, TEXAS

EXHIBIT J

JOB NO.	3459.00
DESIGNED BY:	WK
DRAWN BY:	MA
CHECKED BY:	CK
SHEET #	

Date: Feb 13, 2025, 3:17pm User ID: tkulbeth

Z:\PROJECTS\3459 - Willhaus at Georgetown\Submittal Packages\TCEQ\WPAP\6 - Permanent Stormwater\6.7 - WQ Post Development Impervious Cover and Drainage Area Map.dwg

Date: Feb 13, 2025, 3:03pm User ID: tkulbeth

LEGEND

- PROPERTY BOUNDARY
- ADJOINING PROPERTY LINE
- EXISTING 1' CONTOUR — 971
- EXISTING 5' CONTOUR — 970
- PROPOSED 1' CONTOUR — 1399
- PROPOSED 5' CONTOUR — 1400
- FLOW ARROW
- ROCK BERM
- LIMITS OF CONSTRUCTION (~3.83 ACRES) — LOC
- SILT FENCE — SF
- STABILIZED CONSTRUCTION ENTRANCE [RE: 01, CG851]
- CONSTRUCTION STAGING AREA
- CONCRETE WASHOUT AREA [RE: 02, CG851]
- VEGETATIVE FILTER STRIP
- EXISTING TREE
- REMOTE FIRE DEPARTMENT CONNECTION (FDC)
- FIRE HYDRANT

GENERAL NOTES

1. NO PORTION OF THE SUBJECT PROPERTY IS ENCROACHED BY A SPECIAL FLOOD HAZARD AREA(S) INUNDATED BY THE 100-YEAR (1% CHANCE) FLOOD AS IDENTIFIED BY THE U.S. FEDERAL EMERGENCY MANAGEMENT AGENCY FLOOD INSURANCE RATE MAP, COMMUNITY PANEL NO. 48491C0280E, EFFECTIVE DATE SEPTEMBER 26, 2008 FOR WILLIAMSON COUNTY, TEXAS. FLOODPLAIN INFORMATION IS SUBJECT TO CHANGE AS A RESULT OF FUTURE FEMA MAP REVISIONS AND/OR AMENDMENTS.

EROSION CONTROL NOTES

1. CONSTRUCTION ENTRANCE/EXIT LOCATION, CONCRETE WASHOUT PIT AND CONSTRUCTION EQUIPMENT STORAGE AREA ARE TO BE DETERMINED IN THE FIELD. THEY ARE SHOWN ON THIS PLAN FOR ILLUSTRATIVE PURPOSES ONLY. EROSION CONTROL MEASURES SHALL BE IMPLEMENTED AROUND CONCRETE WASH PIT AND MATERIAL STORAGE AREA BASED ON FINAL LOCATION AND SIZE.
2. CONTRACTOR MAY MODIFY STORM WATER CONTROLS TO ACHIEVE THE DESIRED INTENT. ANY CHANGES ARE TO BE NOTED, SIGNED AND DATED BY THE RESPONSIBLE PARTY IN THE TPDES BOOK (NO SEPARATE PAY ITEM).
3. CONTRACTOR IS RESPONSIBLE FOR MAINTAINING ALL STORM WATER CONTROLS.
4. CONTRACTOR SHALL IMMEDIATELY NOTIFY ENGINEER OF ANY QUESTIONS REGARDING THE INTENT OF THIS PLAN.
5. IF REQUIRED, CONTRACTOR SHALL FILE NOI'S (NOTICE OF INTENT) AND NOT'S (NOTICE OF TERMINATION) FOR THIS PROJECT. REFER TO TPDES FOR PROPER POSTING REQUIREMENTS AND DOCUMENTS.
6. CONTRACTOR SHALL PERFORM INSPECTIONS OF CONTROLS ONCE EVERY FOURTEEN (14) DAYS AND WITHIN TWENTY-FOUR (24) HOURS OF A STORM EVENT OF 0.5 INCHES OR GREATER OR AS AN ALTERNATIVE METHOD CONTRACTOR SHALL PERFORM INSPECTIONS AT LEAST ONCE EVERY SEVEN (7) CALENDAR DAYS.
7. A COPY OF THIS PLAN, TPDES BOOK AND INSPECTION REPORTS MUST REMAIN AT THE CONSTRUCTION SITE AT ALL TIMES.
8. BARE SOILS SHALL HAVE STABILIZATION MEASURES INSTALLED WITHIN 14 CALENDAR DAYS AFTER FINAL GRADING OR WHERE CONSTRUCTION ACTIVITY HAS TEMPORARILY CEASED FOR MORE THAN 21 DAYS.THE ACCUMULATION OF DEBRIS AND MATERIALS RESULTING FROM CONSTRUCTION AND/OR DEMOLITION SHALL BE CONTAINED ON-SITE AND REMOVED IN A TIMELY MANNER.
9. ALL DEBRIS AND CONSTRUCTION MATERIALS SHALL BE REMOVED PRIOR TO FINAL INSPECTION AND THE ISSUANCE OF A CERTIFICATE OF OCCUPANCY. THE CITY RETAINS THE RIGHT TO REQUIRE THE PLACEMENT OF A COMMERCIAL DUMPSTER FOR COLLECTION OF DEBRIS IF THE SITE IS NOT PROPERLY MAINTAINED. THE COST ASSOCIATED WILL BE THE RESPONSIBILITY OF THE CONTRACTOR AND/OR OWNER.
10. DUST ON THE SITE SHALL BE CONTROLLED. THE USE OF MOTOR OILS AND OTHER PETROLEUM PRODUCTS BASED UPON TOXIC LIQUIDS FOR DUST SUPPRESSION OPERATIONS IS PROHIBITED.
11. ALL MATERIALS SPILLED, DROPPED, WASHED OR TRACKED FROM VEHICLES ONTO ADJACENT ROADWAYS OR INTO STORM DRAINS MUST BE REMOVED IMMEDIATELY.
12. REFER TO THE TPDES BOOK FOR THIS PROJECT FOR MORE INFORMATION/ DETAILS.

SMALL CONSTRUCTION ACTIVITIES
DISTURBED AREA LESS THAN FIVE (5) ACRES, NOT PART OF COMMON DEVELOPMENT

OPERATORS OF THIS SITE MUST:
(A) DEVELOP A SWP3 ACCORDING TO THE PROVISIONS OF TPDES TXR150000 PERMIT, THAT COVERS EITHER THE ENTIRE SITE OR ALL PORTIONS OF THE SITE FOR WHICH THE APPLICANT IS THE OPERATOR, AND IMPLEMENT THAT PLAN PRIOR TO COMMENCING CONSTRUCTION ACTIVITIES;
(B) SIGN AND CERTIFY A COMPLETED CONSTRUCTION SITE NOTICE, POST THE NOTICE AT THE CONSTRUCTION SITE IN A LOCATION WHERE IT IS SAFELY AND READILY AVAILABLE FOR VIEWING BY THE GENERAL PUBLIC, LOCAL, STATE, AND FEDERAL AUTHORITIES, PRIOR TO COMMENCING CONSTRUCTION, AND MAINTAIN THE NOTICE IN THAT LOCATION UNTIL COMPLETION OF THE CONSTRUCTION ACTIVITY ; AND
(C) PROVIDE A COPY OF THE SIGNED AND CERTIFIED CONSTRUCTION SITE NOTICE TO THE OPERATOR OF ANY MUNICIPAL SEPARATE STORM SEWER SYSTEM RECEIVING THE DISCHARGE AT LEAST TWO DAYS PRIOR TO COMMENCEMENT OF CONSTRUCTION ACTIVITIES.

OPERATORS OF SMALL CONSTRUCTION ACTIVITIES AS DEFINED IN PART I OF THIS GENERAL PERMIT SHALL NOT SUBMIT AN NOI FOR COVERAGE UNLESS OTHERWISE REQUIRED BY THE EXECUTIVE DIRECTOR.

SWPPP MODIFICATIONS

DATE	SIGNATURE	DESCRIPTION

WATER POLLUTION ABATEMENT PLAN
SITE PLAN

N

SCALE: 1"=30'
0 15' 30' 45' 60'

2/13/2025
STATE OF TEXAS
CODY LEE MORRIS
131472
LICENSED
PROFESSIONAL ENGINEER

REVISIONS:

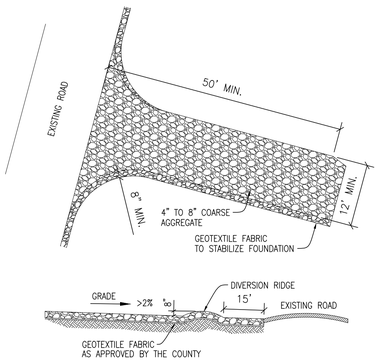
MATKINHOOVER ENGINEERING & SURVEYING
8 SPENCER ROAD SUITE 100
BOERNE, TEXAS 78006
OFFICE: 830.249.0600
CONTACT@MATKINHOOVER.COM
1310 SHELL ROAD SUITE 1
GEORGETOWN, TX 78628
OFFICE: 512.868.2244
TEXAS REGISTERED ENGINEERING FIRM F-9045 | LS SURVEYING FIRM F-10024000

EROSION & SEDIMENTATION CONTROL PLAN
FOR
WILLHAUS AT GEORGETOWN
226 LOGAN RANCH ROAD, GEORGETOWN, TEXAS

CG801

JOB NO.	3459.00
DESIGNED BY:	WK
DRAWN BY:	MA
CHECKED BY:	CK
SHEET #	09

Z:\PROJECTS\3459 - Willhaus at Georgetown\C09 EROSION & SEDIMENTATION CONTROL PLAN.dwg



INSTALLATION:

- CLEAR THE AREA OF DEBRIS, ROCKS OR PLANTS THAT WILL INTERFERE WITH INSTALLATION.
- GRADE THE AREA FOR THE ENTRANCE TO FLOW BACK ON TO THE CONSTRUCTION SITE. RUNOFF FROM THE STABILIZED CONSTRUCTION.
- PLACE GEOTEXTILE FABRIC AS APPROVED BY THE CITY.
- PLACE ROCK AS APPROVED BY THE CITY.

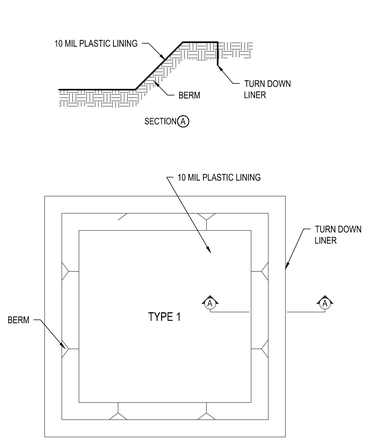
INSPECTIONS AND MAINTENANCE GUIDELINES:

- 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 REPAIR AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT.
- ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACKED ON TO PUBLIC RIGHTS-OF-WAY SHOULD BE REMOVED IMMEDIATELY BY CONTRACTOR.
- WHEN NECESSARY, WHEELS SHOULD BE CLEANED TO REMOVE SEDIMENT PRIOR TO ENTRANCE ONTO PUBLIC RIGHTS-OF-WAY.
- 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.
- ALL SEDIMENT SHOULD BE PREVENTED FROM ENTERING ANY STORM DRAIN, DITCH OR WATER COURSE BY USING APPROVED METHODS.

[COORDINATE EXACT LOCATION WITH PROPERTY OWNER IN FIELD]

1 STABILIZED CONSTRUCTION ENTRANCE

N.T.S.



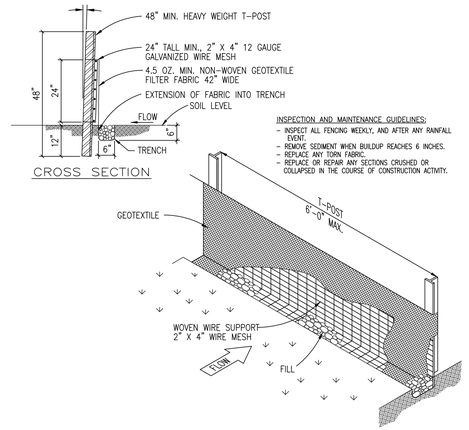
NOTES:

1. THE DIRECT DISCHARGE OF CONCRETE WASH OUT WATER TO SURFACE WATER IS PROHIBITED.
2. WASHOUT OF CONCRETE TRUCKS DURING RAINFALL EVENTS SHALL BE MINIMIZED. THE CONTRACTOR SHALL INSURE THAT BMP'S ARE SUFFICIENT TO PREVENT THE DISCHARGE OF CONCRETE TRUCK WASHOUT AS A RESULT OF RAIN.
3. THE CONCRETE WASH OUT PIT SHALL BE CONSTRUCTED IN AN AREA OF MINIMAL SLOPE AND AWAY FROM CONCENTRATED STORM WATER RUN-OFF FLOWS, AS TO PREVENT DISCHARGE TO SURFACE WATERS.

[COORDINATE EXACT LOCATION WITH PROPERTY OWNER IN FIELD]

2 CONCRETE WASHOUT PIT LAYOUT DETAIL

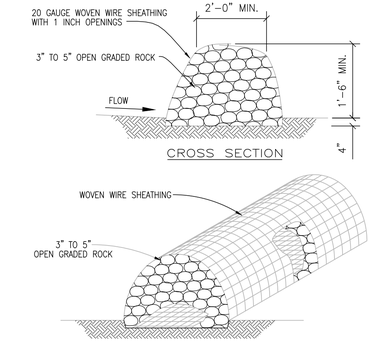
N.T.S.



INSTALLATION:

- LAYOUT THE SILT FENCE FOLLOWING AS CLOSELY AS POSSIBLE TO THE CONTOUR.
- CLEAR THE GROUND OF DEBRIS, ROCKS, PLANTS (INCLUDING GRASSES TALLER THAN 2") TO PROVIDE A SMOOTH FLOW APPROACH SURFACE. EXCAVATE 6" DEEP X 6" WIDE TRENCH ON UPSTREAM SIDE OF FACE PER PLANS.
- DRIVE THE HEAVY DUTY T-POST AT LEAST 12 INCHES INTO THE GROUND AND AT A SLIGHT ANGLE TOWARDS THE FLOW.
- ATTACH THE 2" X 4" 12 GAUGE WELDED WIRE MESH TO THE T-POST WITH 11 1/2 GAUGE GALVANIZED T-POST CLIPS. THE TOP OF THE WIRE TO BE 24" ABOVE GROUND LEVEL. THE WELDED WIRE MESH TO BE OVERLAPPED 6" AND TIED AT LEAST 6 TIMES WITH HOG RINGS.
- THE SILT FENCE TO BE INSTALLED WITH A SKIRT A MINIMUM OF 6" WIDE PLACED ON THE UPHILL SIDE OF THE FENCE INSIDE EXCAVATED TRENCH. THE FABRIC TO OVERLAP THE TOP OF THE WIRE BY 1".
- ANCHOR THE SILT FENCE BY BACKFILLING WITH EXCAVATED DIRT AND ROCKS (NOT LARGER THAN 2").
- GEOTEXTILE SPLICES SHOULD BE A MINIMUM OF 18" WIDE ATTACHED IN AT LEAST 6 PLACES. SPLICES IN CONCENTRATED FLOW AREAS WILL NOT BE ACCEPTED.
- SILT FENCE SHALL BE REMOVED WHEN THE SITE IS COMPLETELY STABILIZED SO AS NOT TO BLOCK OR IMPEDE STORM FLOW OR DRAINAGE.

3 SILT FENCE DETAIL



INSTALLATION:

- LAYOUT THE ROCK BERM FOLLOWING AS CLOSELY AS POSSIBLE TO THE CONTOUR.
- CLEAR THE GROUND OF DEBRIS, ROCKS OR PLANTS THAT WILL INTERFERE WITH INSTALLATION.
- PLACE WOVEN WIRE FABRIC ON THE GROUND ALONG THE PROPOSED INSTALLATION WITH ENOUGH OVERLAP TO COMPLETELY ENCIRCLE THE FINISHED SIZE OF THE BERM.
- PLACE THE ROCK ALONG THE CENTER OF THE WIRE TO THE DESIGNATED HEIGHT.
- WRAP THE STRUCTURE WITH THE PREVIOUSLY PLACED WIRE MESH SECURE ENOUGH SO THAT WHEN WALKED ACROSS THE STRUCTURE RETAINS IT'S SHAPE.
- SECURE WITH TIE WIRE.
- THE ENDS OF THE BERM SHOULD BE TIED INTO EXISTING UPSLOPE GRADE AND THE BERM SHOULD BE BURIED IN A TRENCH APPROX. 4 INCHES DEEP TO PREVENT FAILURE OF THE CONTROL.
- THE ROCK BERM SHOULD BE LEFT IN PLACE UNTIL ALL UPSTREAM AREAS ARE STABILIZED AND ACCUMULATED SILT REMOVED.

INSPECTION AND MAINTENANCE GUIDELINES:

- INSPECTION SHOULD BE MADE WEEKLY AND AFTER EACH RAINFALL EVENT BY THE RESPONSIBLE PARTY. FOR INSTALLATIONS IN STREAMBEDS, ADDITIONAL DAILY INSPECTIONS SHOULD BE MADE.
- REMOVE SEDIMENT AND OTHER DEBRIS WHEN BUILDUP REACHES 6 INCHES AND DISPOSE OF THE ACCUMULATED SILT IN AN APPROVED MANNER.
- REPAIR ANY LOOSE WIRE SHEATHING.
- THE BERM SHOULD BE RESHAPED AS NEEDED DURING INSPECTION.
- 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.

4 ROCK BERM DETAIL

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY
WATER POLLUTION ABATEMENT PLAN
GENERAL CONSTRUCTION NOTES

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

5 TCEQ WPAP GENERAL CONSTRUCTION NOTES

N.T.S.

12. THE HOLDER OF ANY APPROVED EDWARD AQUIFER PROTECTION PLAN MUST NOTIFY THE APPROPRIATE REGIONAL OFFICE IN WRITING AND OBTAIN APPROVAL FROM THE EXECUTIVE DIRECTOR PRIOR TO INITIATING ANY OF THE FOLLOWING:
    A. ANY PHYSICAL OR OPERATIONAL MODIFICATION OF ANY WATER POLLUTION ABATEMENT STRUCTURE(S), INCLUDING BUT NOT LIMITED TO PONDS, DAMS, BERMS, SEWAGE TREATMENT PLANTS, AND DIVERSIONARY STRUCTURES;
    B. ANY CHANGE IN THE NATURE OR CHARACTER OF THE REGULATED ACTIVITY FROM THAT WHICH WAS ORIGINALLY APPROVED OR A CHANGE WHICH WOULD SIGNIFICANTLY IMPACT THE ABILITY OF THE PLAN TO PREVENT POLLUTION OF THE EDWARDS AQUIFER;
    C. ANY DEVELOPMENT OF LAND PREVIOUSLY IDENTIFIED AS UNDEVELOPED IN THE ORIGINAL WATER POLLUTION ABATEMENT PLAN.

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
PHONE (210) 490-3096
FAX (210) 545-4329

6 TCEQ WPAP GENERAL CONSTRUCTION NOTES

N.T.S.

2/13/2025
STATE OF TEXAS
CODY LEE MORRIS
131472
LICENSED
PROFESSIONAL ENGINEER

REVISIONS:

MATKINHOOVER ENGINEERING & SURVEYING
8 SPENCER ROAD SUITE 100
BOERNE, TEXAS 78006
OFFICE: 830.249.0600
CONTACT@MATKINHOOVER.COM
TEXAS REGISTERED ENGINEERING FIRM F-9045 | SURVEYING FIRM F-10024900
3303 SHELL ROAD SUITE 1
BRYAN, TEXAS 77808
OFFICE: 512.868.2244

EROSION & SEDIMENTATION CONTROL DETAILS
FOR
WILLHAUS AT GEORGETOWN
226 LOGAN RANCH ROAD, GEORGETOWN, TEXAS

CG851

JOB NO.	3459.00
DESIGNED BY:	WK
DRAWN BY:	MA
CHECKED BY:	CK
SHEET #	10

80% TSS Removal Calculation (TCEQ) As Permitted

Drainage Area			Proposed On-Site Impervious Area				TSS Removed with BMPs	WQ Pond Required Volume	WQ Pond Required Volume
Main WS ID	Sub WS ID	on-site Drainge Area (AC)	*PARKING (AC)*	*STRUCTURES/ ROOFTOPS (AC)*	*OTHER PAVED SURFACES/ MISC (AC)*	*Total (AC)*	*Lbs/Year*	*Cubic Feet*	*Cubic Feet*
A1	A1 (NVFS)	0.59	0.211	0.003	0.010	0.22	212	N/A	N/A
A2	A2 (EVFS)	0.17	0.037	0.017	0.015	0.07	67	N/A	N/A
A3	A3 (EVFS)	0.18	0.000	0.063	0.015	0.08	77	N/A	N/A
A4	A4 (EVFS)	0.56	0.000	0.135	0.067	0.20	193	N/A	N/A
A5	A5 (Untreated)	0.09	0.000	0.075	0.007	0.08	-	N/A	N/A
A6	A6 (EVFS)	0.02	0.000	0.012	0.000	0.01	9	N/A	N/A
A7	A7 (EVFS)	0.012	0.000	0.007	0.000	0.007	6	N/A	N/A
A8	A8 (EVFS)	0.004	0.000	0.000	0.003	0.003	3	N/A	N/A
A9	A9(Untreated)	3.50	0.000	0.012	0.024	0.04	-	N/A	N/A
	Totals:	5.13	0.248	0.324	0.141	0.71	567	N/A	N/A

TCEQ 80% Required Project TSS Removal	374	193 lbs/yr	over 80% removal

Notes:

Texas Commission on Environmental Quality

TSS Removal Calculations 04-20-2009

Project Name: Willhaus @ Georgetown 3459.00
Date Prepared: 10.29.2024
Vegetative Filter Strips

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

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

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

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

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

County =	Williamson	
Total project area included in plan * =	5.13	acres
Predevelopment impervious area within the limits of the plan * =	0.28	acres
Total post-development impervious area within the limits of the plan * =	0.71	acres
Total post-development impervious cover fraction * =	0.14	
P =	32	inches
$L_{M\ TOTAL\ PROJECT}$ =	374	lbs.

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

Number of drainage basins / outfalls areas leaving the plan area = 9

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

Drainage Basin/Outfall Area No. = A1

Total drainage basin/outfall area =	0.59	acres
Predevelopment impervious area within drainage basin/outfall area =	0.00	acres
Post-development impervious area within drainage basin/outfall area =	0.22	acres
Post-development impervious fraction within drainage basin/outfall area =	0.37	
$L_{M\ THIS\ BASIN}$ =	191	lbs.

3. Indicate the proposed BMP Code for this basin.

Proposed BMP = Vegetated Filter Strips
Removal efficiency = 85 percent

Aqualogic Cartridge Filter
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: $L_R = (\text{BMP efficiency}) \times P \times (A_I \times 34.6 + A_P \times 0.54)$

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

A_C =	0.59	acres
A_I =	0.22	acres
A_P =	0.37	acres
L_R =	212	lbs

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

Desired $L_{M\ THIS\ BASIN}$ = 212 lbs.

F = 1.00

Texas Commission on Environmental Quality

TSS Removal Calculations 04-20-2009

Project Name: Willhaus @ Georgetown 3459.00
Date Prepared: 10.29.2024
Vegetative Filter Strips

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

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

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

County =	Williamson	
Total project area included in plan * =	5.13	acres
Predevelopment impervious area within the limits of the plan * =	0.28	acres
Total post-development impervious area within the limits of the plan * =	0.71	acres
Total post-development impervious cover fraction * =	0.14	
P =	32	inches
$L_{M\ TOTAL\ PROJECT}$ =	374	lbs.

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

Number of drainage basins / outfalls areas leaving the plan area = 9

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

Drainage Basin/Outfall Area No. = A2

Total drainage basin/outfall area =	0.17	acres
Predevelopment impervious area within drainage basin/outfall area =	0.00	acres
Post-development impervious area within drainage basin/outfall area =	0.07	acres
Post-development impervious fraction within drainage basin/outfall area =	0.41	
$L_{M\ THIS\ BASIN}$ =	61	lbs.

3. Indicate the proposed BMP Code for this basin.

Proposed BMP = Vegetated Filter Strips
Removal efficiency = 85 percent

Aqualogic Cartridge Filter
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: $L_R = (\text{BMP efficiency}) \times P \times (A_I \times 34.6 + A_P \times 0.54)$

where:

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

A_C =	0.17	acres
A_I =	0.07	acres
A_P =	0.10	acres
L_R =	67	lbs

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

Desired $L_{M\ THIS\ BASIN}$ = 67 lbs.

F = 0.99

Texas Commission on Environmental Quality

TSS Removal Calculations 04-20-2009

Project Name: Willhaus @ Georgetown 3459.00
Date Prepared: 10.29.2024
Vegetative Filter Strips

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

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

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

where:

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

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

County =	Williamson	
Total project area included in plan * =	5.13	acres
Predevelopment impervious area within the limits of the plan * =	0.28	acres
Total post-development impervious area within the limits of the plan * =	0.71	acres
Total post-development impervious cover fraction * =	0.14	
P =	32	inches
$L_{M\ TOTAL\ PROJECT}$ =	374	lbs.

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

Number of drainage basins / outfalls areas leaving the plan area = 9

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

Drainage Basin/Outfall Area No. = A3

Total drainage basin/outfall area =	0.18	acres
Predevelopment impervious area within drainage basin/outfall area =	0.00	acres
Post-development impervious area within drainage basin/outfall area =	0.08	acres
Post-development impervious fraction within drainage basin/outfall area =	0.44	
$L_{M\ THIS\ BASIN}$ =	70	lbs.

3. Indicate the proposed BMP Code for this basin.

Proposed BMP = Vegetated Filter Strips
Removal efficiency = 85 percent

Aqualogic Cartridge Filter
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: $L_R = (\text{BMP efficiency}) \times P \times (A_I \times 34.6 + A_P \times 0.54)$

where:

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

A_C =	0.18	acres
A_I =	0.08	acres
A_P =	0.10	acres
L_R =	77	lbs

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

Desired $L_{M\ THIS\ BASIN}$ = 77 lbs.

F = 1.00

Texas Commission on Environmental Quality

TSS Removal Calculations 04-20-2009

Project Name: Willhaus @ Georgetown 3459.00
Date Prepared: 10.29.2024
Vegetative Filter Strips

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

where:

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

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

County =	Williamson	
Total project area included in plan * =	5.13	acres
Predevelopment impervious area within the limits of the plan * =	0.28	acres
Total post-development impervious area within the limits of the plan * =	0.71	acres
Total post-development impervious cover fraction * =	0.14	
P =	32	inches
$L_{M\ TOTAL\ PROJECT}$ =	374	lbs.

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

Number of drainage basins / outfalls areas leaving the plan area = 9

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

Drainage Basin/Outfall Area No. = A4

Total drainage basin/outfall area =	0.55	acres
Predevelopment impervious area within drainage basin/outfall area =	0.00	acres
Post-development impervious area within drainage basin/outfall area =	0.20	acres
Post-development impervious fraction within drainage basin/outfall area =	0.36	
$L_{M\ THIS\ BASIN}$ =	174	lbs.

3. Indicate the proposed BMP Code for this basin.

Proposed BMP = Vegetated Filter Strips
Removal efficiency = 85 percent

Aqualogic Cartridge Filter
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: $L_R = (\text{BMP efficiency}) \times P \times (A_I \times 34.6 + A_P \times 0.54)$

where:

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

A_C =	0.55	acres
A_I =	0.20	acres
A_P =	0.35	acres
L_R =	193	lbs

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

Desired $L_{M\ THIS\ BASIN}$ = 193 lbs.

F = 1.00

Texas Commission on Environmental Quality

TSS Removal Calculations 04-20-2009

Project Name: Willhaus @ Georgetown 3459.00
Date Prepared: 10.29.2024
Vegetative Filter Strips

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where:

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

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

County =	Williamson	
Total project area included in plan * =	5.13	acres
Predevelopment impervious area within the limits of the plan * =	0.28	acres
Total post-development impervious area within the limits of the plan * =	0.71	acres
Total post-development impervious cover fraction * =	0.14	
P =	32	inches
$L_{M\ TOTAL\ PROJECT}$ =	374	lbs.

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

Number of drainage basins / outfalls areas leaving the plan area = 9

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

Drainage Basin/Outfall Area No. = A6

Total drainage basin/outfall area =	0.02	acres
Predevelopment impervious area within drainage basin/outfall area =	0.00	acres
Post-development impervious area within drainage basin/outfall area =	0.01	acres
Post-development impervious fraction within drainage basin/outfall area =	0.50	
$L_{M\ THIS\ BASIN}$ =	9	lbs.

3. Indicate the proposed BMP Code for this basin.

Proposed BMP = Vegetated Filter Strips
Removal efficiency = 85 percent

Aqualogic Cartridge Filter
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: $L_R = (\text{BMP efficiency}) \times P \times (A_I \times 34.6 + A_P \times 0.54)$

where:

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

A_C =	0.02	acres
A_I =	0.01	acres
A_P =	0.01	acres
L_R =	10	lbs

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

Desired $L_{M\ THIS\ BASIN}$ = 9 lbs.

F = 0.94

Texas Commission on Environmental Quality

TSS Removal Calculations 04-20-2009

Project Name: Willhaus @ Georgetown 3459.00
Date Prepared: 10.29.2024
Vegetative Filter Strips

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where:

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A_N = Net increase in impervious area for the project
P = Average annual precipitation, inches

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

County =	Williamson	
Total project area included in plan * =	5.13	acres
Predevelopment impervious area within the limits of the plan * =	0.28	acres
Total post-development impervious area within the limits of the plan * =	0.71	acres
Total post-development impervious cover fraction * =	0.14	
P =	32	inches
$L_{M\ TOTAL\ PROJECT}$ =	374	lbs.

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

Number of drainage basins / outfalls areas leaving the plan area = 9

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

Drainage Basin/Outfall Area No. = A7

Total drainage basin/outfall area =	0.012	acres
Predevelopment impervious area within drainage basin/outfall area =	0.00	acres
Post-development impervious area within drainage basin/outfall area =	0.007	acres
Post-development impervious fraction within drainage basin/outfall area =	0.58	
$L_{M\ THIS\ BASIN}$ =	6	lbs.

3. Indicate the proposed BMP Code for this basin.

Proposed BMP = Vegetated Filter Strips
Removal efficiency = 85 percent

Aqualogic Cartridge Filter
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: $L_R = (\text{BMP efficiency}) \times P \times (A_I \times 34.6 + A_P \times 0.54)$

where:

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

A_C =	0.012	acres
A_I =	0.007	acres
A_P =	0.01	acres
L_R =	7	lbs

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

Desired $L_{M\ THIS\ BASIN}$ = 6 lbs.

F = 0.90

ATTACHMENT G – INSPECTION AND MAINTENANCE PLAN

NAME OF PROPOSED PROJECT: **Willhaus at Georgetown**
PROJECT LOCATION: **Georgetown, Texas**
NAME OF APPLICANT: **Hauser, Frank**

Vegetative Filter Strips

INSPECTIONS

Inspect filter strips at least twice annually for erosion or damage to vegetation; however, additional inspection after periods of heavy runoff is most desirable. The strip should be checked for uniformity of grass cover, debris and litter, and areas of sediment accumulation. More frequent inspections of the grass cover during the first few years after establishment will help to determine if any problems are developing, and to plan for long-term restorative maintenance needs. Bare spots and areas of erosion identified during semi-annual inspections must be replanted and restored to meet specifications. Construction of a level spreader device may be necessary to reestablish shallow overland flow.

MAINTENANCE

Pest Management: An Integrated Pest Management (IPM) Plan should be developed for vegetated areas. This plan should specify how problem insects and weeds will be controlled with minimal or no use of insecticides and herbicides.

Seasonal Mowing and Lawn Care: If the filter strip is made up of turf grass, it should be mowed as needed to limit vegetation height to 18 inches, using a mulching mower (or removal of clippings). If native grasses are used, the filter may require less frequent mowing, but a minimum of twice annually. Grass clippings and brush debris should not be deposited on vegetated filter strip areas. Regular mowing should also include weed control practices; however herbicide use should be kept to a minimum (Urbonas et al., 1992). Healthy grass can be maintained without using fertilizers because runoff usually contains sufficient nutrients. Irrigation of the site can help assure a dense and healthy vegetative cover.

Debris and Litter Removal: Trash tends to accumulate in vegetated areas, particularly along highways. Any filter strip structures (i.e. level spreaders) should be kept free of obstructions to reduce floatables being flushed downstream, and for aesthetic reasons. The need for this practice is determined through periodic inspection but should be performed no less than 4 times per year.

Sediment Removal: Sediment removal is not normally required in filter strips, since the vegetation normally grows through it and binds it to the soil. However, sediment may accumulate along the upstream boundary of the strip preventing uniform overland flow. Excess sediment should be removed by hand or with flat-bottomed shovels.

Grass Reseeding and Mulching: A healthy dense grass should be maintained on the filter strip. If areas are eroded, they should be filled, compacted, and reseeded so that the final grade is level. Grass damaged during the sediment removal process should be promptly replaced using the same seed mix used during filter strip establishment. If possible, flow should be diverted from the damaged areas until the grass is firmly established. Bare spots and areas of erosion identified during semi-annual inspections must be replanted and restored to meet specifications. Corrective maintenance, such as weeding or replanting should be done more frequently in the first two to three years after installation to ensure stabilization. Dense vegetation may require irrigation immediately after planting, and during particularly dry periods, particularly as the vegetation is initially established.

A written record should be kept of inspection results and maintenance performed.

I, the owner, have read and understand the requirements of the attached Maintenance Plan and Schedule.

Owner

12/17/2024

Date

INSPECTION REPORT

Approved Inspection intervals:

i. Conducted at least twice annually

PROJECT NAME _____

REPORT # _____ DATE _____

INSPECTOR _____ TITLE _____

DATE OF LAST RAINFALL AMOUNT

SITE CONDITIONS:

ACTION	IN CONFORMANCE	EFFECTIVE
ENGINEERED VEGETATIVE FILTER STRIPS		
Pest Management	Yes/No/Na	Yes/No
Seasonal Mowing and Lawn Care	Yes/No/Na	Yes/No
Debris and Litter Removal	Yes/No/Na	Yes/No
Sediment Removal	Yes/No/Na	Yes/No

*Refer to I&M plan for detail descriptions of each Action.

RECOMMENDED REMEDIAL ACTIONS:

COMMENTS:

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision 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 responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment."

INSPECTOR: _____ DATE: _____

WILLHAUS AT GEORGETOWN
MEASURES FOR MINIMIZING SURFACE STREAM CONTAMINATION

Contamination of surface streams will be kept at a minimum during construction by implementing temporary BMPs such as silt fencing, erosion control logs, and rock berms. A NOI will be filed 48 hours prior to the start of any construction and temporary BMPs will be installed as shown on the Water Pollution Abatement Site Plan within this submittal. After construction, the natural vegetation will be used to treat storm water runoff and minimize surface stream contamination.

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CONTACT@MATKINHOOVER.COM
OFFICE: 830.249.0600 FAX:830.249.0099

Willhaus @ Georgetown

WPAP

Section VII

Agent Authorization Form

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

I Frank W. Hauser Jr.,
Print Name

Owner,
Title - Owner/President/Other

of _____,
Corporation/Partnership/Entity Name

have authorized Garrett Keller
Print Name of Agent/Engineer

of MatkinHoover Engineering
Print Name of Firm

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

I also understand that:

1. The applicant is responsible for compliance with 30 Texas Administrative Code Chapter 213 and any condition of the TCEQ's approval letter. The TCEQ is authorized to assess administrative penalties of up to $10,000 per day per violation.

2. For those submitting an application who are not the property owner, but who have the right to control and possess the property, additional authorization is required from the owner.

3. Application fees are due and payable at the time the application is submitted. The application fee must be sent to the TCEQ cashier or to the appropriate regional office. The application will not be considered until the correct fee is received by the commission.

4. A notarized copy of the Agent Authorization Form must be provided for the person preparing the application, and this form must accompany the completed application.

5. No person shall commence any regulated activity on the Edwards Aquifer Recharge Zone, Contributing Zone or Transition Zone until the appropriate application for the activity has been filed with and approved by the Executive Director.

SIGNATURE PAGE:

Applicant's Signature

11/2/2024
Date

THE STATE OF TEXAS §

County of HARRIS §

BEFORE ME, the undersigned authority, on this day personally appeared FRANK W. HAUSER JR 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 2nd day of NOVEMBER, 2024.

NOTARY PUBLIC

EIMAN SIDDIK
Notary ID #134608566
My Commission Expires
October 18, 2027

EIMAN SIDDIK
Typed or Printed Name of Notary

MY COMMISSION EXPIRES: OCTOBER 18, 2027

ELECTRONICALLY RECORDED 2023039261
Williamson County, Texas Total Pages: 3

General Warranty Deed

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

Date: May 12, 2023

Grantor: Patricia AR Nicosia a/k/a Patricia Rhodes Nicosia a/k/a Patricia Ann Rhodes Nicosia

Grantor's Mailing Address: 111 Tender Foot trail
Del Rio, Tx 78840

Grantee: Frank W. Hauser, Jr.

Grantee's Mailing Address: 14538 Bramblewood Drive
Houston, tx 77079

Consideration: TEN AND NO/100 DOLLARS ($10.00) and other good and valuable consideration.

Property (including any improvements):

Lot 62, of LOGAN RANCH, SECTION 1, a subdivision in Williamson County, Texas, according to the map or plat of record in Cabinet E, Slides 7-12, of the Plat Records of Williamson County, Texas.

Reservations from Conveyance: None.

Exceptions to Conveyance and Warranty: This conveyance is made and accepted subject to all restrictions, covenants, conditions, rights-of-way, assessments, outstanding royalty and mineral reservations and easements, if any, affecting the above described property that are valid, existing and properly of record, as reflected by the records of the County Clerk of the aforesaid County, and subject further to the taxes for the current year and subsequent years, which Grantee assumes and agrees to pay.

Grantor, for the Consideration and subject to the Reservations from Conveyance and the Exceptions to Conveyance and Warranty, grants, sells, and conveys to Grantee the Property, together with all and singular the rights and appurtenances thereto in any way belonging, to have and to hold it to Grantee and Grantee's heirs, successors, and assigns forever. Grantor binds Grantor and Grantor's heirs and successors to warrant and forever defend all and singular the Property to Grantee and Grantee's heirs, successors, and assigns against every person whomsoever lawfully claiming or to claim the same or any part thereof, except as to the Reservations from Conveyance and the Exceptions to Conveyance and Warranty.

36-T-170542/KM
Recorded by Texas National Title

When the context requires, singular nouns and pronouns include the plural.

Patricia AR Nicosia a/k/a Patricia Rhodes Nicosia
a/k/a Patricia Ann Rhodes Nicosia

STATE OF TEXAS)
COUNTY OF Williamson)

This instrument was acknowledged before me on May 12, 2023, by Patricia AR Nicosia a/k/a Patricia Rhodes Nicosia a/k/a Patricia Ann Rhodes Nicosia.

TABITHA DELAURO NOTARY PUBLIC STATE OF TEXAS ID 126891933 EXP. 11-07-2026

Notary Public, State of Texas

Return to:

Return To:
Texas National Title
12515-7 Research Blvd.
Suite 130
Austin, TX 78759

36-T-170542/KM
Recorded by Texas National Title

ELECTRONICALLY RECORDED
OFFICIAL PUBLIC RECORDS

2023039261

Pages: 3 Fee: $30.00
05/16/2023 08:50 AM
LMUELLER

Nancy E. Rister, County Clerk
Williamson County,Texas

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OFFICE: 830.249.0600 FAX:830.249.0099

Willhaus @ Georgetown

WPAP

Section VIII

Application Fee

Application Fee Form

Texas Commission on Environmental Quality
Name of Proposed Regulated Entity: Willhuas @ Georgetown
Regulated Entity Location: 226 Logan Ranch Road, Georgetown, TX
Name of Customer: Frank Hauser
Contact Person: Frank Hauser Phone: 512-426-1102
Customer Reference Number (if issued):CN _____
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	5.13 Acres	$ 5,000
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: 12/16/24

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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Willhaus @ Georgetown

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Section IX

Fee Check or Online Receipt

MATKINHOOVER
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BOERNE | GEORGETOWN
CONTACT@MATKINHOOVER.COM
OFFICE: 830.249.0600 FAX:830.249.0099

Willhaus @ Georgetown

WPAP

Section X

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.*)

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

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

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

SECTION II: Customer Information

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

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

The Customer Name submitted here may be updated automatically based on what is current and active with the Texas Secretary of State (SOS) or Texas Comptroller of Public Accounts (CPA).

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

Hauser, Frank W. Jr.

7. TX SOS/CPA Filing Number	**8. TX State Tax ID** (11 digits)	**9. Federal Tax ID** (9 digits)	**10. DUNS Number** *(if applicable)*
N/A	N/A	N/A	

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

Government: ☐ City ☐ County ☐ Federal ☐ Local ☐ State ☐ Other ☐ Sole Proprietorship ☐ Other:

12. Number of Employees

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

13. Independently Owned and Operated?

☒ **Yes** ☐ **No**

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

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

15. Mailing Address:	14538 Bramblewood Dr.						
	City	Houston	**State**	TX	**ZIP**	77079	**ZIP + 4**

16. Country Mailing Information *(if outside USA)*	**17. E-Mail Address** *(if applicable)*
	fhauser@willhausllc.com

18. Telephone Number	19. Extension or Code	20. Fax Number *(if applicable)*
(512) 426-1102		( ) -

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.)*

Willhaus at Georgetown

23. Street Address of the Regulated Entity: ***(No PO Boxes)***	226 Logan Ranch Road							
	City	Georgetown	**State**	TX	**ZIP**	78628	**ZIP + 4**	
24. County	Williamson							

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

25. Description to Physical Location:					
26. Nearest City			**State**		**Nearest ZIP Code**

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:	30.696224		**28. Longitude (W) In Decimal:**	97.698896	
Degrees	Minutes	Seconds	Degrees	Minutes	Seconds
30	41	46.41	97	41	56.03

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)
8361	8059	623312	623990

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

Assisted Living Retirement Facility

34. Mailing Address:	**14538 Bramblewood Dr.**							
	City	**Houston**	**State**	**TX**	**ZIP**	**77079**	**ZIP + 4**	
35. E-Mail Address:	**fhauser@willhausllc.com**							

36. Telephone Number	37. Extension or Code	38. Fax Number *(if applicable)*
(512) 426-1102		( ) -

☐ 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:	Garrett Keller, P.E.	41. Title:	Project Manager
42. Telephone Number	**43. Ext./Code**	**44. Fax Number**	**45. E-Mail Address**
(830) 249-0600		( ) -	gkeller@matkinhoover.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:	MatkinHoover Engineering & Surveying	Job Title:	Project Manager
Name *(In Print):*	Garrett Keller	**Phone:**	(830) 249- **0600**
Signature:		**Date:**	3/7/25